

The book is divided into seven chapters that trace the evolving nature of post-Paleozoic sedimentary basins from those of Gondwana affinity through Jurassic-Cretaceous rift and post-rift systems to deposition on Tertiary continental margins. The foreign reader will find the introductory chapter invaluable in providing a regional context. Because the book is more descriptive than interpretative, subsequent chapters tend to inundate the reader with local terminology and detailed accounts of local variations in stratigraphic sequences. This is perhaps inevitable, but it may well restrict the book's audience.

The strength of the volume to the serious researcher is that the authors have critically examined a large quantity of data, frequently reexamining outcrops to clarify old descriptions. The bibliography, which contains approximately 750 references, is exhaustive; it is also up to date. However, when interpretations are based on analogy the analogies are poorly selected and frequently dated.

The discussion of tectonic style as it relates to the Cape Fold Belt and subsequent extensional tectonics would have benefited from a more dynamic treatment. The discussion of the Cape orogeny is poorly presented and reads as if it was added as an afterthought. The authors attribute Cape folding principally to gravity-slide processes but concede that this interpretation is contentious. There has obviously been little attempt in the past to analyze this orogeny in terms of preceding sedimentary basins. In perusing the various figures the reader should be suspicious of fold geometry and the bends in the fold belts that cross-cut former basin axes. One wonders whether some of the larger faults have a significant strike-slip component.

The final chapter is a lucid discussion of Tertiary events that emphasizes shelf sedimentation and geochemistry as well as repeated transgressions of the coastal plain. South African geology has many superlatives, so it is naturally disappointing to find that the classic *Australopithecus* localities and the important kimberlites have received short shrift.

The authors have achieved their goal, to publish a source of data and references. This reviewer wishes they had indulged in more interpretation and speculation. Nevertheless, because southern Africa occupied a key position in Gondwana, the serious Mesozoic researcher will find the volume an invaluable source of information.

ANTHONY J. TANKARD

Petro-Canada Inc., Calgary,
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Books Received

- Applied Industrial Catalysis.** Bruce E. Leach, Ed. Academic Press, Orlando, Fla., 1983. Vol. 1. xii, 304 pp., illus. \$43. Vol. 2. xii, 291 pp., illus. \$49.50.
- L'Apprentissage Animal.** Théories Contemporaines. Anthony Dickinson. Privat, Toulouse, France, 1984. 226 pp., illus. Paper, 100 F. Bios. Translated from the English edition (London, 1980) by Gaston Richard.
- Approaches to Emotion.** Klaus R. Scherer and Paul Ekman, Eds. Erlbaum, Hillsdale, N.J., 1984. xiv, 426 pp. \$45. Based on a conference, Bad Homburg, July 1981.
- Approaches to Social Archaeology.** Colin Renfrew. Harvard University Press, Cambridge, Mass., 1984. viii, 430 pp., illus. \$25.
- Approximation Theory IV.** C. K. Chui, L. L. Schumaker, and J. D. Ward, Eds. Academic Press, Orlando, Fla., 1983. xviii, 785 pp., illus. \$50. From a symposium, College Station, Tex., Jan. 1983.
- Archaeological Chemistry—III.** Joseph B. Lambert, Ed. American Chemical Society, Washington, D.C., 1984. xii, 487 pp., illus. \$89.95. Advances in Chemistry Series, 205. From a symposium, Kansas City, Mo., Sept. 1982.
- Artificial Intelligence, Expert Systems, Computer Vision and Natural Language Processing.** William B. Gervater. Noyes, Park Ridge, N.J., 1984. xiv, 226 pp., illus. \$36.
- Current Topics in Experimental Endocrinology.** L. Martini and V. H. T. James, Eds. Academic Press, Orlando, Fla., 1983. Vol. 4, The Endocrinology of Pregnancy and Parturition. xiv, 290 pp., illus. \$44.50. Vol. 5, Fetal Endocrinology and Metabolism. xiv, 363 pp., illus. \$48.
- Current Topics in Eye Research.** Vol. 4. Jose A. Zadunaisky and Hugh Davson, Eds. Academic Press, Orlando, Fla., 1984. xiv, 227 pp., illus. \$73.
- Current Topics in Membranes and Transport.** Arnost Kleinzeller, Ed. Vol. 22, The Squid Axon. Peter F. Baker, Ed. Academic Press, Orlando, Fla., 1984. xvi, 593 pp., illus. \$89.
- Cyclophanes.** Philip M. Keehn and Stuart M. Rosenfeld, Eds. Academic Press, Orlando, Fla., 1983. Two volumes. xxiv, 725 pp., illus., + index. Vol. 1, \$65; vol. 2, \$60. Organic Chemistry, vol. 45.
- Cytology of the Central Nervous System.** Dorothy L. Rosenthal, Karger, Basel, 1984. x, 204 pp., illus. \$58.75. Monographs in Clinical Cytology, vol. 8.
- Dairy Chemistry and Physics.** Pieter Walstra and Robert Jenness. Wiley-Interscience, New York, 1984. xx, 467 pp., illus. \$59.95.
- Darwin, Marx, and Freud.** Their Influence on Moral Theory. Arthur L. Caplan and Bruce Jennings, Eds. Plenum, New York, 1984. xxviii, 230 pp. \$25. The Hastings Center Series in Ethics.
- Development and Maintenance of Prosocial Behavior.** International Perspectives on Positive Morality. Ervin Staub *et al.*, Eds. Plenum, New York, 1984. xxviii, 511 pp. \$45. Critical Issues in Social Justice.
- Development of Nerve Cells and Their Connections.** W. G. Hopkins and M. C. Brown. Cambridge University Press, New York, 1984. viii, 137 pp., illus. \$29.95; paper, \$13.95.
- The Development of the Rat Spinal Cord.** Joseph Altman and Shirley A. Bayer. Springer-Verlag, New York, 1984. viii, 166 pp., illus. Paper, \$25. Advances in Anatomy, Embryology and Cell Biology, vol. 85.
- Developmental Biology of Cultured Nerve, Muscle, and Glia.** David Schubert. Wiley-Interscience, New York, 1984. xvi, 315 pp., illus. \$49.95.
- Developmental Control in Animals and Plants.** C. F. Graham and P. F. Wareing, Eds. 2nd ed. Blackwell Scientific, Palo Alto, Calif., 1984. viii, 519 pp., illus. Paper, \$37.
- Fundamentals of Plant Pathology.** Daniel A. Roberts and Carl W. Boothroyd. 2nd ed. Freeman, New York, 1984. xvi, 432 pp., illus. \$29.95.
- General Relativity.** Robert M. Wald. University of Chicago Press, Chicago, 1984. xiv, 491 pp., illus. \$50; paper, \$30.
- Genes and Antigens of Parasites.** A Laboratory Manual. Carlos M. Morel, Ed. 2nd ed. Published on behalf of UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases by Fundação Oswaldo Cruz, Rio de Janeiro, 1984 (available from Dr. F. Michal, WHO-BIO/TDR, 1211 Geneva 27, Switzerland). xxii, 580 pp., illus. Spiral bound.
- Geology for Development.** Mineral Resources and Exploration Potential of Africa. C. A. Kogbe, Ed. Pergamon, New York, 1984. iv pp. + pp. 181-372, illus. Paper, \$33. *Journal of African Earth Sciences*, vol. 1, No. 3/4. From a conference, Nairobi, Kenya, Dec. 1982.
- Glucos and Heavy Flavours.** J. Tran Thanh Van, Ed. Editions Frontières, Gif-sur-Yvette, France, 1983. 696 pp., illus. \$65. Moriond Series, 38. From a meeting, La Plagne-Savoie, France, Jan. 1983.
- Groundwater Pollution.** Environmental and Legal Problems. Curtis C. Travis and Elizabeth L. Etnier,

Eds. Published for the American Association for the Advancement of Science by Westview, Boulder, Colo., 1984. x, 149 pp., illus. \$23. AAAS Selected Symposia Series, 95. From a symposium, Washington, D.C., Jan. 1982.

Grow Your Own Energy. Michael Cross, Ed. Basil Blackwell, New York, and *New Scientist*, London, 1984. xx, 236 pp., illus. Paper, \$8.95. *New Scientist* Guides.

Growth and Maturation Factors. Vol. 2, Gordon Guroff, Ed. Wiley-Interscience, New York, 1984. xiv, 340 pp., illus. \$69.50.

Guidelines for Drinking-Water Quality. Vol. 1, Recommendations. World Health Organization, Geneva, 1984 (U.S. distributor, WHO Publications Centre USA, Albany, N.Y.). xii, 130 pp. Paper, \$8.50.

Guidelines on Studies in Environmental Epidemiology. World Health Organization, Geneva, 1983 (U.S. distributor, WHO Publications Centre USA, Albany, N.Y.). 351 pp. Paper, \$13. Environmental Health Criteria 27.

Handbook of Air Pollution Technology. Seymour Calvert and Harold M. England, Eds. Wiley-Interscience, New York, 1984. xiv, 1066 pp., illus. \$74.95.

Handbook of Immunoprecipitation-in-Gel Techniques. Nils H. Axelsen, Ed. Blackwell Scientific, Palo Alto, Calif., 1983. xii, 383 pp., illus. \$90. *Scandinavian Journal of Immunology*, Supplement No. 10, vol. 17.

International Review of Cytology. G. H. Bourne, J. F. Danielli, and K. W. Jeon, Eds. Academic Press, Orlando, Fla., 1984. Vol. 83. viii, 304 pp., illus. \$42. Vol. 84. xii, 364 pp., illus. \$49.50. Vol. 85. xii, 340 pp., illus. \$42.50. Vol. 89. xii, 359 pp., illus. \$49.50.

International Review of Experimental Pathology. G. W. Richter and M. A. Epstein, Eds. Academic Press, Orlando, Fla., 1983. Vol. 24. x, 389 pp., illus. \$52. Vol. 25. xiv, 391 pp., illus. \$56.

International Studies and Academic Enterprise. A Chapter in the Enclosure of American Learning. Robert A. McCaughey. Columbia University Press, New York, 1984. xviii, 301 pp., \$28.

Interorganizational Relations. Implications for Community Development. Charles L. Mulford. Human Sciences Press, New York, 1984. xvi, 227 pp. \$29.95. Center for Policy Research Monograph Series, vol. 4.

Intracellular Symbiosis. Kwang W. Jeon, Ed. Academic Press, Orlando, Fla., 1983. xviii, 379 pp., illus. \$46.50. International Review of Cytology, Supplement 14.

Learn to Type on Your Home Computer. Fred N. Grayson. GD/Perige (Putnam), New York, 1984. 96 pp., illus. Paper, \$5.95.

The Mathematicians' Apprenticeship. Science, Universities and Society in England, 1560-1640. Mordechai Feingold. Cambridge University Press, New York, 1984. viii, 248 pp. \$37.50.

Measuring Military Power. The Soviet Air Threat to Europe. Joshua M. Epstein. Princeton University Press, Princeton, N.J., 1984. xxx, 289 pp. \$22.50.

Mechanics of Solids. C. Truesdell, Ed. Springer-Verlag, New York, 1984. Four volumes. Vol. 1, The Experimental Foundations of Solid Mechanics. James F. Bell. xii, 813 pp., illus. Paper, \$36. Vol. 2, Linear Theories of Elasticity and Thermoelasticity; Linear and Nonlinear Theories of Rods, Plates, and Shells. S. S. Antman *et al.* xiv, 745 pp., illus. Paper, \$34.50. Vol. 3, Theory of Viscoelasticity, Plasticity, Elastic Waves, and Elastic Stability. P. J. Chen *et al.* xvi, 647 pp., illus. Paper, \$32. Vol. 4, Waves in Elastic and Viscoelastic Solids (Theory and Experiment). L. M. Barker *et al.* xiv, 332 pp., illus. Paper, \$28.50. Reprinted from *Encyclopedia of Physics*, vol. 6a (1974).

Memory and Awareness. An Information-Processing Perspective. Roberta L. Klatzky. Freeman, New York, 1984. x, 155 pp., illus. \$18.95; paper, \$9.95. A Series of Books in Psychology.

Memory and the Brain. Magda B. Arnold. Erlbaum, Hillsdale, N.J., 1984. xii, 532 pp., illus. \$49.95.

Metabolism of Hormonal Steroids in the Neuroendocrine Structures. F. Celotti, F. Naftolin, and L. Martini, Eds. Raven, New York, 1984. xiv, 199 pp., illus. \$39.50. Sero Symposia Publications from Raven Press, vol. 13. From a workshop, Carmel, Calif., March 1983.

Method and Tactics in Cognitive Science. Walter Kintsch, James R. Miller, and Peter G. Polson, Eds. Erlbaum, Hillsdale, N.J., 1984. xii, 324 pp., \$29.95. From a conference, Boulder, Colo., 1981.

Mr. Babbage's Secret. The Tale of a Cypher—and APL. Ole Immanuel Franksen. Strandberg, Birkergød, Denmark, 1984. 320 pp., illus. D.Kr. 320.

Modern Crystallography III. A. A. Chernov, with E. I. Givargizov *et al.* Springer-Verlag, New York, 1984. x, 517 pp., illus. \$59.50. Springer Series in Solid-State Sciences, vol. 36. Translated from the Russian edition (Moscow, 1980).

(Continued on page 570)

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AAAS NEWS

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nessee, member of Section A since 1960, 3 June 1984.

Aziz H. Hamdy, senior scientist, Upjohn Company, member of Section N since 1965, 25 May 1984.

E. Garland Herndon, Jr., of Atlanta, Georgia, member of Section N since 1983, 19 July 1984.

Francis A. Johnston of Scottsdale, Arizona, member since 1936, 28 May 1984.

Stanley P. Kramer, founder, Deerfield Scientific, Inc., member of Section G since 1958, 17 April 1984.

Rainer H. Lange, Institute of Anatomy and Cytobiology, Justus Liebig-University, member since 1978, 4 August 1984.

George M. Low, president, Rensselaer Polytechnic Institute, member of Section Q since 1981, 17 July 1984.

Leonard E. Miller of Chagrin Falls, Ohio, member of Section C since 1945, 4 July 1984.

Allan O. Mogensen of Bridgewater, New Jersey, member of Section M since 1979, 20 May 1984.

Walter Ralston of Los Osos, California, member of Section N since 1941, 25 July 1984.

L. R., Richardson of Florence, Kentucky, member of Section G since 1943, 2 May 1984.

Lee Albert Reith, Jr., of Goshen, Indiana, member of Section M since 1975, 5 June 1984.

Ernest F. Russell of Santa Barbara, California, member of Section N since 1938, 26 June 1984.

John R. Seal, former deputy director of the National Institute of Allergy and Infectious Diseases, member of Section N since 1951, 11 August 1984.

Reidar Sognnaes, founding dean, Dental School, University of Los Angeles, member of Section R since 1948, 21 September.

James B. Speer of Denver, Colorado, member of Section M since 1976, 28 June 1984.

Stanislaw M. Ulam of Santa Fe, New Mexico, member of Section A since 1966, 13 May 1984.

H. VanderVeen of Ojai, California, member of Section B since 1963, 26 July 1984.

Grant T. Wernimont of West Lafayette, Indiana, member since 1979, 12 May 1984.

Helen P. Withers, U.S. Geological Survey, member of Section E since 1977, 25 June 1984.

Anthony J. Zelnis, of Chicago, Illinois, member of Section G since 1978, 18 July 1984.

BOOKS RECEIVED

(Continued from page 534)

The Molecular Biology of Adenoviruses 2. 30 Years of Adenovirus Research 1953-1983. Walter Doerfler, Ed. Springer-Verlag, New York, 1984. viii, 265 pp., illus. \$49. Current Topics in Microbiology and Immunology, 110.

Molecular Diffusion and Spectra. William Coffey, Myron Evans, and Paolo Grigolini. Wiley-Interscience, New York, 1984. xvi, 378 pp., illus. \$49.95.

The Mollusca. Karl M. Wilbur, Ed. Vol. 6, Ecology. W. D. Russell-Hunter, Ed. Academic Press, Orlando, Fla., 1983. xx, 695 pp., illus. \$69.

Mommy, I Can't Sit Still! Coping with Hyperactive and Aggressive Children. K. Daniel O'Leary. New Horizon Press, New York, 1984. vi, 132 pp., illus. \$12.95.

Monoclonal Antibodies. Karl Sikora and Howard M. Smedley, with Paul Finan. Blackwell Scientific, Palo Alto, Calif., 1984. xii, 132 pp., illus., + plates. Paper, \$13.

Monoclonal Antibodies and Functional Cell Lines. Progress and Applications. Roger H. Kennett, Kathleen B. Bechtol, and Thomas J. McKearn, Eds. Plenum, New York, 1984. xviii, 426 pp., illus. \$49.50.

Mould's Medical Anecdotes. Hilger, Bristol, 1984 (U.S. distributor, Heyden, Philadelphia). xii, 148 pp., illus. \$16.

The Mouse in Biomedical Research. Vol. 3, Normative Biology, Immunology, and Husbandry. Henry L. Foster, J. David Small, and James G. Fox, Eds. Academic Press, Orlando, Fla., 1983. xvi, 447 pp., illus. \$83. American College of Laboratory Animal Medicine Series.

Multiphoton Ionization of Atoms. S. L. Chin and P. Lambropoulos, Eds. Academic Press, Orlando, Fla., 1984. xiv, 272 pp., illus. \$59.50.

Multiphoton Spectroscopy of Molecules. S. H. Lin et al. Academic Press, Orlando, Fla., 1984. xii, 260 pp., illus. \$59. Quantum Electronics.

Oligodendroglia. William T. Norton, Ed. Plenum, New York, 1984. xviii, 351 pp., illus. \$49.50. Advances in Neurochemistry, vol. 5.

Oncodevelopmental Markers. Biologic, Diagnostic, and Monitoring Aspects. William H. Fishman, Ed. Academic Press, Orlando, Fla., 1983. xx, 432 pp., illus. \$64.50.

Pathology of Skeletal Muscle. Stirling Carpenter and George Karpati. Churchill Livingstone, New York, 1984. xvi, 754 pp., illus. \$98.

Perspectives in Nuclear Physics at Intermediate Energies. S. Boffi, C. Ciofi degli Atti, and M. M. Giannini, Eds. World Scientific, Singapore, 1984 (U.S. distributor, Heyden, Philadelphia). xii, 547 pp., illus. \$60. From a workshop, Trieste, Italy, Oct. 1983.

Photosynthesis. Christine H. Foyer. Wiley-Interscience, New York, 1984. xx, 219 pp., illus. \$29.95. Cell Biology, vol. 1.

The Physical Chemistry of Membranes. Michael E. Starzak. Academic Press, Orlando, Fla., 1984. xii, 334 pp., illus. \$42.

Physical Properties of Polymers. James E. Mark et al. American Chemical Society, Washington, D.C., 1984. x, 246 pp., illus. \$44.95.

Physics of Gravitating Systems. A. M. Fridman and V. L. Polyachenko. Springer-Verlag, New York, 1984. Two volumes. Vol. 1, Equilibrium and Stability. xviii, 468 pp., illus. \$84. Vol. 2, Nonlinear Collective Processes: Nonlinear Waves, Solitons, Collisionless Shocks, Turbulence, Astrophysical Applications. xii, 358 pp., illus. \$57. Translated from the Russian edition (Moscow, 1976) by A. B. Aries and Igor N. Poliakov.

Plant and Insect Nematodes. William R. Nickle, Ed. Dekker, New York, 1984. xvi, 925 pp., illus. \$145.

Pleasure and Frustration. A Resynthesis of Clinical and Theoretical Psychoanalysis. Leon Wallace. International Universities Press, New York, 1984. xiv, 193 pp. \$20.

Progress in Experimental Personality Research. Brendan A. Maher and Winifred B. Maher, Eds. Academic Press, Orlando, Fla., 1983 and 1984. Vol. 12, Psychopathology. xviii, 217 pp., \$32. Vol. 13, Normal Personality Processes. xii, 374 pp. \$45.

Progress in Medical Virology. Vol. 30. J. L. Melnick and K. Hummeler, Eds. Karger, Basel, 1984. viii, 212 pp., illus. \$93.

Progress in Nucleic Acid Research and Molecular Biology. Vol. 29, Genetic Mechanisms in Carcinogenesis. Waldo E. Cohn, Ed. Academic Press, Orlando, Fla., 1983. xxvi, 302 pp., illus. \$39.50. From a conference, Gatlinburg, Tenn., April 1982.

Progress in Nucleic Acid Research and Molecular Biology. Vol. 30. Waldo E. Cohn and Kivie Moldave, Eds. Academic Press, Orlando, Fla., 1983. xviii, 283 pp., illus. \$36.

Progress in Oceanography. Vol. 12. Martin V. Angel and James J. O'Brien, Eds. Pergamon, New York, 1984. vi, 473 pp., illus. \$150.

Protection of Industrial Power Systems. T. Davies. Pergamon, New York, 1984. x, 233 pp., illus. \$13.50.

The Protein Folding Problem. Donald B. Wetlaufer, Ed. Published for the American Association for the Advancement of Science by Westview, Boulder, Colo., 1984. xiv, 203 pp., illus. \$30. AAAS Selected Symposia Series, 89. From a symposium, Washington, D.C., Jan. 1982.

Radiological Assessment. Predicting the Transport, Bioaccumulation, and Uptake by Man of Radionuclides Released to the Environment. National Council on Radiation Protection and Measurements, Bethesda, Md., 1984. x, 300 pp., illus. Paper, \$17. RCRP Report No. 76.

Recent Advances in Medical Thermology. E. Francis J. Ring and Barbara Phillips, Eds. Plenum, New York, 1984. xviii, 706 pp., illus. \$115. From a congress, Bath, U.K., March 1982.

Recent Progress in Hormone Research. Roy O. Greep, Ed. Academic Press, Orlando, Fla., 1983 and 1984. Vol. 39, Proceedings of the 1982 Laurentian Hormone Conference. xii, 644 pp., illus. \$72. Vol. 40, Proceedings of the 1983 Laurentian Hormone Conference. xii, 628 pp., illus. \$72.

Recent Progress in Many-Body Theories. H. Kümmer and M. L. Ristig, Eds. Springer-Verlag, New York, 1984. x, 422 pp., illus. Paper, \$19. Lecture Notes in Physics, vol. 198. From a conference, Odenthal-Altenberg, Germany, Aug. 1983.

Recognition Proteins, Receptors, and Probes. Invertebrates. Elias Cohen, Ed. Liss, New York, 1984. xvi, 212 pp., illus. \$38. Progress in Clinical and Biological Research, vol. 157. From a symposium, Philadelphia, Dec. 1983.

Recombinant DNA Research and the Human Prospect. Earl D. Hanson, Ed. American Chemical Society, Washington, D.C., 1983. xiv, 130 pp., illus. \$19.95; paper, \$10.95. From a symposium, Middletown, Conn., March 1982.

The Smith Conjecture. John W. Morgan and Hyman Bass, Eds. Academic Press, Orlando, Fla., 1984. xvi, 245 pp., illus. \$49.50. Pure and Applied Mathematics, 112. From a symposium, New York, 1979.

Social and Psychological Problems of Women. Prevention and Crisis Intervention. Annette U. Rickel, Meg Gerrard, and Ira Iscoe, Eds. Hemisphere, Washington, D.C., 1984. xxii, 322 pp. \$27.45. The Series in Clinical and Community Psychology.

The Social Consequences and Challenges of New Agricultural Technologies. Gigi M. Berardi and Charles C. Geisler, Eds. Westview, Boulder, Colo., 1984. xxii, 376 pp. Paper, \$25. The Rural Studies Series.

Solar and Wind Energy. An Economic Evaluation of Current and Future Technologies. Martin T. Katzman. Rowman and Allanheld, Totowa, N.J., 1984. xxiv, 189 pp., illus. \$38.50.

Solar Electric Systems. George Warfield, Ed. Hemisphere, Washington, D.C., 1984. xiv, 177 pp., illus. \$44.50. Proceedings of the Arab School on Science and Technology.

The Solar Granulation. R. J. Bray, R. E. Loughhead, and C. J. Durrant, 2nd ed. Cambridge University Press, New York, 1984. xvi, 256 pp., illus. \$54.50. Cambridge Astrophysics Series.

The Solar System. The Sun, Planets, and Life. Roman Smoluchowski. Scientific American Library, New York, 1984 (distributor, Freeman, New York). xii, 174 pp., illus. \$27.95.

Solar World Congress. (Perth, Aug. 1983.) S. V. Szokolay, Ed. Pergamon, New York, 1984. Four volumes. xxxviii, 2797 pp., illus. \$600.

Solid State: Nuclear Methods. J. N. Mundy et al., Eds. Academic Press, Orlando, Fla., 1983. xviii, 504 pp., illus. \$69. Methods of Experimental Physics, vol. 21.

Topics in Carbon-13 NMR Spectroscopy. Vol. 4. George C. Levy, Ed. Wiley-Interscience, New York, 1984. xxiv, 282 pp., illus. \$57.50.

Toward a General Theory of Social Control. Donald Black, Ed. Academic Press, Orlando, Fla., 1984. Two volumes. Vol. 1, Fundamentals, xiv, 363 pp. \$45. Vol. 2, Selected Problems. xiv, 310 pp. \$39.50. Studies on Law and Social Control.

The Transformed Phenotype. Arnold J. Levine et al., Eds. Cold Spring Harbor Laboratory, Cold Spring Harbor, N.Y., 1984. xviii, 302 pp., illus. Paper, \$45. Cancer cells, 1. From a meeting, Cold Spring Harbor, Sept. 1983.

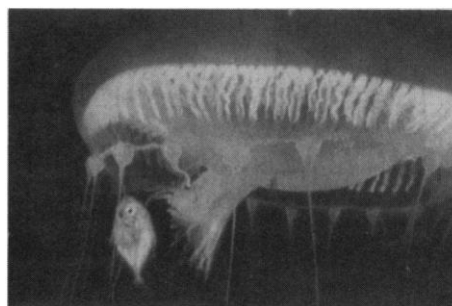
The Weather Factor. David M. Ludlum. Houghton Mifflin, Boston, 1984. x, 275 pp., illus. \$17.95; paper, \$9.95.

Women, Health and Development in the Americas. An Annotated Bibliography. Pan American Health Organization, Washington, D.C., 1984. viii, 106 pp., Paper, \$7. Scientific Publication No. 464.

Women in Midlife. Grace Baruch and Jeanne Brooks-Gunn, Eds. Plenum, New York, 1984. xii, 404 pp. \$35. Women in Context.

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LINE DISPLAY (POSITIONS OPEN, COURSES, FELLOWSHIPS, MARKETPLACE, and so forth): \$10.40 per millimeter; \$260 minimum, per week (minimum charge covers 25 millimeters on a single column; 25 millimeters equals 10 lines of 50 spaces per line). No charge for use of box number. No agency commission for ads less than 103 millimeters (4 inches). No cash discount. Prepayment required for all foreign ads. Purchase orders and billing address required for all other advertising.

Send copy for all **Positions Wanted** ads and **Line Display** ads less than 1/6 page in size (125 millimeters) to:

SCIENCE, Room 107
1515 Massachusetts Avenue, NW
Washington, D.C. 20005
Telephone: 202-467-4456

Send copy for **Fractional Display** ads, 1/6 page and larger, and all **Marketplace** ads to:

Scherago Associates, Inc.
1515 Broadway
New York, N.Y. 10036
Telephone: 212-730-1050

Blind ad replies should be addressed as follows:

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

POSITIONS WANTED

Behavioral Pharmacologist/Toxicologist. Ph.D., 1973. Experience in basic research, teaching, and clinical psychopharmacology. Research emphasis on drug abuse, psychoactive drugs, pesticides. Strong background in experimental analysis of behavior, pharmacology, and neurobehavioral toxicology. Seeking position that emphasizes basic research and teaching in university or government in eastern United States or Canada. Box 242, SCIENCE. X

Biochemist. Ph.D., 12 years of research experience. Expertise in protein sequencing and purification. Knows immunochemical and modern analytical techniques. Seeks senior position in academia, hospital, industry, government. Box 244, SCIENCE. 11/2, 9

Biochemist. M.S. 1980. Experimental design and assay debugging are my specialties. Also, RIA, enzyme assays, protein purification, tissue culture, microbiology, and organic synthesis. Industrial position preferred. Box 254, SCIENCE. 11/2, 9

Biochemist. M.S. Specialist in protein and enzyme isolation, purification, and biosynthetic use. College teaching experience in life sciences and statistics. Superior scientific communication skills. Quality control management experience and 15 years of enology experimentation. Seeks challenging employment. Box 257, SCIENCE. X

Ph.D. 1967—Microbiology, Immunology. After 15 years of research and teaching as a tenured medical faculty member, I seek a position in an academic institution emphasizing the nurturing of young minds. Highly regarded as an accomplished teacher (student and colleague appraisals on request). Duties must be limited to teaching, advising (including premed), and science writing for the popular press. Good speaking voice with interest in radio; would consider organizing a weekly science program on college or local radio station. Access to a good library mandatory. Box 256, SCIENCE. X

POSITIONS WANTED

Biopsychologist. Ph.D. 1983. Seeking postdoctoral or long-term position in academic, governmental, or industrial setting. Experienced in ethology, electrophysiology, iontophoretic injections of HRP, histology. Strong background in statistical analysis and computer skills. Considerable teaching experience (statistics, motivation, human development, learning). Box 249, SCIENCE. 11/2, 9

Clinical Biochemist. Ph.D. Extensive experience in hospital/reference clinical laboratory operations, industrial immunodiagnostic research and product development, clinical field trials, writing, editing, and publishing activities. Seeks consultant positions with research/university/industrial in health care/biomedical fields. Box 255, SCIENCE. X

Director/Manager, Electron Microscopy. M.S. Design new laboratories (HRTEM, SEM, EDS) or enliven established. Publications, patents. Good experience: university teaching and industry R&D. Creative materials and biological interests, that is, semiconductors, biotech, biomaterials, diagnostic EM, histochemistry. Seeking growth environment. Box 258, SCIENCE. X

Experimental Psychologist. Ph.D. 1983. Human perception and cognition. Teaching and 2 years of postdoctoral research experience in complex pattern recognition, concept acquisition, knowledge structures, and expert systems. Seeks research position, with or without teaching, in academia, government, or industry. Available August 1985. Box 251, SCIENCE. X

Generalist. Ph.D. Classroom experience in dozen U.S. colleges. Desires assignment of undergraduate or postgraduate teaching, tested course on Borders of Science. Topics such as extraterrestrial intelligence, UFO reports, ESP research, and other psychic topics. Aim always encouragement of critical thought. Inquire: Creegan, 28 Wellington Road, Delmar, N.Y. 12054. X

Microbiologist. Ph.D., industrial experience. Background in anaerobic microbiology, fermentation optimization, bacterial strain development, and microbial ecology. Seeks challenging industrial research position. Box 247, SCIENCE. 11/2, 9

Mycologist (Ph.D.), Physician (M.D.); 10 years of university and research experience; director, electron microscopy laboratory; gross anatomy experience; in charge of university culture collections; numerous publications. Five years in solo private practice. Wishes to return to university, government, or biotech industry position. Box 253, SCIENCE. X

M.D. seeks position in **Pharmaceutical Industry**, regional medical director. English-Spanish, interpersonal skill. Marketing orientation management and medical director experience. Available January 1985. Please contact: W. J. Sablich, M.D., 8361 N.W. 24th Court, Sunrise, Florida 33322. 11/2, 9

Ph.D., Pharmacologist. Six years of industrial experience with expertise in cancer chemotherapy, anti-metastasis, reverse transformation, and carcinogenesis research. Desires industrial research position. Box 238, SCIENCE. X

Plant Physiologist/Biochemist. Ph.D. 1983 (United States). Six years of research experience. Four years in enzyme purification and kinetics, 2 years in plant tissue culture. Familiar with major biochemical techniques. Two years of teaching experience in plant physiology. Seeks a postdoctoral or teaching position. Box 248, SCIENCE. 11/2, 9

Protein Sequenator operator with extensive experience with Beckman/Applied Biosystem, and GLC/HPLC analyses. Excellent work record. Box 250, SCIENCE. X

Research Biophysicist/Image Analyst/Computer Specialist. Interests: optics/microscopy, computers, image processing, spectroscopy, cytology/histology; 30 years of multidisciplinary research experience and 32 publications in the above fields. Strongly computer oriented, systems manager, systems analyst, programmer. Seeks research or R&D position. Box 252, SCIENCE. X

Ph.D. Research Executive. Hands-on expertise; research/testing/consultation—Industrial/biochemical/environmental toxicology, carcinogenesis, nutrition. Bioassays, monitoring, metabolism, pesticides, instrumentation. Regulations, GLP. Productive communicator. Marketing. Publications. P.O. Box 272, Plymouth Meeting, Pa. 19462. X

POSITIONS WANTED

Writer. Ph.D., publications, teaching, research experience. Seeks free-lance work, books, articles. Biology. Box 185, SCIENCE. 11/2; 12/7

POSITIONS OPEN

APPLICATIONS SCIENTIST

SLM Instruments, Inc. (SLM-AMINCO) seeks an applications scientist. Background should include a Ph.D. or at least a master's degree. Research and experience using spectroscopic instrumentation and a strong interest in instrumentation required. Background using fluorescence techniques useful. Send résumé to: **Richard Spencer, SLM Instruments, Inc., 810 West Anthony Drive, Urbana, Ill. 61801. Equal Opportunity Employer.**

CITY COLLEGE, City University of New York (CUNY), Anthropology Department, is accepting applications for an anticipated tenure-track position for fall 1985 in **ARCHAEOLOGY**. Preference given to candidates interested in historical/urban archaeology who will develop a research program in the Greater New York area. The candidate should be committed to teaching an ethnically diverse undergraduate population and developing both undergraduate and M.A. level courses; possible participation in the CUNY Ph.D. program. Salary and rank commensurate with experience; Ph.D. required. Application deadline: 17 December 1985. Send curriculum vitae and names of three references to: **Warren Kinzey, Chair, Department of Anthropology, CCNY, New York, N.Y. 10031. An Affirmative Action/Equal Opportunity Employer.**

TWO tenure-track positions at the **ASSISTANT PROFESSOR** level have become available in the newly formed Department of Microbiology, Immunology and Parasitology, at Louisiana State University Medical Center in New Orleans. Applicants must have a Ph.D. degree and several years of postdoctoral experience with an interest in molecular parasitology. Specific experience using (i) molecular probes to study gene regulation in host-parasite systems and/or (ii) biochemical techniques to study molecular aspects of pathogenesis is preferred. The individuals to be hired will be involved in teaching medical as well as graduate students.

Send curriculum vitae, a statement of research interests and reprints of any published materials, together with the names of at least three references to: **Dr. Ronald B. Luftig, Head, Department of Microbiology, Immunology and Parasitology, Louisiana State University Medical Center, 1901 Perdido Street, New Orleans, Louisiana 70112.**

An Equal Opportunity/Affirmative Action Employer

ASSISTANT PROFESSOR. Department of Medicine at Brigham and Women's Hospital and Harvard Medical School is seeking applicants with the M.D. and/or Ph.D. degree for an appointment within the Renal Division. The position requires at least 3 years of postdoctoral experience in studying renal metabolism, preferably utilizing NMR techniques. The individual selected will be expected to conduct independent research and supervise the training of postdoctoral research fellows. Send curriculum vitae and references to: **Dr. B. M. Brenner, Brigham and Women's Hospital, 75 Francis Street, Boston, Mass. 02115. Women and members of minority groups are encouraged to apply.**

The Department of Biochemistry, Duke University Medical Center, invites applications for the position of **ASSISTANT PROFESSOR**. This is a tenure-track position. The person will be expected to establish a strong independent research program and to teach at the graduate level. The field of interest is open, although some preference may be given to candidates interested in the molecular aspects of cell biology. Send résumé, summary of research interest, and names of three references by 15 December 1984 to: **Robert L. Hill, Department of Biochemistry, Duke University Medical Center, Durham, North Carolina 27710. Duke University is an Equal Opportunity/Affirmative Action Employer.**

The Department of Chemistry at New York University (NYU) invites applications for an anticipated opening for an **ASSISTANT PROFESSOR** (tenure-track) with a research program in **ORGANOMETALLIC CHEMISTRY**. Applicants should send a résumé, research plans, and three letters of recommendation to: **Professor Edward McNelis, Department of Chemistry, Meyer Hall, 508, New York, N.Y. 10003, prior to 14 December 1984. NYU is an Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

ASSISTANT PROFESSORSHIP. The Department of Biology, University of Virginia, invites applications for a tenure-track position in the area of the genetics, cellular or molecular biology of plants. The successful candidate would be expected to have had post-doctoral experience and have demonstrated high research potential in developing a program of investigation attractive to the interests of our graduate students. Participation in undergraduate and graduate teaching in plant biology would be expected. Send curriculum vitae and statement of research interests along with three letters of evaluation of accomplishments and future potential to: **Chairman, Botanical Search, Department of Biology, Gilmer Hall, University of Virginia, Charlottesville, Va. 22903.** Application deadline: 1 January 1985. The appointment will start in the fall semester of 1985. *An Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR—Tenure-track position in Anatomy Department. Candidates should have a Ph.D. with postdoctoral research experience and ability to obtain extramural grant support. Research interest in cell biology desired, especially in areas such as membrane structure and function, cell adhesion, cytoskeleton, and extracellular matrix. Individuals will participate in teaching in one of the areas of anatomy. Superb research facilities available in new building. Send curriculum vitae, brief statement of research interest, and names of three references by 15 December 1984 to:

Gary E. Wise, Ph.D.
Chairman, Department of Anatomy
Texas College of Osteopathic Medicine
Camp Bowie at Montgomery
Fort Worth, Texas 76107-2690

An Equal Opportunity/Affirmative Action Employer

ASSISTANT PROFESSOR OF CHEMISTRY

Applications are invited for at least one tenure-track faculty position for the fall of 1985 at the assistant professor level in the general area of biochemistry. Preference will be given to individuals using recombinant DNA techniques to study enzyme mechanism, but outstanding applicants in other areas will also be considered. Postdoctoral training, a significant publication record, and a background that enables the applicant to teach at the graduate level are essential. Curriculum vitae, the names of three references, and a brief description of future research plans should be sent by 15 December 1984 to: **Dr. Richard L. Lintvedt, Chairman, Department of Chemistry, Wayne State University, Detroit, Mich. 48202.**

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

ASSISTANT PROFESSOR OF ENTOMOLOGY. The Department of Entomology at Kansas State University is seeking applicants for this tenure-track position to begin spring 1985. Responsibilities include: Research (60 percent). Ecology of insects in agricultural systems. The successful candidate is expected to investigate the principles of insect ecology in agroecosystems and must be able to quantitatively assess ecological interactions between insects and their environment. Teaching (40 percent). An annual course emphasizing the principles of insect ecology and a biennial advanced course in area of specialty. Candidates must have Ph.D. in entomology with training and experience in insect ecology. Strong quantitative background and demonstrated teaching ability are required. Closing date is 1 January 1985. Send letter of application, résumé, transcripts, and names and addresses of three references to: **Dr. R. G. Helgesen, Department of Entomology, Kansas State University, Manhattan, Kan. 66506.** *Kansas State University is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSORSHIP, tenure track. The Psychobiology Program in the University of Pittsburgh's Center for Neuroscience has a position available at the assistant professor level to begin 1 July 1985. The program is particularly interested in someone who will establish an active research program either in (i) molecular neurobiology, (ii) the biophysical properties of nerve cell tissue, or (iii) animal models of human CNS dysfunction that could be integrated with the program's focus on behavioral neuroscience. All candidates should have at least 2 years of postdoctoral experience. Send curriculum vitae, three letters of recommendation, and a brief description of research interests to: **Search Committee, Psychobiology Program, 465 Crawford Hall, University of Pittsburgh, Pittsburgh, Pa. 15260.** All applications should be submitted by January 1985.

U.S. Department of Energy Master's Thesis Research Nuclear Waste Management 1985-1986 Academic Year

Description: The U.S. Department of Energy, in association with Argonne National Laboratory, will offer up to ten awards for Master's thesis research on nuclear waste management, in applicable areas of engineering or the physical sciences. The purpose of these awards is to enable graduate students in disciplines related to nuclear waste management to obtain practical research experience. Each of the research programs will be conducted at the academic institution in which the student is enrolled, under the guidance of the student's research advisor. Any resources required for the research must be available on campus. The student will be required to provide to Argonne National Laboratory brief quarterly technical progress reports and a thesis or final detailed report at the conclusion of the research. Journal publication of the research is encouraged. The awards will be disbursed approximately June 1, 1985.

Areas of Research: The management of all types of nuclear waste is of interest including high-level, low-level, transuranic, airborne, and mill tailings. Typical research areas of interest include waste form properties, interactions with geologic media, and environmental and safety aspects of waste treatment, transportation, and final disposal.

Eligibility: An award recipient must currently be a U.S. citizen and accepted as a full-time graduate student at an accredited U.S. college or university. The proposed research must have the approval of the applicant's research advisor, and department chairperson. Selections will be by peer review and will be based on academic record, availability of research facilities and faculty guidance, and applicability of the proposed research to the objectives and programs of the Department of Energy.

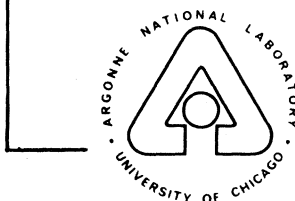
Financial Assistance: The Department of Energy will provide up to a total of \$12,000 for each accepted research proposal, payable to the academic institution where the research is performed.

Applications: Each student applicant should provide to Argonne National Laboratory, at the address shown below, a 200-300 word summary of the proposed research, along with an undergraduate grade transcript and brief statements regarding citizenship status, availability of required research facilities, and availability of qualified faculty guidance. The application must carry written endorsement of the student's research advisor, and department chairperson.

Application Deadline: March 15, 1985

Mailing Address: Research proposals and requests for further information should be directed to:

J. Howard Kittel
Manager, Office of Waste
Management Programs
Argonne National Laboratory
9700 South Cass Avenue
Argonne, Illinois 60439
(312) 972-6677



*An Equal Opportunity/
Affirmative Action Employer*

POSITIONS OPEN

ASSISTANT PROFESSOR OF GENETICS

The Department of Genetics and Cell Biology, University of Minnesota, invites applications for a tenure-track assistant professor position. We are particularly interested in individuals investigating the biochemical or molecular aspects of: (i) gene expression, (ii) behavioral genetics, or (iii) developmental genetics in animal or plant systems. Preference will be given to applicants who complement existing departmental activities. Candidates must have completed a doctoral degree within the last 5 years and have a minimum of 1 year of postdoctoral research experience. The successful applicant will be expected to obtain external support for a vigorous research program, to participate in undergraduate and graduate teaching and advising, and to perform related service functions. Candidates should submit a description of teaching and research interests and plans, curriculum vitae, relevant reprints, and three letters of recommendation to: **Chairperson, Genetics Search Committee, Department of Genetics and Cell Biology, University of Minnesota, St. Paul, Minn. 55108-1095.** Deadline for receipt of applications is 15 January 1985; the appointment is expected to begin 16 September 1985.

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

ASSISTANT PROFESSOR OF LINGUISTICS. Specialization in first language acquisition; secondary specialization in L2 acquisition and/or clinical, education, or remedial applications preferred. Salary commensurate with experience. Send letter of application, curriculum vitae, and three references (name, address, telephone) by 7 January 1985 to: **Alan Bell, Chair, Department of Linguistics, University of Colorado, Boulder, Colo. 80309.** *Affirmative Action/Equal Opportunity Employer.*

ASSISTANT PROFESSOR

The Department of Pharmacology, Toxicology, and Therapeutics at the University of Kansas College of Health Sciences has available a tenure-track position. The candidate should have training and experience in neuropharmacology and/or neurotoxicology. Applicants should have an M.D. or Ph.D. degree and have a strong commitment to teaching and research. The successful candidate will be expected to develop an independent research program and participate in all teaching activities (medical and graduate students) of the department. Applications will be accepted until the position is filled but prefer submission by 15 December 1984. Those interested in applying should send an up-to-date curriculum vitae to: **Dr. Alan Poisner, Department of Pharmacology, Toxicology, and Therapeutics, University of Kansas Medical Center, 39th and Rainbow, Kansas City, Kansas 66103.**

Kansas University is an Affirmative Action/Equal Opportunity Employer.

ASSISTANT PROFESSOR-TOXICOLOGY

Candidates with a Ph.D. in pharmacology or related field or an M.D. and two or more years of relevant postdoctoral experience in toxicology are invited to apply for this tenure-track position. The successful candidate should show promise of developing an independent research program and will be expected to teach and advise graduate and health professional students. Applications will be accepted until the position is filled but prefer submission by 1 December 1984. Send curriculum vitae to: **Dr. Curtis D. Klaassen, Department of Pharmacology, Toxicology, and Therapeutics, University of Kansas Medical Center, Kansas City, Kansas 66103.**

Kansas University is an Affirmative Action/Equal Opportunity Employer.

Temple University is seeking a **BIOCHEMIST** to join a research group studying protein interactions in blood coagulation. Applicants need not have a Ph.D. but must have more than 10 years of experience in the early stages of blood coagulation, have performed original research, and have presented papers at national meetings. Must have had hands-on familiarity with techniques of protein chemistry including purification, characterization, kinetics, and selected physical methods. Familiarity with HPLC, immunochemical methods, and end group analysis desirable. This is a nontenured faculty position with the rank of research instructor. Send résumé and three references to: **Robert W. Colman, Director, Thrombosis Research Center, Temple University School of Medicine, 3400 North Broad Street, Philadelphia, Pa. 19140.** *Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR—MEMBRANE BIOLOGY. Tenure-track positions are available for scientists working in membrane biology. The successful applicant is likely to be experienced in voltage clamp measurements of channels in natural membranes, isolated by gigaseals in the patch clamp technique, or of channels reconstituted into artificial bilayers. He/she will have a broad interest in the functional role of channels and membranes in a variety of cells and tissues. Please send curriculum vitae, including the names of three senior investigators willing to evaluate your work, and a short (one- to two-page) description of your research goals for the next few years, to:

**Robert Eisenberg
Bard Professor and Chairman
Department of Physiology
Rush Medical College
1750 West Harrison Street
Chicago, Illinois 60612**

An Equal Opportunity/Affirmative Action Employer

ASSISTANT PROFESSOR IN PHYSICAL BIOCHEMISTRY—JOINT APPOINTMENT IN THE AGRICULTURAL EXPERIMENT STATION

The Department of Biochemistry, University of California, Riverside, invites recent Ph.D.'s with backgrounds in physical biochemistry to apply for a tenure-track faculty position with joint appointment to the Agricultural Experiment Station in the area of physical biochemistry to begin after 1 January 1985. Candidates in all areas of physical biochemistry (for example, various areas of laser spectroscopy, NMR, EPR, fluorescence) will be considered. Those with research and teaching interests in the application of NMR and/or other types of spectroscopy to the study of the biophysical/chemical properties of plant macromolecular systems are particularly encouraged to apply. Application deadline is 1 January 1985 or until a suitable candidate is found. Send résumé, list of publications, transcripts of all university academic records, and names and addresses of at least three references to: **M. F. Dunn, Search Committee Chair, Department of Biochemistry, University of California, Riverside, Riverside, Calif. 92521.** *The University of California, Riverside, is an Equal Opportunity/Affirmative Action Employer. Minority and women candidates are urged to apply.*

ASSISTANT OR ASSOCIATE SPECIALIST. Funds are available from a grant from the National Institutes of Health for 3 years starting 1 February 1985, to support a full-time individual (\$22,380 to \$33,924) to study the molecular genetics of aldolase genes in humans. Applicant must be experienced in recombinant DNA cloning techniques including cDNA and genomic library construction and screening, DNA sequencing, RNA and DNA purification, and restriction analysis. Experience in protein chemistry including electrophoretic analysis, protein modification and purification, and protein translation assays would be desirable. Candidate must have at least four years of work beyond the Ph.D., experience in supervisory and instructional capacities, and a publication record indicative of expertise in the areas described. Send résumé, names of three references, and copies of relevant publications by 31 November 1984 to: **Dr. Edward E. Penhoet, Department of Biochemistry, University of California, Berkeley, Calif. 94720.** *The University of California is an Equal Opportunity/Affirmative Action Employer.*

The Department of Psychiatry of the University of Michigan has a tenure-track faculty (instructor to professor) position as **ASSOCIATE CHIEF, PSYCHIATRIC EMERGENCY SERVICES.** Duties include direction of a psychiatric emergency program involving walk-in patients, consultation to medical/surgical emergency room, administrative responsibilities for support staff, liaison with community/mental health system, and supervision of psychiatric residents and medical students working in the emergency room. Requires interest and demonstrated abilities in crisis intervention, emergency evaluations, medical psychiatry, teaching, and supervision. Research background desired; programmatic, grant-supported health services research is now ongoing and medical psychiatric research is planned. Board-certification in psychiatry or eligibility to take boards is a requirement. Salary range dependent on academic rank. Please send curriculum vitae to: **David J. Knesper, M.D., Chief, Psychiatric Emergency Services, Department of Psychiatry, University of Michigan Hospitals, Room C-7056, Box 54, 1405 East Ann Street, Ann Arbor, Michigan 48109.**

The University of Michigan is an Affirmative Action Employer.

POSITIONS OPEN

ASSISTANT PROFESSOR—MEDICINAL CHEMISTRY

The Department of Pharmaceutical Chemistry, University of California, San Francisco, is seeking applicants with a Ph.D. in chemistry, biochemistry, or medicinal chemistry for a tenure-track position. Candidates must have a strong background in organic chemistry and have demonstrated skills in recombinant DNA techniques. Postdoctoral experience is highly desirable and interest in teaching medicinal chemistry is essential. Candidates should arrange for three letters of reference and should send curriculum vitae, a list of publications, and a brief summary of research accomplishments and future research goals before 31 December, 1984 to: **Dr. Norman J. Oppenheimer, Department of Pharmaceutical Chemistry, School of Pharmacy, 926-S, University of California, San Francisco, Calif. 94143.** *The University of California is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.*

ASSISTANT PROFESSOR OF PHARMACOLOGY. Applications are invited for a tenure-track position of assistant professor. Candidates must have a solid background in pharmacology and a strong record in research. Candidates should have the potential of obtaining outside funding, conducting a vigorous research program, and teaching medical and graduate students. Interest in neurochemistry, psychopharmacology, or immunopharmacology research preferred. Send curriculum vitae before 15 January 1985 and arrange to have three letters of recommendation sent upon request to: **Dr. C. Paul Bianchi, Professor and Chairman, Department of Pharmacology, Thomas Jefferson University, Philadelphia, Pa. 19107.** *An Affirmative Action/Equal Opportunity Institution.*

ASSOCIATE/FULL PROFESSOR—PLANT ECOLOGIST

Scholar with a distinguished research and teaching (undergraduate and graduate) record, extramural funding, and desire to contribute a strong intellectual exchange with faculty and students. Preference for person utilizing chemical and/or ecophysiological approaches to enhance the understanding of population, community, or ecosystem processes. Submit curriculum vitae and have at least three letters of recommendation sent by December 1984 to: **Dr. D. E. Fairbrothers, Department of Biological Sciences, Rutgers University, P.O. Box 1059, Piscataway, N.J. 08854.** Telephone: 201-932-2843. *Equal Opportunity/Affirmative Action Employer.*

ASSISTANT PROFESSOR: Quantitative epidemiology of plant disease. Tenure-track position in basic research in epidemiology with major emphasis on quantitative analysis of soilborne diseases. Qualification: Ph.D. in plant pathology with strong background in modern quantitative approaches to study of plant disease epidemics. Submit curriculum vitae, transcripts, publications, and three letters of reference by 31 January 1985 to: **Gregory Shaner, Head, Department of Botany and Plant Pathology, Purdue University, Lafayette, Ind. 47907.** *Purdue University is an Equal Opportunity/Affirmative Action Employer.*

BIOCHEMISTRY/MOLECULAR BIOLOGY—ASSISTANT PROFESSOR

The Department of Chemistry at Clark University seeks a highly qualified individual to fill a tenure-track position at the assistant professor level starting 1 September 1985. The successful candidate will demonstrate a commitment to teaching at the undergraduate and Ph.D. levels and to pursuing a vigorous research program. Preference will be given to those candidates with specialization in biochemistry or molecular biology. Send résumé, a brief statement concerning research plans, and three letters of recommendation by 15 December 1984 to: **Dr. Donald J. Nelson, Department of Chemistry, Clark University, Worcester, Mass. 01610.** *Clark University is an Equal Opportunity/Affirmative Action Employer.*

BIOLOGY: Tenure-track position, assistant professor level, beginning September 1985. Principal teaching responsibilities in developmental biology. Other areas of teaching include microbiology and general biology. Ph.D. required and recent postdoctoral experience in some aspect of gene expression desirable. Send curriculum vitae, three letters of recommendation, and graduate and undergraduate transcripts to: **Dr. Richard Sherwin, Chairman, Department of Biology, Emory & Henry College, Emory, Va. 24327,** by 11 January 1985. *Equal Opportunity Employer.*

SCIENTIST

JOB: Requisition number 2802

The newly established Natural Resources Research Institute at the University of Minnesota, Duluth, has an opening for a scientist in our Energy Research and Development area.

QUALIFICATIONS: A Master's degree in a technical field such as chemistry or chemical engineering; and a minimum of 4 years of responsible research experience in the area of energy; or an equivalent combination of education and relevant research experience in the area of energy.

DESCRIPTION: The scientist will be responsible for laboratory and field studies in the broad area of biomass energy research and development. Specific responsibilities may include: Working with other university staff, government employees, community and industry representatives as requested; assigning and coordinating work of office support and technical personnel working on a project; supervising the review of literature pertaining to the energy area; designing the overall research plan in consultation with principal investigators and selecting the best avenues for investigation; developing methods, instrumentation, devices, and techniques to use in conducting experiments; supervising the collection, reduction, and calculation of data; instructing subordinates in proper procedures and reviewing their work; analyzing and evaluating research results; writing progress reports and final reports on research projects; authoring and coauthoring manuscripts for publication and/or presentation at professional meetings; assisting in the drafting of proposals to government agencies to procure research funds for new projects in the energy area.

SALARY: \$2137 to \$3299 monthly. Work schedule: Monday to Friday, 7:45 to 4:30.

Mail applications to: Room 281 Darland Administration Building, University of Minnesota, Duluth, Minn. 55812. Applications must be postmarked by 15 December 1984. Please refer to the job requisition number in application letter.

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

ASSOCIATE DIRECTOR OF PUBLIC PROGRAMS Natural History Museum of Los Angeles County

Applications are solicited for a new position which will oversee activities concerned with exhibitions, public education, public awareness of research and collections, public relations and marketing in a major national museum. The qualified applicant should possess leadership ability, creativity, familiarity with natural history and history, the ability to function effectively within municipal and private administrative systems, effective communication and management skills, and a commitment to community service.

The associate director of public programs is a key element of the organizational structure of the Natural History Museum. The person selected to fill this position will report to the director, and will define and shape the role of the public programs/education function for many years to come.

A high level of understanding of the Museum's scholarly research is essential and continuing interaction with the curatorial staff will be required; hence, an advanced degree in the natural sciences is necessary. Additionally, experience in the following is desirable: exhibits and related special events, public education, administration and budget management, volunteer programs, advertising and communications, public relations and community affairs, and retail operations.

Salary negotiable and commensurate with experience. *Equal Opportunity Employer.* Send résumé, letter of application, and names of three references to:

(APPLICATION DEADLINE: 21 December 1984)

Dr. John Harris
Division of Earth Sciences
Natural History Museum
900 Exposition Boulevard
Los Angeles, California 90007
Telephone: 213-744-3321

SCIENTIST

JOB: Requisition number 2803

The newly established Natural Resources Research Institute at the University of Minnesota, Duluth, has an opening for a scientist in our Water Research and Development area.

QUALIFICATIONS: A Master's degree in a technical field such as biology or chemistry; and a minimum of 4 years of responsible research in the area of water; or an equivalent combination of education and relevant research experience in the area of water.

DESCRIPTION: The scientist will be responsible for laboratory and field studies in the broad area of water research and development. Specific responsibilities may include: Working with other university staff, government employees, community and industry representatives as requested; assigning and coordinating work of office support and technical personnel working on a project; supervising the review of literature pertaining to the water area; designing the overall research plan in consultation with principal investigators and selecting the best avenues for investigation; developing methods, instrumentation, devices, and techniques to use in conducting experiments; supervising the collection, reduction, and calculation of data; instructing subordinates in proper procedures and reviewing their work; analyzing and evaluating research results; writing progress reports and final reports on research projects; authoring and coauthoring manuscripts for publication and/or presentation at professional meetings; assisting in the drafting of proposals to government agencies to procure research funds for new projects in the water area.

SALARY: \$2137 to \$3299 monthly. Work schedule: Monday to Friday, 7:45 to 4:30.

Mail applications to: Room 281 Darland Administration Building, University of Minnesota, Duluth, Minn. 55812. Applications must be postmarked by 15 December 1984. Please refer to the job requisition number in application letter.

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

PRODUCT MANAGERS BIOTECHNOLOGY

Established biotechnology company with leadership position seeks candidates for product management in molecular and cell biology. Candidates should have sales/marketing experience with a solid background in the life sciences research marketplace. An advanced degree in biology/biochemistry field preferred; MBA considered a plus. Individuals must be highly motivated with strong communication skills.

Positions currently available in:

- Gaithersburg, MD (Washington, D.C. area)
- Grand Island, NY (Buffalo, N.Y. area)

We invite your inquiry. Please send resume in confidence to:

GIBCO/BRL DIVISION

Mr. Wayne E. Fowler
Life Technologies, Inc.
Box 6009, 8717 Grovemont Circle
Gaithersburg, MD 20877

An equal opportunity employer M/F/H

POST VACANCY FOR TEAM LEADER IN MALI

The International Livestock Centre for Africa (ILCA), with headquarters in Addis Ababa, Ethiopia, is conducting a wide-ranging livestock research programme in the Sahelian countries. The headquarters of this regional programme are at Bamako in Mali and the work under way involves close collaboration with a number of national as well as international organizations. Current studies include the productivity of nomadic as well as agropastoral livestock systems. This work extends to resource inventories based upon both satellite imagery and aerial survey, and includes component research on constraints to productivity increases identified by an analysis of farming systems.

ILCA wishes to recruit for this project a team leader (position reference: INT/001/84).

The person appointed must have proven leadership ability within an interdisciplinary research team and must be capable of coordinating the planning, implementation, and analysis of field data collection in animal production, animal health, and resource inventory studies. Applicants must have a Ph.D. or equivalent in a field of animal or veterinary science with at least 10 years of experience of livestock productivity research, including experience in semi-arid tropics as well as proven research ability in the analysis, interpretation, and publication of quantitative data. The successful applicant must be fluent in French and have a good working knowledge of English.

This is an international staff position and the salary will be paid in U.S. dollars. The initial contract will be 2 years renewable annually thereafter subject to satisfactory performance and financial resources being available. Initial salary level will be determined by qualifications and experience. Moving and education allowances are paid and there are medical and retirement benefits. Applications should include current curriculum vitae and the names and addresses of three referees. Applications citing the reference number should be sent by 16 November 1984 to: The Head of Personnel Department, International Livestock Centre for Africa, P.O. Box 5689, Addis Ababa, Ethiopia.

DIRECTOR BARTOL RESEARCH FOUNDATION

The Bartol Research Foundation, a division of The Franklin Institute of Philadelphia, announces a search for a new Director to succeed Dr. Martin A. Pomerantz who will retire at the end of 1986.

Bartol was established by The Franklin Institute in 1924 to conduct research in the physical sciences, emphasizing basic research that ranges from studies of the fundamental laws of nature to investigations that may be relevant to the solution of contemporary technological problems. Current research programs are in astrophysics, solar-terrestrial physics, cosmic rays, particle physics, condensed matter, and nuclear structure. Bartol is located on the campus of the University of Delaware in a building that is shared with the University Physics Department. A joint graduate program leading to MS and PhD degrees in Physics or Astrophysics is conducted by the combined faculty.

Qualifications: A senior research scientist having a broad interest in the physical sciences and a distinguished research record is sought. The Director must have the capacity to identify promising research scientists and areas of research, and the ability to administer a research institute.

Duties: The Director is expected to continue an active research program of his own that is compatible with the mission of Bartol. Administrative responsibility for programmatic, budgetary, and personnel matters at Bartol on behalf of The Franklin Institute is vested in the Director. The Director works with the scientific staff of Bartol, composed of faculty, research associates, post-doctoral fellows, and graduate students, in developing and funding the various research programs. The Director and Bartol faculty work cooperatively with the Physics Department in the implementation of the joint graduate program.

Nominations and Applications: The Search Committee invites the nomination of potential candidates as well as applications from interested candidates. The selection process will begin February 15, 1985. The date of appointment is flexible. Nominations and applications are encouraged from women and members of minority groups.

Correspondence should be directed to:

Search Committee Secretary
Bartol Research Foundation
Sharp Laboratory
University of Delaware
Newark, DE 19716

POSITIONS OPEN

JPL ATMOSPHERIC SCIENTIST

The Earth and Space Sciences Division of the Jet Propulsion Laboratory (JPL) requires an atmospheric scientist to work on a challenging task of passive infrared remote sensing in the troposphere. Requires a Ph.D. in physics or related fields and the successful candidate will have demonstrated experience in one or more of the following areas: atmospheric physics or chemistry; radiative transfer; infrared spectroradiometry; remote sensing. U.S. citizenship required.

Please submit résumé to: Professional Staffing, Department TO2.

Jet Propulsion Laboratory
California Institute of Technology
4800 Oak Grove Drive
Pasadena, Calif. 91109

An Equal Opportunity Employer, M/F

BIOCHEMISTS/IMMUNOCHEMISTS/ MOLECULAR VIROLOGISTS

Synbiotics Corporation, a rapidly growing biotechnology company located in San Diego, is seeking B.S., M.S., and Ph.D. scientists to expand its Product R&D and Monoclonal Technology groups. These positions offer opportunities for scientific and career growth for dedicated individuals capable of applying excellence in research to commercial applications.

Salary and benefits are competitive and include an employee stock option program. Send résumé or curriculum vitae, including references, to: Jody Hillier, Personnel, Synbiotics Corporation, 11011 Via Frontera, San Diego, Calif. 92127.

BIOMEDICAL INVESTIGATOR POSITIONS—

Medical Research Institute affiliated with a large academically oriented medical center hospital in suburban Philadelphia, Pennsylvania, is seeking new or established Ph.D. or M.D. researchers for staff or postdoctoral fellowship positions. Well equipped laboratories and excellent ancillary support services including use of new animal care facility will be provided. Areas of research emphasis include cardiovascular diseases and atherosclerosis, carbohydrate and hepatic lipid metabolism, diabetes mellitus, aging, and hematology-oncology. Pleasant working environment in an attractive setting. Competitive salary and fringe benefits and medical school appointments are available. Applicants must have a track record of journal publications based on peer-reviewed manuscripts of their own research. Send résumé, including history of grant support, to: Box 259, SCIENCE, Equal Opportunity Employer.

BOTANIST—The Biology Department of Hobart and William Smith Colleges, an undergraduate institution located on Seneca Lake in upstate New York, is searching for a botanist to fill a tenure-track position at the assistant professor level, effective 1 July 1985. Teaching responsibilities in the department include botany, an advanced course in quantitative ecology, and introductory biostatistics, as well as participation in the Colleges' general curriculum. A research program must be considered that is amenable to the participation of junior and senior biology majors. Applicants should send a complete résumé and three letters of recommendation by 14 December 1984 to: Dr. Valerie M. Kish, Department of Biology, Hobart and William Smith Colleges, Geneva, New York 14456.

CHAIRMAN, DEPARTMENT OF PHYSIOLOGY

The Eastern Virginia Medical School (EVMS) invites applications for the position of chairman of the Department of Physiology. EVMS is a 10-year-old community supported medical school, located in Norfolk, Virginia. The Physiology Department has received national recognition for its efforts in reproductive physiology and is collaborating with other EVMS departments in various neuroendocrine and reproductive investigations.

Candidates for this position should have a strong research background as evidenced by appropriate publications and current active grant support. Experience in undergraduate medical student and graduate education, curriculum development, and administration are considered prerequisites.

Letters of application should include complete curriculum vitae, bibliography, and a list of references, and should be addressed to: James P. Baker, M.D., Chairman Physiology Search Committee, EVMS, P.O. Box 980, Norfolk, Virginia 23501. Applications should be received no later than 30 November 1984.

An Affirmative Action/Equal Opportunity Employer

POSITIONS OPEN

CELL BIOLOGIST/IMMUNOLOGIST

A Ph.D. with more than 2 years of postdoctoral experience is invited to apply for a position at a major Boston teaching hospital and research institute. Evidence of grant competitiveness required. Nongrant salary negotiable with grant salary to supplement. Expertise in immunology/oncogene research/cell biology to complement group studying colorectal and other solid cancers. Joint appointments in clinical and appropriate basic science department. Training of graduate students and postdoctoral students by incorporation into candidate's own independent research. Send curriculum vitae, representative publications, and three letters of recommendation to: Glenn Steele, Jr., M.D., Ph.D., Dana-Farber Cancer Institute, 44 Binney Street, Boston, Mass. 02115.

FULL PROFESSOR LEVEL, CELLULAR OR DEVELOPMENTAL MOLECULAR BIOLOGIST HEAD OF DEPARTMENT OF ANATOMICAL SCIENCES

The University of Illinois at Urbana-Champaign is committed to the development of strong programs of molecular approach in several areas of the biological sciences. We are currently seeking an active investigator interested in expanding a program of research in cellular and developmental molecular biology within the Department of Anatomical Sciences in the School of Life Sciences. The Department includes graduate and undergraduate programs in the School of Life Sciences and delivers instruction in anatomical sciences to students in the College of Medicine at Urbana-Champaign. It is anticipated that this individual will maintain a vigorous research program and will have the opportunity to recruit several additional faculty in the area of cellular and developmental molecular biology. Applicants must possess a Ph.D., M.D., or equivalent academic degree, and have qualifications appropriate to a tenured appointment at the full professor level. The position is available immediately with starting date negotiable. Salary is open and will be commensurate with qualifications. Applicants should send their curriculum vitae to:

Olke C. Uhlenbeck
University of Illinois, 393 Morrill Hall
505 South Goodwin Avenue
Urbana, Ill. 61801
Telephone: 217-333-3044

Applicants whose curriculum vitae are received after 1 January 1985 cannot be guaranteed full consideration. The University of Illinois is an Affirmative Action/Equal Opportunity Employer.

CHAIRMAN, DEPARTMENT OF PATHOLOGY

Board-certified pathologist at Caribbean medical school. Attractive salary and fringes. Please send curriculum vitae and references to: Ross University, Search Department, 460 West 34 Street, 12th Floor, New York, N.Y. 10001.

DIRECTOR, PROTEIN CHEMISTRY

Amgen, a leader in second generation biotechnology, has a unique opportunity for the seasoned technical leader to join our research laboratories. This newly created position will be responsible for providing the overall technical leadership in our existing protein chemistry, characterization, and process development activities.

Your background should include:

- Ph.D. in protein chemistry or a related field.
- State-of-the-art knowledge of protein sequencing, peptide mapping, protein purification or industrial processes for production of therapeutic polypeptides.
- Significant management experience, preferably in the pharmaceutical industry, is desirable.
- Project leadership experience in a matrix management environment.

Amgen offers a well financed and established foundation with an excellent compensation and benefits program including equity opportunities, an exciting and stimulating technical environment, and the advantages of being located in an attractive, smog free community only 40 miles northwest of Los Angeles.

Please forward your résumé/curriculum vitae with cover letter to:

Recruitment (WFP)
AMGEN
1900 Oak Terrace Lane
Thousand Oaks, Calif. 91320

POSITIONS OPEN

Southwestern University seeks candidates for the **DISHMAN CHAIR IN SCIENCE** in the Department of Biology. The associate or full professor, tenure-track position will be filled in 1985. The successful applicant will exhibit a strong commitment to undergraduate teaching and establish a research program which can involve undergraduate students. Although broad teaching interests are desired, preference will be given to candidates with competence in some combination of cell physiology, animal physiology, or molecular genetics. Send applications and nominations to: G. Benjamin Oliver, Dean, Brown College of Arts and Sciences, Southwestern University, Georgetown, Texas 78626. An Affirmative Action/Equal Opportunity Employer.

CHAIR OF NEUROBIOLOGY AND ANATOMY

The Medical School, University of Texas Health Science Center at Houston, is soliciting applications or nominations for the position of chairperson, Department of Neurobiology and Anatomy. The departmental mission relates primarily to the education of medical, graduate and paramedical students through teaching and research activities. An individual is being sought who has an excellent record of research accomplishments, will maintain an active research program, is dedicated to establishing an outstanding and balanced teaching program, and will provide academic and administrative leadership for a department comprised of 19 faculty and a support staff. Several positions are available for recruitment of junior and senior faculty. The department has exceptional administrative and research facilities. Applicants should submit current curriculum vitae and bibliography, and the names, addresses, and telephone numbers of five references to: Gilbert A. Castro, Professor, Department of Physiology and Cell Biology, University of Texas Medical School, Houston, Texas 77025. Applications should be received by 23 November 1984. An Equal Opportunity Employer. Women and minorities are encouraged to apply.

THE UNIVERSITY OF MELBOURNE, CHAIR OF

BIOCHEMISTRY. Applications are invited for appointment to a chair of biochemistry which will become vacant as from 1 January 1986. The University seeks an appointee with an outstanding record in any branch of modern biochemistry. Salary: A\$52,026 per annum (plus loading of A\$4,657 for a medically qualified appointee). Further information about the position and the Russell Grimwade School of Biochemistry, together with details of application procedure, superannuation, travel and removal expenses, housing assistance and conditions of appointment, is available from: The Registrar, University of Melbourne, Parkville, Victoria 3052, Australia, or from: The Secretary General, Association of Commonwealth Universities (Appointments), 36 Gordon Square, London WC1H 0PF, England. Applications close on 31 January 1985.

DNA ENZYMOLOGIST—Position available for DNA enzymologist (Ph.D.) with five or more years of related experience to collaborate with principal investigator on studies of DNA metabolic enzymes in *Escherichia coli* and *Drosophila melanogaster*. Salary: \$25,000 per year; 40 hours weekly. Training in enzymology of DNA replication and recombination including protein purification and DNA electron microscopy is essential. Previous work in prokaryotic DNA enzymology including *Escherichia coli* recA protein is preferred. Applicant should have previous publications in critically reviewed journals in this field and should submit copies with curriculum vitae and names of three references to: Dr. John Chase, Department of Molecular Biology, ALBERT EINSTEIN COLLEGE OF MEDICINE, 1300 Morris Park Avenue, Bronx, New York 10461. An Equal Opportunity Employer.

ECOLOGY—CORNELL. An assistant professor will be appointed jointly in the Division of Biological Sciences and the Program on Science, Technology and Society. Candidates should have demonstrated interests in the social and environmental implications of biology. Preference will be given to ecologists with interests in agricultural ecology and/or biotechnology. The appointee will be expected to maintain an active research program, and to teach courses in the Biology and Society curriculum and other topics in her/his biological specialty. Applicants should send curriculum vitae, statement of research and teaching interests, and names of three references to: Dr. Brian F. Chabot, 292 Roberts Hall, Cornell University, Ithaca, N.Y. 14853. Applications will be reviewed beginning 1 December 1984.

Cornell University is an Affirmative Action/Equal Opportunity Employer.

NATIONAL OPTICAL ASTRONOMY OBSERVATORIES (NOAO), INFRARED ASTRONOMER—The NOAO invites applications and nominations for a position of astronomer (tenure or tenure track) to be filled by a scientist with extensive experience in infrared astronomy and instrument development. The appointment will be held within Kitt Peak National Observatory but the position has responsibilities that span several divisions of NOAO. The appointee will be responsible for initiation and conduct of a program of personal research, and of infrared instrumentation with use of the national telescopes on Kitt Peak and Cerro Tololo. Opportunities will also exist for undertaking work in the development of infrared array detectors and the appointee will be encouraged to participate closely in the infrared program of the National New Technology Telescope. An additional responsibility of the position is to act as coordinator for the infrared instrumentation programs within NOAO with the aim of ensuring the best application of available resources in the service of U.S. astronomy. This is a new position within NOAO and offers exceptional opportunities for carrying out frontier work in an exciting and rapidly developing field. The appointee will have major influence in shaping the future directions of infrared work within NOAO, and in defining the capabilities available to the nation's astronomers. We are seeking a vigorous, enterprising scientist of outstanding ability to fill this position. Individuals who feel their qualifications match the opportunity are invited to send application materials with the names of three references by 15 December to: **Judy Ruffino, Personnel Manager, NOAO, P.O. Box 26732, Tucson, Ariz. 85726. An Equal Opportunity Employer.**

NATIONAL OPTICAL ASTRONOMY OBSERVATORIES (NOAO), ASTRONOMER—The NOAO invites applications and nominations for a position as astronomer (tenure or tenure track and at any rank) to be held within the Kitt Peak National Observatory. Applications will be welcomed from qualified scientists independent of their area of specialization; however, we are particularly interested in senior scientists whose background includes extensive experience in extragalactic observational astronomy and the development of related instrumentation. The appointee will be responsible for conducting a program of personal research and for initiating and/or overseeing a program of frontier instrumentation, designed to broaden and enhance the power and quality of the resources available to U.S. astronomy at the NOAO facilities. The appointee will also be encouraged to participate closely in the development of the NNTT program. We are seeking a vigorous scientist of outstanding ability to fill this key position and encourage individuals who feel their qualifications match the opportunities to forward an application and names of three references by 15 December to: **Judith Ruffino, Personnel Manager, NOAO, P.O. Box 26732, Tucson, Ariz. 85726. An Equal Opportunity/Affirmative Action Employer.**

NEW FISHERIES-RELATED POSITIONS AT LOUISIANA STATE UNIVERSITY'S CENTER FOR WETLAND RESOURCES

Anticipated upper level faculty positions to be filled in the Coastal Ecology and Fisheries Institute from the following disciplines:

- 1) Population Dynamics
- 2) Statistics (catch and effort data)
- 3) Fisheries Biology and Life History
- 4) Seafood Microbiology (processing and packaging)
- 5) Fisheries Product Marketing

Ph.D. Required

Send resume, names of three confidential references and indication of availability date to Dr. Jack R. Van Lopik, Dean, Center for Wetland Resources, LSU, Baton Rouge, LA 70803-7500. Phone: 504-388-1558 or 6710. Applications will be accepted until positions are filled.

Louisiana State University is an Equal Opportunity Employer.

Postdoctoral Scientist [Microbiologist/Biochemist]

The Chemical Engineering Department of SK&F Laboratories is seeking a Ph.D. Microbiologist or Biochemist for a postdoctoral assignment in its Environmental Process Development Laboratory. The selected individual will work with an interdisciplinary team studying fundamental aspects of the relationship between chemical structure and the potential for biodegradation. Candidates with research experience in co-metabolism, enzymology, or microbial interactions are preferred.

Postdoctoral assignments are one year assignments renewable for a second year upon mutual agreement.

We offer an excellent salary, benefits, and relocation package as well as the opportunity for professional growth. Please forward your C.V. to George Kissell, Jr., Sr. Employment Consultant, SK&F Laboratories, 1566 Spring Garden Street, Philadelphia, PA 19101.

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

SK&F
A SmithKline Beckman Company

FACULTY POSITIONS

The Cancer Research Center at the University of North Carolina at Chapel Hill and selected departments are recruiting 3 new faculty members who will be housed in the new Lineberger Cancer Research Center. The aim is to complement and expand existing molecular approaches in basic cancer research. Excellent opportunities for multidisciplinary interactions are available.

Cancer Cell Biology: This program with an emphasis on growth factor research is recruiting a person who is applying state-of-the-art molecular technology to studies of the regulation of genetic expression in growth control and/or transformation. Expertise in the areas of recombinant DNA technology, expression vectors or molecular analysis of oncogene and regulatory protein expression is highly desirable. Specification of rank and departmental affiliation will be made according to the candidate's qualifications which will determine teaching responsibilities in the relevant department.

Chemical Carcinogenesis: Assistant Professor. A faculty position is available in the Department of Pathology and Cancer Research Center. The selected candidate will be expected to conduct a program of independent research in the area of chemical carcinogenesis with particular emphasis on gene amplification, cytogenetics, molecular analysis of oncogene activation or DNA damage and repair. The position requires a Ph.D. or M.D. plus appropriate postdoctoral research training/experience in experimental pathology, molecular biology, or biochemistry with experience in chemical carcinogenesis, DNA cloning, and nucleic acid biochemistry (or equivalent training and experience). A record of high quality research and publications in these areas is expected.

Virology: Assistant Professor. Applications are invited for a faculty appointment in the Department of Microbiology and Immunology. We seek a candidate with demonstrated ability to conduct an independent research program in oncogenic molecular virology and who will participate in the teaching of graduate and medical students.

Applicants should send their curriculum vitae and the names and addresses of three references to: Cell Biology—Shirley P. O'Keefe, Lineberger Cancer Research Center 237H; Carcinogenesis—David G. Kaufman, Dept. of Pathology, 514 Brinkhous-Bullitt Bldg 228H (For Carcinogenesis also include short statement of research plans); Virology—John Newbold, Dept. of Microbiology, Faculty Laboratory Office Building 231H, UNC-CH School of Medicine, Chapel Hill, NC 27514. The University of North Carolina is an affirmative action/equal opportunity employer.

MARINE BIOLOGIST/ ECOLOGIST

Five Colleges, Inc. an educational consortium comprised of Amherst, Hampshire, Mount Holyoke and Smith Colleges and the University of Massachusetts, seeks a broadly trained, experienced marine scientist with emphasis in marine biology/ecology, for a full-time administrative and teaching position. Administrative duties include serving as chairperson of the Five Colleges Coastal and Marine Sciences Committee and as coordinator of the various coastal and marine sciences programs of this consortium. Teaching duties include offering an introductory level marine biology or ecology course and more advanced specialty courses on a rotating basis among the 5 institutions. Teaching load will be 2 or 3 courses per year; research facilities are available. The in-residence institution will be Smith College with a 3-year initial appointment at the Assistant or Associate Professor rank. Applicants should send a curriculum vitae with list of publications, brief statement of administrative, teaching, and research experience and interests, and names of 4 potential references to: **Dr. C. John Burk, Dept. of Biological Sciences, Smith College, Northampton, MA 01063. An Equal Opportunity Employer.**

POSITIONS OPEN

DIRECTOR OF PEDIATRIC RESEARCH INSTITUTE

Cardinal Glennon Memorial Hospital for Children and Saint Louis University School of Medicine invite nominations and applications for the position of director of the Pediatric Research Institute. The Institute is supported by a substantial commitment of private funds and is housed in a 24,000-square-foot modern building which is well-furnished with basic major laboratory equipment. The director is the chief administrative officer of the Institute with responsibilities both to the Hospital and the School of Medicine. Candidates should have an M.D. or Ph.D. degree, a strong record of achievement in research, a commitment to continue an active research program, administrative experience, and qualifications for a full professorship in the School of Medicine with a primary or secondary appointment in the Department of Pediatrics/Adolescent Medicine. Nominations and applications should be received prior to 1 March 1985 by: **The Search Committee for the Director of the Pediatric Research Institute, Office of the Dean, St. Louis University School of Medicine, 1402 South Grand Boulevard, St. Louis, Mo. 63104. St. Louis University is an Equal Opportunity Employer.**

DEPARTMENT OF ECOLOGY AND EVOLUTIONARY BIOLOGY University of Arizona

Applications and inquiries are solicited for two tenure-track faculty positions. Rank and salary are open. Of particular interest to the department are candidates in the following areas:

- 1) Behavioral ecology or the evolution of behavior.
- 2) Plant population biology.
- 3) Functional morphology or physiological ecology, especially of invertebrates or plants.
- 4) Empirical population genetics, including molecular evolution.
- 5) Theoretical population biology or theory of systematics.

Please submit curriculum vitae, reprints, and preprints, and have at least three letters of recommendation sent to:

Dr. James H. Brown
Department of Ecology and Evolutionary Biology
University of Arizona
Tucson, Ariz. 85721

The application deadline is 7 December 1984.

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

EVOLUTIONIST/ECOLOGIST

Pomona College seeks applicants for a tenure-track position at the assistant professor level. We will consider applicants from a variety of specialties, including (but not restricted to) molecular evolution, physiological ecology, plant-herbivore interactions, and ecological/population genetics. Preference will be given to candidates who work with plants. Duties will include teaching an introductory course in ecology and evolution and upper division courses in the candidate's area of interest; the successful candidate will be expected to establish an active research program. Send curriculum vitae, statement of research/teaching interests, and three letters of recommendation to: **Chair, Search Committee, Department of Biology, Pomona College, Claremont, Calif. 91711.** Applications must be received by 30 November 1984.

FACULTY CHAIR CARBOHYDRATE CHEMISTRY

Purdue University is seeking a qualified applicant for the Roy L. Whistler Chair of Carbohydrate Chemistry, a leading position in the new International Center for Applied Research in Carbohydrate Chemistry. The selected candidate will serve as director of a center funded by industrial and governmental grants in coordination with an Industrial Advisory Board of Associated Industrialists. The director, besides supervising the affairs of the Center and its educational graduate programs will also function as a member of the senior research staff of permanent and visiting scholars. Candidates should be senior carbohydrate scientists with experience in research and management. Compensation will be at a level commensurate with stature. Send application with résumé to: **Dr. Philip E. Nelson, Head, Department of Food Science, Smith Hall, Purdue University, West Lafayette, Ind. 47907.**

Purdue University is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

EUKARYOTIC MOLECULAR BIOLOGIST/ BIOCHEMIST

A tenure-track position is open in the Department of Microbiology, University of Notre Dame, at the assistant professor level starting 1 September 1985. We seek an outstanding individual with postdoctoral experience and strong funding prospects to conduct an active research program in developmental genetics and/or gene expression in higher eukaryotes such as *Drosophila*, *Xenopus*, plants, or animal cells. However, qualified individuals in any area of eukaryotic molecular biology-biochemistry are also encouraged to apply. Responsibilities include the direction of graduate students and formal teaching at both the undergraduate and graduate levels. We offer the successful candidate adequate seed money, a modern research laboratory, a competitive salary, and colleagues with direct and complementary research interests. Submit curriculum vitae, names of three references, and a statement of research and teaching interests by 1 February 1985 to:

Dr. Charles F. Kulpa, Jr.
Department of Microbiology
University of Notre Dame
Notre Dame, Indiana 46556

Qualified women and minority group candidates are urged to apply.

EXPERIMENTAL CONDENSED MATTER PHYSICIST

The Department of Physics at Washington State University (WSU) invited applications for a tenure-track faculty position at either the assistant or associate professor level to start September 1985. The successful candidate will be expected to initiate an active experimental program in an area of condensed matter research compatible with current ongoing programs in the department. These areas include studies involving: radiation enhanced reactive etching of surfaces, the physics of fracture, laser interactions with materials, shockwave and high pressure response of condensed materials, acoustics, and theoretical condensed matter physics. Candidates should have postdoctoral experience. Applications, including curriculum vitae and the names of three references, should be submitted before 28 February 1985 to: **Dr. J. Thomas Dickinson, Chairman, Search Committee, Department of Physics, Washington State University, Pullman, Wash. 99164-2814. WSU is an Affirmative Action/Equal Opportunity Employer.**

The University of Michigan Medical School, Department of Radiology, has on occasion open **FACULTY POSITIONS** within the department and its affiliated hospitals. Physicians filling these positions will take part in the programs of patient care, teaching, and research in the Department of Radiology. They will supervise the activities of house officers and aid in teaching of house officers and medical students. Qualified applicants must be American Board of radiology-certified or Board-eligible. Previous training or work experience in an academic institution as well as demonstration of previous academic research and teaching experience are desirable. Academic rank will depend on qualifications and experience. Interested applicants should contact: **William Martel, M.D., Chairman, Department of Radiology, The University of Michigan Medical School, Ann Arbor, Michigan 48109. A nondiscriminatory, Affirmative Action Employer.**

The Department of Biomedical Sciences, College of Veterinary Medicine, University of Missouri-Columbia, is accepting applications for **FOUR TENURE-TRACK FACULTY POSITIONS**. Qualifications include D.V.M., M.D., and/or Ph.D., evidence of teaching skills, and ability to develop a strong biomedical research program. Although specific research areas are not sought, the appointees will likely have an interest in some aspect of mammalian cardiovascular control mechanisms. The area may comprise morphologic, physiologic, pathophysiologic, endocrinologic, or pharmacologic interests, whether at the membrane, cellular, organ, or systemic level. Three of the positions are at the instructor-assistant professor level, and two of these are jointly sponsored by the Dalton Research Center. One position is at the associate professor-professor level and specific qualifications include a recognized and established research program, and ability to organize and direct professional/graduate level courses in veterinary physiology.

Applications should include curriculum vitae, three letters of reference, and a letter stating professional goals. Send correspondence to: **H. Richard Adams, Department of Biomedical Sciences, College of Veterinary Medicine, University of Missouri-Columbia, Columbia, Mo. 65211.**

POSITIONS OPEN

As part of the rapidly expanding research and graduate training programs in the basic sciences at Emory University School of Medicine, the Department of Microbiology and Immunology is seeking to fill a **FACULTY POSITION** in bacterial genetics and physiology at the **assistant or associate professor** level by September 1985. Concurrent searches for molecular biologists are also being conducted by the Department of Biochemistry and the Department of Biology.

Candidates should be prepared to develop a vigorous research program using the latest molecular approaches in bacterial systems. Please submit curriculum vitae along with a summary of research plans and have three letters of reference forwarded by 1 December 1984 to:

Dr. June R. Scott
Bacterial Genetics Search Committee
Department of Microbiology and Immunology
Emory University School of Medicine
Atlanta, Georgia 30322

Emory University is an Equal Opportunity/Affirmative Action Employer.

FACULTY POSITIONS IN MOLECULAR BIOLOGY AND BIOCHEMISTRY

Applications are invited for tenure-track faculty positions at the assistant or associate professor level in the Department of Molecular Biology at the Northwestern University Medical and Dental Schools. Applicants should have a Ph.D. degree in molecular biology, biochemistry, genetics, or a related area or an M.D. or D.D.S. degree and also have several years of postdoctoral training. Candidates having research interest and experience in the mechanisms of hormone action, in the regulation of eukaryotic cell differentiation and development, in membrane structure and function, or in the molecular biology of the immune system are especially encouraged to apply. The successful applicants will be expected to establish vigorous independent research programs and to participate in the teaching of graduate, medical, and dental courses and in the training of graduate and postdoctoral students. Applicants should send complete curriculum vitae, a brief description of previous research and teaching interests (three to four pages), a bibliography and reprints of significant published work or preprints of manuscripts in press, and recommendations from at least three references by 30 November 1984 to:

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

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

INVERTEBRATE DEVELOPMENTAL BIOLOGIST

The Department of Biological Sciences of Rutgers University seeks an individual for a tenure-track position at the assistant professor level who will establish an active research program in invertebrate developmental biology, preferably in the marine area. Postdoctoral experience preferred. Teaching responsibilities include developmental biology and participation in other undergraduate or graduate courses. Curriculum vitae, a statement of future research plans, and the names of three references should be sent to: **Developmental Biology Search Committee, Department of Biological Sciences, Rutgers University, P.O. Box 1059, Piscataway, N.J. 08854. Telephone: 201-932-2802. Deadline for application is January 1985. Equal Opportunity/Affirmative Action Employer.**

INVERTEBRATE ZOOLOGIST—Tenure-track position open in fall 1985 for assistant professor. Candidates must have Ph.D. with research abilities (as demonstrated by publications) in some area of invertebrate zoology, including experimental, systematic, or field biology. Postdoctoral experience is preferred. Teaching duties include an undergraduate course in invertebrate zoology and graduate course in specialty. Candidates are expected to demonstrate excellent teaching abilities and to develop external research support. Send curriculum vitae, four letters of recommendation, and copies of representative publications by 15 January 1985 to: **Dr. James N. Thompson, Jr., Chair, Department of Zoology, University of Oklahoma, Norman, Oklahoma 73019. An Equal Opportunity/Affirmative Action Employer.**

The **BIOLOGY DEPARTMENT** of George Mason University is seeking applicants for three tenure-track positions to begin 1 September 1985.

IMMUNOLOGIST. Duties include teaching undergraduate courses in immunology and cell biology, developing a graduate course in immunology, and supervising research by M.S. students. The successful candidate will be expected to develop and maintain a strong research program and be able to attract funding from external sources. Opportunities for funding include the Biotechnology Division of the new Virginia Center for Innovative Technology to be located in the nearby Dulles Airport area.

SYSTEM ECOLOGIST. Responsibilities include teaching graduate course in ecological modeling and biological resource management as well as supervising doctoral students in the developing Ph.D. program in Environmental Biology-Public Policy. The successful candidate will be expected to develop a strong research program and attract external funding.

VERTEBRATE PHYSIOLOGIST. Teaching responsibilities will include coordinating a multi-section human anatomy and physiology course. The candidate must also have a demonstrated research interest in an area of physiology that will contribute to the Ph.D. program in Environmental Biology-Public Policy. The individual will be expected to develop a strong research program capable of attracting external funding.

The anticipated rank of all three positions is at the assistant professor level, but higher ranks will be considered depending upon appropriate experience. Candidates should have a Ph.D. by 1 September 1985 and postdoctoral experience is desirable. Send curriculum vitae, names of three references, and statement of research interests by 15 December 1984 to: **Chairperson, Search Committee (specify position), Department of Biology, George Mason University, Fairfax, Virginia 22030.** *George Mason University is an Affirmative Action/Equal Opportunity Employer.*

**DEAN
COLLEGE OF AGRICULTURE
Kansas State University**

Kansas State University invites written nominations and applications for the position of **Dean of the College of Agriculture and Director of the Agricultural Experiment Station.**

Responsibilities—The dean is the top administrative officer for agriculture responsible for teaching, research, and extension. The dean reports to the provost and advises the president on all issues pertaining to agriculture. The dean is the liaison with agricultural interests and commodity groups and maintains responsiveness to agricultural student leaders.

Reporting to the dean will be the Associate Dean and Director of Resident Instruction, Associate Dean and Associate Director of the Agricultural Experiment Station, Associate Dean and Director of Cooperative Extension Service, Director of International Agricultural Programs, and eight academic department heads.

Qualifications—Dedication to excellence in faculty selection and development. Demonstrated ability to provide enthusiastic administrative leadership for the teaching, research, and extension missions of a College of Agriculture in a comprehensive state land-grant university. Earned doctorate in appropriate field.

The position is available 1 July 1985. Final review of applications will begin 30 November 1984. Applicants should include complete résumé and three letters of reference. Address to:

**Dr. Gary Allee, Chair
Dean of Agriculture Search Committee
c/o Office of the Provost
106 Anderson Hall
Kansas State University
Manhattan, Kan. 66506**

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

GENE EXPRESSION

CETUS CORPORATION, a leader in biotechnology-based healthcare products, has challenging new opportunities in Molecular and Biological Research:

GENE EXPRESSION IN MAMMALIAN CELLS —

Preference will be given to candidates with demonstrated accomplishments in the introduction and expression of cloned genes in mammalian cells.

MOLECULAR BIOLOGY/GENE ISOLATION —

We are interested in candidates skilled in mRNA isolation and cDNA cloning of low-abundance messages.

These Scientist/Senior Scientist positions will provide opportunities for innovative research, interaction with an exciting team of scientists in related areas, and will include responsibility for research planning.

Send resume in confidence to:

**Cetus Corporation,
Box MG
1400 Fifty-third Street
Emeryville, CA 94608**

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m/f/h



MOLECULAR BIOLOGISTS

The **Molecular Biology Research group**, part of the growing Upjohn Biotechnology program, has several openings for molecular biologists at the B.S./M.S. level. These positions include working in the areas of:

Animal Virology - Research on retroviruses and oncogenes; herpesviruses; development of systems for regulated expression of cloned genes in animal cells.

Yeast - Study of gene expression in yeast, and secretion and processing of proteins in yeast.

Plants - Development of vectors for introduction of cloned genes into plants.

Expression vector construction - Use of oligonucleotide synthesis to develop vectors for expression of cloned genes.

Gene synthesis - Assembly of synthetic DNA to make genes encoding novel proteins.

Each of these positions offers an opportunity for active participation in on-going research programs, with the opportunity for publication and interaction with academic scientists. Requirements include a B.S. or M.S. degree in a relevant field, along with closely related research experience and demonstrated ability to work independently.

Upjohn offers a stimulating research environment, opportunity for career growth, competitive salary and benefits, and relocation assistance.

Kalamazoo is a medium-sized Southwestern Michigan community with immediate access to a mix of excellent cultural, educational and recreational pursuits, including numerous lakes and a four-season climate.

For confidential consideration, please call outside Michigan toll-free 1-800-253-8600, Ext. 3-6767, or inside Michigan collect 616-323-6767 to request an employment application be sent to you immediately. Please refer to Ad Number 16581-J when calling.

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POSITIONS OPEN

COLUMBIA UNIVERSITY COLLEGE OF PHYSICIANS AND SURGEONS

The Department of Physiology and Cellular Biophysics invites applications and nominations for **three new tenure-track FACULTY POSITIONS**. Appointments will be made at a faculty rank commensurate with experience. Candidates must have M.D. and/or Ph.D. degree, and proven abilities as laboratory investigators, scholars, and teachers. The department intends to expand its research activities in the areas of cell and molecular biology and cellular immunology, especially as these disciplines pertain to the structure and function of membranes and receptors of leukocytes and endothelial cells, and to the biochemistry of locally acting hormones. Candidates whose interests are congruent with these goals will be given preference. Applicants should send a letter including statement of research and teaching interests, curriculum vitae, and the names, addresses, and telephone numbers of at least three references to:

Samuel C. Silverstein, M.D., Chairman
Department of Physiology and Cellular Biophysics
Columbia University
630 West 168 Street
New York, N.Y. 10032

Columbia University is an Equal Opportunity/Affirmative Action Employer.

FACULTY POSITIONS IN EUKARYOTIC MOLECULAR BIOLOGY

Applications are invited for at least three tenure-track faculty positions in the field of eukaryotic molecular biology. The positions to be filled are in the Departments of Biological Sciences and Biochemistry. Salary and rank will be commensurate with the qualifications and experience of the individual selected. Candidates must have postdoctoral training, an outstanding research record, and have demonstrated a commitment to developing or continuing a vigorous research program. Candidates desiring appointment at a senior rank should have a record of distinguished contributions and have a strong, well-supported ongoing research program. For consideration, send curriculum vitae, a statement of research interests, and the names and addresses of three references to either:

Eukaryotic Molecular Biology Search Committee
Department of Biological Sciences
Purdue University
West Lafayette, Indiana 47907

or

Eukaryotic Molecular Biology Search Committee
Department of Biochemistry
Purdue University
West Lafayette, Indiana 47907

An Equal Opportunity/Affirmative Action Employer

FRESHWATER BIOLOGIST

A tenure-track position is open in the **DEPARTMENT OF BIOLOGY, UNIVERSITY OF NOTRE DAME**, at the assistant professor level starting 1 September 1985. We seek an outstanding individual to conduct an active research program emphasizing the quantitative, experimental field biology of algae, zooplankton or macroinvertebrates in lakes. Postdoctoral experience is highly desirable. Responsibilities include the direction of graduate students and formal teaching at both the undergraduate and graduate levels. We offer the successful candidate a protected 2800-hectare multilake study site, a modern laboratory including exceptional computer facilities, adequate seed money, a competitive salary, and colleagues with complementary research interests. Submit curriculum vitae, names of three references, and a statement of teaching and research interests no later than 1 February 1985 to: **Dr. Robert P. McIntosh, Chairman, Search Committee, Department of Biology, University of Notre Dame, Notre Dame, Indiana 46556**. *Qualified women and minority group candidates are urged to apply.*

LABORATORY RESEARCH ASSOCIATE desired with experience in flow cytometry, polyacrylamide gel electrophoresis, lymphocyte cell culture, cell-cell hybridization, and/or immunocytochemistry. Applicants must participate in research design and present data at national meetings. \$16,000 to \$24,000 per year plus benefits. Send curriculum vitae and names of three references by 3 December 1984 to: **Doug Redelman, Ph.D., Department of Microbiology, University of Nevada School of Medicine, Reno, Nevada 89557**. Telephone: 702-784-4431. Search will be extended if suitable candidate is not found. *Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

FACULTY POSITION IN PHYSICS/ASTRONOMY. Search extended for tenure-track position beginning August 1985. Minimum qualifications include an earned Ph.D. in physics/astronomy and a demonstrated commitment to teaching and scholarship in an undergraduate institution. Rank and salary will depend on experience. Responsibilities include teaching introductory college physics, physical science, and possibly astronomy, and initiating a program of research. Because Coastal has no physics major, the ability to interact with colleagues in other fields is essential. Send résumé, statement of research interests and requirements, and names of three references by 31 December 1984 to: **Dr. Janis Chesson, Assistant Chancellor for Academic Affairs, University of South Carolina (USC)-Coastal Carolina College, P.O. Box 1954, Conway, S.C. 29526**. *USC-Coastal Carolina College is an Affirmative Action/Equal Opportunity Employer.*

GENETICIST. The University of North Carolina at Asheville (UNC-A) seeks a geneticist to teach advanced undergraduate genetics, microbiology, and some introductory biology sections. Tenure-track assistant professor position available August 1985. Ph.D. preferred. Strong interest in undergraduate teaching necessary. May have expertise in environmental microbiology. Application deadline: 30 November 1984. Send transcripts, three letters of reference, and résumé to: **Dr. James D. Perry, Chairman, Biology, UNC-A, One University Heights, Asheville, N.C. 28804-3299**. *An Equal Opportunity Employer.*

INSTRUCTOR OF BIOLOGICAL SCIENCES. Person with commitment to community/junior college teaching to teach a full load of biological science courses including general biology, anatomy, physiology, and microbiology. Master's degree in biological sciences required. Prefer doctorate and at least three years of college teaching. Salary commensurate with qualifications. Excellent benefits. Employment starting January 1985 or summer 1985 or fall 1985. Send résumé to: **Personnel Office, Amarillo College, P.O. Box 447, Amarillo, Texas 79178**. *An Equal Opportunity/Affirmative Action Employer.*

Possible Position—LAKE ACIDIFICATION PROJECT RESEARCH COORDINATOR

The successful candidate will coordinate multidisciplinary and multiinstitutional research on an experimental lake acidification project in Maine. Tasks will also include proposal preparation, report writing, quality assurance, supervision of personnel, and representation of the University of Maine at meetings. About half of the responsibility will be independent research. Candidates should be in excellent physical health for field work, and have a Ph.D. in a natural science, with strong training or experience in inorganic chemistry. Good communication and organizational skills are essential. Publications are important, particularly in interdisciplinary areas.

This is a full-time, nontenure-track position with a negotiable title and salary. Pending funding, a January 1985 starting date is anticipated for the 3-year appointment, with a review after 1 year. Curriculum vitae, examples of writing (publications, reports), and names of three references should be sent by 23 November 1984 to:

Professor Stephen A. Norton
College of Arts and Sciences
105 Stevens Hall
University of Maine at Orono
Orono, Maine 04469

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

MEDICAL DIRECTOR—LABORATORY OF CYTOGENETICS

This is a tenure-accruing position at a rank and salary commensurate with experience in the Department of Pathology, University of Florida, College of Medicine, to begin 1 April 1985. The candidate must hold an M.D. degree and be licensed, or be eligible to apply for a license in the state of Florida. The candidate will be responsible for the medical direction of the Laboratory of Cytogenetics in the Department of Pathology. This will involve hospital service activities as well as the development of independent research and teaching programs. Preference will be given to a candidate with interest in molecular genetics or related areas.

Deadline for recruiting is 1 March 1983 and interested candidates should contact: **Raul C. Braylan, M.D., Department of Pathology, Box J-275, University of Florida, College of Medicine, Gainesville, Florida 32610**.

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POSITIONS OPEN

LA TROBE UNIVERSITY MELBOURNE, AUSTRALIA

SCHOOL OF BIOLOGICAL SCIENCES DEPARTMENT OF MICROBIOLOGY LECTURER IN MICROBIOLOGY (TENURABLE)

Applications are invited for a tenurable lectureship in the Department of Microbiology in the areas of microbial biochemistry and physiology. The appointee will be required to teach part of a general microbiology course to second-year science students and one unit of her or his field of interest to third-year science students. The latter course at present covers aspects of virology, environmental microbiology, microbial ecology, microbial genetics, taxonomy, and evolution.

Applicants should have had postgraduate experience in the relevant field and an interest in biotechnology would be desirable.

Informal enquiries may be sent to the chairman of Department: **Professor J. S. Waide**.

CLOSING DATE: 23 November 1984. Reference Number A0/005/016.

SALARY: A\$24,840 to A\$32,634.

Applications (marked confidential) including reference number, names of three referees, and curriculum vitae should be forwarded to: **The Staff Officer, La Trobe University, Bundoora, Victoria 3083, Australia**.

MARINE BIOLOGY: Director, Graduate Program in Marine Biology. Applications are invited for the directorship of the Charleston Higher Education Consortium Graduate Program in Marine Biology. The appointment carries faculty status at the associate professor or professor level in the Department of Biology of the College of Charleston. Appointment is for 11 months each year. Salary is negotiable and is commensurate with experience and academic rank. Approximately one-half of the work effort will be devoted to administration and one-half to teaching and research. Minimum qualifications include: earned Ph.D. in some area of marine biology; demonstrated scientific achievement as evidenced by publications and a successful record of externally funded research; teaching experience in graduate and undergraduate programs. Preference will be given to candidates with prior administrative experience, particularly in a marine laboratory/university setting. Applicants should submit curriculum vitae, copies of recent reprints, and three letters of recommendation to: **Dr. James W. Smiley, Chairman, Department of Biology, College of Charleston, Charleston, S.C. 29424**. Deadline for receipt of applications is 1 December 1984. *An Affirmative Action/Equal Opportunity Employer.*

MICROBIOLOGIST, Cleveland State University. Assistant professor (tenure-track) position for broadly trained microbiologist whose research is concerned with basic problems in a bacterial or viral system. Candidates must have at least 1 year of postdoctoral experience and must show evidence of continued research productivity. Teaching duties will include introductory microbiology for biology majors and health-related pre-professionals, and a graduate course in microbiology. The department offers the M.S. and Ph.D. degrees. Send current curriculum vitae, reprints of recent publications, a statement of research goals, and arrange to have three letters of recommendation forwarded directly to: **Dr. Randall Gee, Chairperson of Microbiology Search Committee, Department of Biology, Cleveland State University, 1983 East 24th Street, Cleveland, Ohio 44115**. *An Equal Opportunity Employer, M/F/H.*

MOLECULAR GENETICIST—Harvard Medical School. Entry level position available to study the molecular biology of human leukocyte membrane receptors involved in phagocytic function. Expertise in recombinant DNA technology necessary. Send curriculum vitae and names of three references to: **H. R. Colten, M.D., Chief, Cell Biology, Children's Hospital, 300 Longwood Avenue, Boston, Mass. 02115**.

PHYSIOLOGY. A temporary position is anticipated for 1 January 1985 to teach human physiology and other courses in area(s) of expertise. The appointee will be considered for reappointment for the next academic year (1985-1986). Apply by 20 November 1984. Send letter of application, résumé, and three references to: **James R. Rastorfer, Department of Biological Sciences, Chicago State University, 95th Street at King Drive, Chicago, Illinois 60628**. *Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

MOLECULAR BIOLOGY

Assistant Professor

(Advanced rank possible in exceptional circumstances)

Applicants with backgrounds in molecular genetics, biochemistry, and cellular biology are desired. Teaching responsibilities include courses in molecular genetics and cellular biology/biochemistry. This is a 3-year appointment of a tenurable position which requires a Ph.D. degree. Postdoctoral experience is desirable. The position is available 1 July 1985. Please have curriculum vitae, a statement of your research and teaching interests, and three letters of recommendation sent to: **Professor Henry W. Art, Chairman, Biology Department, Williams College, Williamstown, Mass. 01267.** We will start the evaluation of potential candidates by 15 November 1984.

An Equal Opportunity/Affirmative Action Employer. Williams College especially welcomes applications from women and minority candidates.

PEPTIDE ENDOCRINOLOGY RESEARCH POSITION—Ph.D., postdoctoral/academic research position in calcium and skeletal endocrinology. Experience with protein biochemistry methods and knowledge of molecular endocrinology required. Academic research requires 2 years of postgraduate work and established bibliography. Send curriculum vitae to: **Dr. B. D. Catherwood, Department of Medicine, University of California, San Diego (UCSD), VAMC (V-111C), La Jolla, Calif. 92161,** by 30 November 1984. Salary set within the UCSD research series scale. UCSD is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION available 1 January 1985. Research will involve purification of animal interferons, production of monoclonal antibodies to the interferons, and some recombinant DNA technology. Background in biochemistry and monoclonal antibodies preferred. Salary: \$20,000. Send curriculum vitae and names of references by 16 November to: **Dr. D. V. Dervartanian, Department of Biochemistry, University of Georgia, Athens, Ga. 30602.**

POSITIONS OPEN

CORNELL UNIVERSITY MEDICAL COLLEGE DEPARTMENT OF MICROBIOLOGY

MOLECULAR GENETICIST. Tenured and tenurable faculty positions are available. Individuals of significant promise are sought to pursue independent research programs in any area of molecular genetics, or molecular biology, and to participate in the teaching of medical students and graduate students.

Excellent facilities and institutional support are available.

Please send curriculum vitae, representative publications, and three letters of recommendation by 1 January 1985 to:

Dr. K. I. Berns
Department of Microbiology
Cornell University Medical College
1300 York Avenue
New York, N.Y. 10021

Cornell University is an Equal Opportunity/Affirmative Action Employer.

PLANT SYSTEMATIST

The Department of Botany at the University of Wyoming invites applications for an opening in plant systematics at the rank of assistant professor. The position involves teaching at the undergraduate and graduate levels and the development of a vigorous research program. We seek a candidate broadly trained in systematics with expertise in experimental, genetical, or molecular approaches that focus on evolutionary processes. The candidate is expected to complement floristic and monographic activities at the Rocky Mountain Herbarium. A Ph.D. degree is required; postdoctoral experience is preferred. The appointment will begin 29 August 1985. Qualified individuals should send a statement of research interests, curriculum vitae and transcripts of academic records and arrange for three letters of recommendation to be sent by 1 January 1985 to: **Prof. William A. Reiners, Head, Department of Botany, Aven Nelson Building, The University of Wyoming, Laramie, Wyo. 82071-3165.**

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

POSITIONS OPEN

PLANT MOLECULAR BIOLOGIST

Assistant professor, tenure-track; 9-month appointment, responsible for teaching undergraduate and graduate courses; continuing an already well established research program; competitive in obtaining grant funding; advising graduate students; and becoming involved in scholarly service and interested in interacting with botanists and molecular biologists. Requires a Ph.D. degree, teaching and research experience, and a sound publication record. Salary commensurate with qualifications. Starts autumn 1985. Apply before 15 January 1985 by sending curriculum vitae and publications, and having at least three letters of recommendation sent to: **Dr. Emanuel D. Rudolph, Chairman, Department of Botany, Ohio State University, 1735 Neil Avenue, Columbus, Ohio 43210.** The Ohio State University is an Equal Opportunity/Affirmative Action Employer. All qualified persons, including women, members of minority groups, and the handicapped are encouraged to apply.

POSTDOCTORAL POSITION available immediately to study cardiac metabolism using in vivo NMR techniques. Extensive NMR instrumentation available. NMR experience desirable, but physiology and biochemistry graduates will also be considered. Send curriculum vitae and three letters of reference to: **Leigh D. Segel, Ph.D., Division of Cardiovascular Medicine, University of California School of Medicine, Davis, Calif. 95616.** Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION available November 1984 to determine DNA sequences essential for the transcriptional expression of T-DNA and higher plant genes. The research involves cloning, *Agrobacterium* vector construction, in vitro mutagenesis, and transcript mapping. Experience in recombinant DNA technology, DNA sequencing and plant molecular biology desirable. Send curriculum vitae and the names of three references to: **William B. Gurley, Department of Microbiology and Cell Science, 1059 McCarty Hall, University of Florida, Gainesville, Florida 32611.** An Equal Opportunity/Affirmative Action Employer.

ROCKEFELLER FOUNDATION BIOTECHNOLOGY CAREER FELLOWSHIPS

The Rockefeller Foundation announces a program of career development fellowships designed to enable scientists from developing countries, trained at outstanding centers for advanced research in biotechnology, to continue to work at those or other institutions for three months each year, over a period of at least three years, conducting advanced research and keeping abreast of new developments in their fields. The program will focus upon the development and application of advances in molecular and cellular biology and immunology relevant to agriculture, health, and reproductive biology.

Funding will be shared between the Foundation and the host laboratory, with the Foundation providing travel and per diem support. It is hoped that the fellowships will encourage the establishment of ongoing working relationships between outstanding younger scientists working at third world institutions, and research teams at advanced laboratories.

Applicants to this program should have at least Ph.D.- or M.D.-level training, a proven record of scientific productivity, and a permanent position at a research or teaching institution in their home country. A written project proposal must be developed and submitted jointly by the candidate and the laboratory sponsor.

Information about application procedures can be obtained by writing to **Biotechnology Career Fellowships, Fellowship Office, Rockefeller Foundation, 1133 Avenue of the Americas, New York, New York 10036, USA.**

SIBIA is an established biotechnology company involved in a wide spectrum of innovative research programs. SIBIA, with a staff comprised of leading scientific members, provides an exceptional scientific research environment in which to work plus a modern laboratory located near the ocean on Coast Boulevard in La Jolla. The broad range of research programs encourages multidisciplinary interaction.

Vacancy exists for a:

RESEARCH ASSOCIATE

PLANT CELL BIOLOGY

BS/MS in Plant Cell Biology, Plant Genetics or related field. Experience with plant cell biology techniques such as: tissue culture, protoplast regeneration and transformation. Additional background in molecular biology and/or biochemistry would be advantageous.

We offer a comprehensive benefits package and competitive salaries. For confidential consideration, please submit your curriculum vitae, a statement of research interests and goals, a list of publications, if applicable, and the names of three professional references to: **SIBIA, DEPT. 4041, 505 COAST BOULEVARD SOUTH, LA JOLLA, CALIFORNIA 92037.**

SIBIA

**THE SALK INSTITUTE
BIOTECHNOLOGY/INDUSTRIAL
ASSOCIATES, INC.**

POSITIONS OPEN

NEUROBIOLOGIST CORNELL UNIVERSITY

The Section of Neurobiology and Behavior in the Division of Biological Sciences seeks a faculty member using molecular, biochemical, or biophysical approaches to study the nervous system. The position can be filled at the rank of assistant or associate professor, beginning September 1985. Applicants should send their curriculum vitae, selected reprints and a statement of research and teaching interests, and have three letters of recommendation sent to: **Search Committee, Section of Neurobiology and Behavior, Cornell University, W363 Seeley G. Mudd Hall, Ithaca, New York 14853.** Screening will begin 15 January 1985 and will continue until suitable candidates are found. *Cornell is an Affirmative Action/Equal Opportunity Employer.*



Cornell University

THE UNIVERSITY OF BRITISH COLUMBIA DEPARTMENT OF OCEANOGRAPHY PHYSICAL OCEANOGRAPHY

Applications are invited for a tenure-track position at the beginning assistant professor level (subject to budgetary approval) in the Department of Oceanography with effect from 1 July 1985. Of primary interest is a person having training and experience in an area of physical oceanography that enhances the research and teaching activities of the department, especially in numerical modelling of oceanographic processes. Applications submitted by qualified persons in other areas of physical oceanography will also be considered.

Candidates should have a Ph.D. qualification and relevant postdoctoral experience and will be required to teach in Combined Honours B.Sc., M.Sc., and Ph.D. programs.

In accordance with Canadian immigration regulations, priority will be given to Canadian citizens and permanent residents of Canada. Closing date for applications is 30 November 1984. Send curriculum vitae and names and addresses of three referees to:

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

The Cotton Physiology Research Unit, Agricultural Research Service (ARS), U.S. Department of Agriculture (USDA), Knoxville, Tennessee, is accepting applications from qualified **PLANT PHYSIOLOGIST/GENETICIST**, GS-11/12. The incumbent conducts basic research on the molecular genetics and biology of maternal inheritance in cotton and closely related species. Knowledge of biochemistry, molecular biology, and skill in the techniques of endonuclease analysis of DNA are required. Ph.D. or equivalent experience. Enter on duty by 7 January 1985. Must be U.S. citizen. Salary at the GS-11/12 level based on qualifications. For further information telephone: 301-344-1508. Mail Personal Qualifications Statement (SF-171) (no resumes) to: **USDA, ARS, Building 417, BARC-EAST, Beltsville, Maryland 20705.** Refer to announcement number RA-4-008 when inquiring about vacancy. Completed applications must be received by 30 November 1984. *USDA is an Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL FELLOW—Immediately available in the area of in vitro cellular aging, funded through a training grant from the National Institute of Aging. Work will involve the isolation and characterization of novel hormone growth factors for prostate, liver, and endothelial cells. Appointments will be for 2 years at a starting salary of at least \$14,040 per annum, plus benefits. Candidates must have a Ph.D. in the biological sciences and also be permanent residents of the United States. Knowledge of protein biochemistry and molecular biology and cell culture would be desirable. Interested persons should send curriculum vitae and names of references and specific areas of interest to: **The Personnel Office, W. ALTON JONES CELL SCIENCE CENTER, 10 Old Barn Road, Lake Placid, New York 12946.** Refer to Job MC-201.

POSITIONS OPEN

POPULATION GENETICIST Division of Biological Sciences Cornell University

Rank and salary negotiable. Person must have an established research program and an interest in modern experimental and theoretical aspects of evolutionary population genetics. Teaching responsibilities will include an upper division course in population genetics, plus other courses to be negotiated. Applications will be reviewed beginning 1 November 1984. Please send curriculum vitae, a detailed statement of research and teaching interests and accomplishments, and the names and addresses of three referees to:

**Ross J. MacIntyre
Chairman, Population Geneticist Search Committee
200 Stimson Hall
Cornell University
Ithaca, New York 14853**

Cornell is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION—MOLECULAR BIOLOGY/BACTERIAL PATHOGENESIS, available by arrangement for 2 to 3 years, employing recombinant DNA and monoclonal antibody technologies to study the genetics, pathogenesis, and immunology of *Treponema pallidum* infection. Candidates with a strong background in the relevant technologies, including gene expression, will be given preference. Emphasis shall be on using molecular biological approaches for the identification, isolation, and characterization of key recombinant *T. pallidum* immunogens. The position offers an excellent opportunity to train in a department with great strengths in the areas of molecular biology, molecular immunology, and bacterial pathogenesis. Please send curriculum vitae and the names of two references to: **Dr. Michael V. Norgard, Department of Microbiology, University of Texas Health Science Center at Dallas, 5323 Harry Hines Boulevard, Dallas, Texas 75235.** *An Equal Opportunity University.*

POSTDOCTORAL POSITIONS: (i) Ph.D. in chemistry, biochemistry, or biophysics to carry out cryoenzymological and thermodynamic studies on enzyme mechanisms, (ii) Ph.D. in chemistry or biochemistry to carry out transient-state, isotope exchange, and related studies on enzyme mechanisms. Permanent positions for collaborative research carrying academic appointment available for more senior personnel. Curriculum vitae and the names of three references should be sent to: **Dr. Harvey F. Fisher, University of Kansas at VA Medical Center, 4801 Linwood Boulevard, Kansas City, Mo. 64128.** *An Equal Opportunity/Affirmative Action Employer. Applications are sought from all qualified people regardless of race, religion, color, sex, disability, veteran status, national origin, age, or ancestry.*

POSTDOCTORAL POSITION available immediately to study regulation of cellular ionic transport and maintenance of cellular volume in cell lines and in primary cultures using electron probe, video recording, and microfluorescence techniques. Background in biophysics and/or cell culture is desirable. Send curriculum vitae and three references to: **Dr. Claude Lechene, Department of Physiology and Biophysics, Harvard Medical School, 221 Longwood Avenue, Boston, Mass. 02115.**

The University of Utah Department of Civil Engineering is seeking applicants for the position of **PROFESSOR AND CHAIRPERSON**. Applicants with experience in an academic environment, strong research credentials, and proven leadership capabilities are urged to apply. Candidates are sought who have a proven interest in developing research and have demonstrated ability to generate research grants. The position offers professional challenge with potential for future growth, and a unique opportunity to faculty with a commitment to scholarly research and education. The appointment is to begin 1 July 1985 and the closing date for the receipt of applications is 15 January 1985, or until the position is filled. Please submit a complete résumé and at least three professional references (include addresses and telephone numbers) to:

**Dr. J. D. Seader
Chairman, Search Committee
Department of Chemical Engineering
University of Utah
Salt Lake City, Utah 84112
Telephone: 801-581-6916**

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

POSITIONS OPEN

POSTDOCTORAL POSITION. The Dana-Farber Cancer Institute is seeking to fill one research position at the postdoctoral level to study molecular mechanisms regulating epithelial differentiation in cultured human cell systems [for example, see *Cell* 34, 245 (1983)] using molecular genetic and immunological techniques. A strong background in biochemistry, molecular biology, or immunochemistry and an interest in cell and developmental biology are essential. Joint appointment will be held in an appropriate department at Harvard Medical School. Send curriculum vitae, summary of research and course experience, thesis abstract, and the names and addresses of three references to: **Dr. James G. Rheinwald, Dana-Farber Cancer Institute, 44 Binney Street, Boston, Mass. 02115.** *An Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL/RESEARCH ASSISTANT

Available immediately for Ph.D. or M.D. interested in the sterilizing and mutagenic effects of cancer chemotherapy/radiotherapy on male reproductive potential. Investigator can pursue projects ranging from basic studies on animal systems to clinical studies of the effects observed on treated patients. Salary range: \$19,000 to \$30,000. Send curriculum vitae, names and telephone numbers of references, and statement of research interests to:

**Dr. Marvin Meistrich
Experimental Radiotherapy
Box 66
University of Texas
M. D. Anderson Hospital and Tumor Institute
Houston, Texas 77030**

POSTDOCTORAL RESEARCH ASSOCIATES

Several positions are available 1 January 1985 to study chemical carcinogenesis, mutagenesis, and DNA repair:

- 1) Genetic factors controlling susceptibility to skin carcinogenesis in inbred strains of mice: current studies are examining the number and map position of gene(s) controlling susceptibility to tumor promotion by phorbol esters (**Dr. John DiGiovanni**).
- 2) Repair and mutagenesis of chemical carcinogen-induced DNA damage: the use of a phage DNA transfection system to study the genetic control and enzymology for repair of different kinds of DNA adducts, and to sequence the mutants produced (**Dr. Moo-shong Tang**).
- 3) Southern blot restriction fragment analysis of mutation, recombination, and inactivation events in DNA repair-deficient versus -proficient CHO cell lines (**Dr. Gerald Adair**).

Candidates for these positions should have strong backgrounds in biochemical or molecular genetics. Send curriculum vitae and names of three references to the appropriate investigator.

**The University of Texas System Cancer Center
Science Park—Research Division
P.O. Box 389
Smithville, Texas 78957**

An Equal Opportunity/Affirmative Action Employer

POSTDOCTORAL RESEARCH ASSOCIATE position available immediately to study the secretory granules of phytoparasitic nematodes; Ph.D. in nematology with 3 years of experience in the biochemistry of plant-nematode relationships. Knowledge of techniques in nematology and biochemistry particularly axenic cultivation, electrophoresis, ultracentrifugations and plant tissue culture essential. Salary: \$18,000 per year. Send résumé to: **Georgia Department of Labor, 788 Prince Avenue, Athens, Georgia 30613.** Control Number GA 5022809.

POSTDOCTORAL RESEARCHER

The Division of Radiobiology at the Ohio State University is seeking a postdoctoral researcher. The individual must have a Ph.D. in the biological sciences, with demonstrated expertise in the development and performance of biochemical and immunochemical assays. Responsibilities will include the development of assays for the immunological detection and quantitation of DNA damage as well as the development of monoclonal and polyclonal antibodies to carcinogen damaged DNA and modified DNA bases coupled to proteins.

Competitive salary. Send curriculum vitae, description of research interests, and the names of three references to: **THE OHIO STATE UNIVERSITY HOSPITALS, Department of Human Resources, Lobby, Means Hall, 1654 Upham Drive, Columbus, Ohio 43210.** *An Equal Opportunity/Affirmative Action Employer.*

SENIOR SCIENTIST JOB: Requisition Number 2800

The newly established Natural Resources Research Institute at the University of Minnesota, Duluth, has an opening for a senior scientist in our Water Research and Development area.

QUALIFICATIONS: A Ph.D. degree in a technical field such as biology or chemistry with a minimum of 5 years of experience in the water area; or an equivalent combination of education and relevant research experience in the water area.

DESCRIPTION: The senior scientist will be responsible for planning, directing and conducting laboratory and field studies in the broad area of water research and development. The person will report to the Associate Director of the Water Division. Specific responsibilities may include: working with other university staff, government employees, community and industry representatives as requested; hiring staff and scheduling, assigning and reviewing work; controlling and evaluating expenditure of research funds under the general direction of a principal investigator; supervising the review of literature in the water field; designing the overall plans for projects; selecting the best avenues of approach; conferring with superiors on research results; arranging for space, equipment, supplies, and personnel to carry out projects; developing and supervising the development of methods, instrumentation, devices, and techniques needed to carry out research projects; analyzing and evaluating research results; reviewing progress reports written by subordinates; writing comprehensive progress reports and final reports on completion of projects; authoring and coauthoring manuscripts for publication and/or presentation at professional meetings; drafting proposals to government agencies to procure research funds for new projects in the water area.

SALARY: \$2375 to \$3860 monthly. Work schedule: Monday to Friday, 7:45 to 4:30.

Mail applications to: **Room 281 Darland Administration Building, University of Minnesota, Duluth, Minn. 55812.** Applications must be postmarked by 15 December 1984. Please refer to the job requisition number in application letter.

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

SENIOR SCIENTIST JOB: Requisition Number 2801

The newly established Natural Resources Research Institute at the University of Minnesota, Duluth, has an opening for a senior scientist in our Energy Research and Development area.

QUALIFICATIONS: A Ph.D. degree in a technical field such as chemistry or chemical engineering with a minimum of 5 years of experience in the energy area; or an equivalent combination of education and relevant research experience in the energy area.

DESCRIPTION: The senior scientist will be responsible for planning, directing and conducting laboratory and field studies in the broad area of biomass energy research and development. The person will report to the Associate Director of the Energy Division. Specific responsibilities may include: Working with other university staff, government employees, community and industry representatives as requested; hiring staff and scheduling, assigning and reviewing work; controlling and evaluating expenditure of research funds under the general direction of a principal investigator; supervising the review of literature in the energy field; designing the overall plans for projects; selecting the best avenues of approach; conferring with superiors on research results; arranging for space, equipment, supplies, and personnel to carry out projects; developing and supervising the development of methods, instrumentation, devices, and techniques needed to carry out research projects; analyzing and evaluating research results; reviewing progress reports written by subordinates; writing comprehensive progress reports and final reports on completion of projects; authoring and coauthoring manuscripts for publication and/or presentation at professional meetings; drafting proposals to government agencies to procure research funds for new projects in the energy area.

SALARY: \$2375 to \$3860 monthly. Work schedule: Monday to Friday, 7:45 to 4:30.

Mail applications to: **Room 281 Darland Administration Building, University of Minnesota, Duluth, Minn. 55812.** Applications must be postmarked by 15 December 1984. Please refer to the job requisition number in application letter.

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

National Institute of Environmental Health Sciences
National Institutes of Health
Public Health Service
Department of Health and Human Services

CHIEF

Laboratory of Behavioral and Neurological Toxicology

The National Institute of Environmental Health Sciences has an opening for Chief, Laboratory of Behavioral and Neurological Toxicology. Current research areas in the laboratory include: the biophysical and molecular properties of excitable cells; afferent and feedback mechanisms which influence neuronal plasticity; neurobehavioral mechanisms involved in plasticity and adaptive responses to environmental agents; peptides and their effects on biological systems; identification of vulnerable neuronal circuits by study of neurotransmitter translocations and enzyme analysis; and the functional roles of neurotransmitters and neuromodulators in CNS adaptation following chemical or physical insult. Duties of the Lab Chief include the scientific and administrative supervision of the laboratory research program and development of a research effort in the basic neurosciences.

This is a Civil Service career-conditional appointment under the Merit Pay System at the GS-15 level with a salary range from \$50,495 to \$65,642 per annum, depending on qualifications. Minimum educational requirements are a four year course of study in an accredited college or university leading to a bachelor's degree with major study in chemistry, psychology, biochemistry, or a related discipline and a doctorate in the specialty area. Applicants must have a demonstrable record of research achievement in molecular neurobiology or a related area. Some experience in research program planning and implementation is desirable. U.S. citizenship is required. (Candidates may be eligible for appointment in the Commissioned Corps of the U.S. Public Health Service.) This is a supervisory position and may require the incumbent to serve a one year probationary period.

Applications consisting of a Personal Qualifications Statement, SF-171 (available in all Federal Job Information Centers and Federal Personnel Offices); a curriculum vitae and names of three references should be submitted to the following address and postmarked not later than November 30, 1984:

Mr. Bruce Wiggins, Code: HN-V2K
National Institute of Environmental Health Sciences
P.O. Box 12233 (MD 1-01), Research Triangle Park, NC 27709
(919) 541-3317

An Equal Opportunity Employer

STATE UNIVERSITY OF NEW YORK AT BUFFALO BIOLOGICAL SCIENCES — FACULTY POSITIONS

THREE FACULTY POSITIONS—*Our goal is to hire three persons whose research programs are in the forefront of their field and who can interact with each other as well as other members of our faculty.* Effective September 1985 two tenure track Assistant Professorships and one tenured Associate Professorship will become available. Serious candidates will be expected to be utilizing modern genetic and molecular approaches to the study of one of the following areas: (a) the **immune system** at the cellular level, (b) the development of an organism which provides a model system for studies in **development**, (c) regulation in an organism to provide a model for studies of regulation at the level of **gene transcription**, or (d) behavior in simple organism which can also provide a model for studies in **neural biology**.

Successful candidates for the Assistant Professorships will be expected to have completed at least two to three years of post-doctoral experience, demonstrate experience in a productive research program, be able to describe in detail plans for future research activities, and show promise for establishing a fundable independent research program.

Successful candidates for the Associate Professorship will be expected to be working in the forefront of their field with a strong well funded research program.

All successful candidates will be expected to demonstrate above average ability for both undergraduate and graduate teaching. **Salaries will be nationally competitive, excellent laboratory space and equipment are available.**

To apply, candidates must submit a curriculum vitae, including a statement of research background, and teaching experience, and at least three letters of reference to: **Dr. Darrell Doyle, Chairman, Department of Biological Sciences, 109 Cooke Hall, State University at Buffalo, Buffalo, NY 14260.** Application deadline is January 15, 1985.

State University of New York is an Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATE. Position available immediately, supported by NIH grants, to study the expression and activation of cellular oncogenes in developing, regenerating, and neoplastic rat liver. Candidates should be familiar with techniques of nucleic acid biochemistry. Send curriculum vitae with names of three references to: **Dr. Nelson Fausto or Dr. Peter Shank, Division of Biology and Medicine, Brown University, Providence, R.I. 02912.** An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL/RESEARCH ASSOCIATE position in molecular parasitology available for 2 years (beginning December 1984) for research related to characterization and isolation of protection-inducing antigens from *Trichinella spiralis*. Work on gene cloning, DNA sequencing, and generation of hybridomas will be emphasized. Candidate must have a strong background in molecular biology and an interest in infectious diseases. Send curriculum vitae and three letters of reference to: **Dr. Dickson D. Despommier, Division of Tropical Medicine, College of Physicians & Surgeons, Columbia University, 630 West 168 Street, New York, N.Y. 10032.** An Equal Opportunity/Affirmative Action Employer, M/F.

POSTDOCTORAL RESEARCH ASSOCIATE POSITION available immediately; a 2- to 3-year position in the Department of Pharmacology at the University of Virginia Medical School. Candidates should have a Ph.D. or M.D. degree and a research interest in the central control of blood pressure and in neuroscience. Although electrophysiological and anatomical techniques will be mostly used, applicants with previous experience and technical competence in another domain will be favorably considered. Send curriculum vitae, brief statement of research interests, and the name of three references to: **Dr. Patrice G. Guyenet, Associate Professor of Pharmacology, University of Virginia School of Medicine, Box 448, Charlottesville, Va. 22908.** An Equal Opportunity/Affirmative Action Employer.

PROFESSOR OF FOOD SCIENCE. Tenure-track, calendar-year appointment at Department of Food Science, Rutgers—The State University of New Jersey, with 70 percent research and 30 percent training available immediately after application deadline. Must develop and provide leadership in food science and technology with interest in food packaging research and teach food packaging courses. Outstanding record of research accomplishment with demonstrated leadership in any area of food science and technology with some experience in food packaging required. Teaching experience in food science expected. Willingness to establish relations with the food industry or actual industrial experience desirable. Ph.D. in food science or in a field related to food packaging required. Application deadline is 17 December 1984 or until position is filled. Send résumé, list of publications and patents, and names and addresses of three references to: **K. Hayakawa, Search Committee Chair, Food Science Department, Cook College, Rutgers University, P.O. Box 231, New Brunswick, N.J. 08903.** Rutgers University is an Equal Opportunity/Affirmative Action Employer.

DISTINGUISHED PROFESSORSHIP IN BIOLOGY UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

The Department of Biology, University of North Carolina at Chapel Hill, is pleased to announce the availability of a distinguished professorship to begin during 1985 to 1986. Although we welcome inquiries from representatives of all fields of biology, preference may be given to individuals in the areas of cellular and/or developmental invertebrate neurobiology, molecular evolutionary biology and cell biology. The salary is highly competitive nationally and the position includes a permanent half-time secretary. We would appreciate letters of inquiry from potential candidates as well as nominations. All communications will be held in the strictest possible confidence.

For further information, write to: **L. I. Gilbert, Chairman, Department of Biology, Wilson Hall 046A, University of North Carolina, Chapel Hill, N.C. 27514,** or telephone: **919-966-2055.** The University of North Carolina at Chapel Hill is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATE position available immediately to study the cell biology of the male reproductive tract. Current research interests include cell biological and biochemical aspects of cytoskeleton, endocytosis, extracellular matrix, morphogenesis, and sperm maturation. A recent Ph.D. or equivalent with experience in cell culture and a variety of biochemical techniques is highly desirable.

Send curriculum vitae and names of three referees to:

**Martin Dym, Ph.D.
Professor and Chairman
Department of Anatomy
Georgetown University
School of Medicine—School of Dentistry
3900 Reservoir Road, NW
Washington, D.C. 20007**

Georgetown University is an Equal Opportunity Employer.

Louisiana State University (LSU) announces a **CHAIRED PROFESSORSHIP IN BIOCHEMISTRY** sponsored by the LSU Alumni Foundation. Candidates are sought in the specialty of physical biochemistry of proteins, including but not limited to the following: (i) Protein conformation studies with computerized graphics. Applications to protein folding, "active sites," and "docking." (ii) Protein-DNA or protein-RNA interactions with regard to gene regulation and chromatin structure. (iii) Protein-ligand or protein-substrate interactions. (iv) Protein-protein interactions. Application deadline: 30 November 1984. Successful applicants must have an ongoing nationally funded vigorous research program. Applications and nominations should be sent to: **Search Committee, Department of Biochemistry, 322 Choppin Hall, LSU, Baton Rouge, La. 70803.** Louisiana State University is an Equal Opportunity/Affirmative Action Employer.

The Department of Psychology, University of Colorado, Boulder, is seeking a **PSYCHOLOGIST** with specialty training in behavioral genetics to fill a tenure-track position at the assistant professor level, beginning September 1985. Applicants must have a Ph.D. and demonstrated ability for superior teaching and research. We seek candidates in any area of behavioral genetics. However, those with expertise in human development are especially encouraged to apply. Salary is negotiable with a range of \$20,000 to \$24,000. Send curriculum vitae, statement of interest, and three letters of reference to: **D. W. Fulker, Chairperson, Behavioral Genetics Search Committee, Department of Psychology, Campus Box 345, University of Colorado, Boulder, Colorado 80309.** Closing date is 15 December 1985. The University of Colorado is an Equal Opportunity/Affirmative Action Employer.

REPRODUCTIVE BIOLOGIST/IMMUNOLOGIST

Research associate to pursue immunochemical study of plasma membrane of ram spermatozoa. Ph.D. required. Send curriculum vitae and names of three references to: **Dr. Grant Fairbanks, c/o Personnel Office, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, Mass. 01545.**

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RESEARCH ASSOCIATE POSITIONS

Postdoctoral positions are available to study the expression of oncogene-related sequences during *Drosophila* development with an emphasis on co-genesis and embryonic development. A combination of molecular, cytological, and genetic methods will be employed. Experience with molecular biology or *Drosophila* will be useful. Submit curriculum vitae and three letters of reference to: **Dr. Samuel C. Wadsworth, c/o Personnel Office, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, Mass. 01545.**

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

TRANSPORT PHYSIOLOGIST/BIOCHEMIST

Research associate to study volume-dependent passive cation transport in normal and abnormal human red blood cells. Ph.D. required. Send curriculum vitae and names of three references to: **Dr. Grant Fairbanks, c/o Personnel Office, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, Mass. 01545.**

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

POSITIONS OPEN

RESEARCH ASSISTANT/ANALYTICAL CHEMIST. B.S. in chemistry (M.S. or Ph.D. preferred). Expertise in analytical chemistry, particularly GC/MS, HPLC and TLC. Send letter, résumé, and names of three references to: **Dr. N. E. Hutton, College of Veterinary Medicine, Oregon State University, Corvallis, Oregon 97331.** Deadline: 15 November 1984. Equal Opportunity/Affirmative Action Employer, in compliance with Section 504, Rehabilitation Act of 1973.

RESEARCH ASSISTANT PROFESSOR to participate in active group studying structure and function of lysosomes, and mechanisms of viral uncoating in cells. Productive postdoctoral experience required in appropriate area of cell biology, molecular biology, or virology. Submit curriculum vitae and letters of reference to: **Professor John Lenard, University of Medicine and Dentistry of New Jersey—Rutgers Medical School, Piscataway, N.J. 08854;** or contact at ASCB meeting, Kansas City, Missouri, 12 to 16 November 1984.

A **LABORATORY RESEARCH ASSOCIATE** position is available at Kansas State University for work in the James R. Macdonald Laboratory on accelerator design, construction, and operation. Associate will work directly with project director. Applicant must have M.S. in physics and experience with the operation of a tandem Van de Graaff accelerator, vacuum equipment, and digital electronics. Annual salary is \$16,000. Deadline for applications letter, curriculum vitae, and three letters of reference to: **Professor Patrick Richard, Director, James R. Macdonald Laboratory, Cardwell Hall, Kansas State University, Manhattan, Kansas 66506.** Kansas State University is an Equal Opportunity/Affirmative Action Employer.

RESEARCH ASSOCIATES

Multidisciplinary research group in Portland, Oregon, investigating connective tissue macromolecules, is currently seeking two talented individuals with proven abilities.

POSTDOCTORAL RESEARCH ASSOCIATE. Position available immediately, for up to 2 years, to study the structure and function of minor human collagens.

SENIOR RESEARCH ASSOCIATE. Immediate opening for individual to assist with primary structure determinations of matrix proteins. This position is potentially permanent.

For both positions strong protein chemistry background with HPLC experience is required, previous postdoctoral research experience with collagens strongly preferred. Salary commensurate with experience. Please indicate your interest in either the temporary or permanent position and send curriculum vitae, list of publications of thesis abstract, a brief statement of research interests, and three letters of recommendation to:

**Box 241, SCIENCE
Equal Opportunity Employer**

RESEARCH ASSOCIATE. Will work in research and development of cancer chemotherapeutic agents. Require synthesis of heterocyclic compounds using 1,3-dipolar cycloaddition reactions and analysis of products using FT-IR, HPLC, 13C-NMR as well as other standard instrumental techniques. Must be proficient in above processes and techniques. Ph.D. in organic chemistry. 5 days, 37.5 hours per week; \$17,500 per year. Apply with résumé and three references to: **Dr. Wayne K. Anderson, Department of Medicinal Chemistry, School of Pharmacy, State University of New York, Buffalo, Buffalo, N.Y. 14260.** An Equal Opportunity/Affirmative Action Employer.

The Research and Development Service at Veterans Administration Medical Center, San Francisco, is seeking a **RESEARCH PHYSIOLOGIST** with an interest in cardiac research. The position entails full-time animal and human research in an established laboratory. Research will focus on the study of coronary blood flow, ventricular function, and myocardial ischemia. This position will involve both participation in present research and the development of research in which the candidate would be the primary investigator. Minimum teaching duties will be required for the first 3 years. Salary: \$25,000 to \$30,000. Qualified applicants should send curriculum vitae, description of research interest, and addresses of three references to: **Dr. Robert F. Hickey, Department of Anesthesia (129), VA Medical Center, 4150 Clement Street, San Francisco, Calif. 94121.** The Veterans Administration Medical Center is an Equal Opportunity Employer.

Postdoctoral Fellowships at the Woods Hole Oceanographic Institution

Ocean Science and Engineering

Applications are invited from new or recent doctorates in science or engineering with interests in physical oceanography, marine chemistry, marine geology and geophysics, biological oceanography, or oceanographic engineering. Recipients of awards are selected on a competitive basis, with primary emphasis placed on research promise.

Marine Policy and Ocean Management

Fellowships are offered to individuals in social sciences, law, or natural sciences to apply their training to problems that involve the use of the oceans. Present themes in the program include marine policy problems and opportunities in developing countries, policy and management issues concerning fisheries, marine minerals, and coastal zone use, implications of the Law of the Sea Treaty for ocean activities, Arctic and Antarctic resource issues, use of scientific information in decision making and policy planning, and other research topics. Applicants must have completed a doctoral level degree or possess equivalent professional qualifications through career experience.

Fellowships are awarded for one year with a stipend of \$23,100 plus group health insurance and a modest research budget. Recipients are encouraged to pursue their own research interests independently or in association with resident staff. Completed applications must be received by 15 January 1985 for 1985 - 86 awards. Awards will be announced by 1 March. Write for application forms to:

Dean of Graduate Studies

P.O. Box S

Woods Hole Oceanographic Institution

Woods Hole, Massachusetts 02543

Equal Opportunity Affirmative Action Institution

CARDIOVASCULAR PHARMACOLOGIST

An excellent opportunity is presently available for a senior scientist with a research background and interest in general hemodynamics. The successful candidate must possess a Ph.D. in physiology/pharmacology with a minimum of two years postdoctoral experience, preferably in conscious animal research. An ability to pursue independent creative research and some familiarization with automation are also prerequisites.

Wyeth is located in a pleasant suburban Philadelphia setting and we offer a salary commensurate with experience, excellent fringe benefits and a professional work atmosphere. Submit resume, including salary history, in strict confidence to: **Wyeth Laboratories, Personnel Department, P.O. Box 8299, Philadelphia, PA 19101. Please make reference to position #84.**

Wyeth Laboratories, Inc.



TM

Equal Opportunity Employer, M/F/H

Senior Investigator Cardiovascular Pharmacology

The Pharmacology Department of Smith Kline & French Laboratories is seeking an outstanding scientist to develop and direct an independent research effort in cardiovascular pharmacology.

The successful candidate will:

- set up *in vivo* cardiovascular models for evaluating the effects of novel experimental drugs on blood pressure and systemic hemodynamics.
- develop new approaches to the understanding and treatment of hypertension and other cardiovascular diseases.
- perform studies to support clinical evaluation of new and unique cardiovascular drugs and to establish their mechanism of action.
- collaborate with other scientists and supervise laboratory personnel.

Candidates are required to have:

- a Ph.D. in Pharmacology or Physiology with 2 to 5 years postdoctoral experience.
- a thorough knowledge of cardiovascular physiology with emphasis on regulation of blood pressure, vasomotor function, cardiac function and local blood flow.
- laboratory experience with *in vivo* models for evaluating systemic and regional hemodynamics.
- excellent written and oral communication skills.
- a significant bibliography of scientific publications.

We offer excellent compensation and benefits and an attractive relocation policy. For confidential consideration, send your curriculum vitae and names of three references to Mr. Walter B. Flagg, SmithKline Beckman Corporation, 1550 Spring Garden Street, Philadelphia, PA 19101. We are an equal opportunity employer, M/F/H/V.

SK&F

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 - ☐ \$158 air-surface delivery via Holland

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POSITIONS OPEN

RESEARCH ASSOCIATE. Ph.D. in microbiology required. Must have experience in purification of microbial and mammalian enzymes, spectrophotometric and electrophoretic analyses, photomicroscopy, development of monoclonal antibodies by hybridoma technique, and immunoassays. Experience in training and supervising laboratory personnel also required. Salary: \$19,950. Send résumé to: **Attention: J. Carroll, Missouri Division of Employment Security, 505 Washington Avenue, St. Louis, Missouri 63101; Job Order Number 286617.**

RESEARCH ASSOCIATE—NEUROCHEMIST

We are seeking someone with formal training in neurochemistry, either peptide isolation or biogenic amine determination. We can provide HPLC, immunoassay, and bioassay training. Research area is crustacean neuroendocrinology, currently funded by NSF. Salary starts 1 January 1985 at \$17,000. Send résumé and letters of recommendation to: **M. Fingerman, Chairman, Department of Biology, Tulane University, New Orleans, La. 70118.**

RESEARCH ASSOCIATE POSITION available immediately to participate in research on the molecular biology of insect vectors of human disease. Candidate should have either a Ph.D. or extensive research experience. Previous experience with nucleic acid technology preferred. Send curriculum vitae, a statement of research interests, and names of three references to: **Dr. A. P. Mahowald, Chairman, Department of Developmental Genetics and Anatomy, Case Western Reserve University, Cleveland, Ohio 44106.**

RESEARCH ASSOCIATE to investigate the pathogenesis of hyaline membrane disease, and the response of the lung to hyperoxia. Requires M.D./Ph.D. with excellent academic background in histology/pathology. Previous experience and publications in pulmonary histology and morphometry are essential; \$16,000 per year. Apply with curriculum vitae and three references to: **Dr. D. Massaro, Pulmonary Division R120, P.O. Box 016960, University of Miami School of Medicine, Miami, Fla. 33191. An Equal Opportunity/Affirmative Action Employer.**

RESEARCH ASSOCIATE: Immediate opening for a Ph.D. with a background in biochemistry and/or immunology. Areas of interest include: membrane enzymes, bacterial surface components involved in pathogenesis. Send curriculum vitae and names of three references to: **I. van de Rijn, Ph.D., Wake Forest University Medical Center, 300 South Hawthorne Road, Winston-Salem, N.C. 27103. Equal Opportunity/Affirmative Action Employer.**

RESEARCH CHEMIST: Research and development of properties and processes of rare earth alloys for rare earth magnets; M.S. physical science and demonstrated research experience including magnetic moments; 40 hours per week; \$25,000 to \$30,000 per year. Reply to: **Lancaster Job Service Office Number 0313, 48-50 West Chestnut Street, Prince Street Entrance, Box 1418, Lancaster, Pennsylvania 17603.**

NEW YORK CITY AND NORTH CAROLINA

SALES REPRESENTATIVES

We seek bachelors or masters of science currently working in a laboratory or in sales. Candidates must have experience with gel electrophoresis. Please send résumés with cover letters to: **Philip Snodgrass, Hoefer Scientific Instruments, Box 77387, San Francisco, Calif. 94107**

SENIOR FACULTY. Multiyear contract positions available for Ph.D., D.O., or M.D.:

NEUROPHARMACOLOGY NEUROPHYSIOLOGY GENERAL (CARDIO) PHYSIOLOGY MICROBIOLOGY

Responsibilities include teaching medical students and **RESEARCH.** Interested candidates should send curriculum vitae and all supportive evidence (teaching experience and current grant support information, and grant track record) to: **Search Committee, Dr. Arnold L. Nagler, Associate Dean, Preclinical Medical Education, New York College of Osteopathic Medicine, Old Westbury, Long Island, New York 11568.**

POSITIONS OPEN

TOXICOLOGIST

The Board on Toxicology and Environmental Health Hazards of the National Academy of Sciences is seeking a professional in the area of toxicology or a closely related biomedical science. The individual will act as a senior staff officer for a study on the methods for the in vivo toxicity testing of complex mixtures from the environment. Duties will include working with a committee of experts, directing a small research staff, and providing intellectual overview of a major report. A Ph.D., M.D., or equivalent is required with several years in research, teaching, or administration in toxicology, pharmacology, or a closely related biomedical science. Must understand the utilization of scientific information in decision-making and have the ability to integrate data from a wide variety of disciplines. Applicants should submit in confidence curriculum vitae to: **Dr. Devra L. Davis, National Academy of Sciences, 2101 Constitution Avenue, NW, Washington, D.C. 20418. An Equal Opportunity Employer, M/F/H.**

ROYAL ONTARIO MUSEUM

VASCULAR PLANT SYSTEMATIST, ASSISTANT or ASSOCIATE CURATOR (tenure track). Applications are invited for an academic curatorial position for 1 March 1985 or shortly afterward. Responsibilities include curation of an herbarium (TRT), research in vascular plant systematics, public education in the museum context, and administration of a small staff. The successful applicants will establish a strong research program and vigorously build collections of vascular plants. The scope of the museum is worldwide, but it is expected that work on the Canadian and North American flora will be kept in balance with work involving the flora of other continents. The successful applicant will also participate in the development of a new Botany Gallery, commencing in 1986. The opportunity exists for a cross-appointment to the professional staff of the University of Toronto. Qualifications include a doctorate in botanical systematics and additional relevant professional experience. Send curriculum vitae, statement of professional goals, and names of three references before 31 December 1984 to: **Dr. J. H. McAndrews, Department of Botany, Royal Ontario Museum, Toronto, Ontario, Canada M5S 2C6.**

Applications are invited from all; in accordance with Canadian immigration regulations, applications from Canadian citizens and landed immigrants will be considered first.

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIPS, TOXICOLOGY

Department of Environmental Health, University of Cincinnati Medical Center, offers postdoctoral fellowships in toxicology, available immediately. These are NIH-sponsored institutional fellowships. Preference given to applicants who obtained Ph.D. degrees in a basic biomedical discipline. For information, contact: **Dr. E. C. Foulkes, Department of Environmental Health (Number 56), University of Cincinnati Medical Center, Cincinnati, Ohio 45267. An Equal Opportunity Employer.**

POSTDOCTORAL FELLOWSHIP. One or more postdoctoral positions are available in the areas of surface science, heterogeneous catalysis, and solid state chemistry. Salary is \$17,000 per year for 1 or 2 years starting 1 January 1985. Send transcripts, three letters of recommendation, and résumé by 1 January 1985 to: **S. L. Suib, University of Connecticut, Department of Chemistry, Box U-60, Storrs, Conn. 06268. (Search Number 5A11.) Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL FELLOWSHIP

Postdoctoral position available immediately to study the renal acidification response and solute transport during acute and chronic acid-base stresses. The research program includes a large environmental chamber for induction of respiratory acid-base disorders, metabolic balance techniques and microvesicle methodology. Candidates should have extensive experience with transport in renal-membrane vesicles. A 2-year minimum commitment is required. Salary commensurate with qualifications. Interested individuals should send curriculum vitae and the names of three references to: **Nicolas E. Madias, M.D., Chief, Division of Nephrology, Tufts-New England Medical Center, 171 Harrison Avenue, Boston, Mass. 02111, or telephone: 617-956-5895.**

FELLOWSHIPS

POSTDOCTORAL RESEARCH FELLOWSHIP SCRIPPS CLINIC AND RESEARCH FOUNDATION SAN DIEGO, CALIFORNIA

Postdoctoral research fellowship available in the Department of Basic and Clinical Research to study the rearrangement of T-cell receptor and immunoglobulin genes in human autoimmune diseases. Also, the application of in situ hybridization methods and DNA/RNA technology to study the state of Epstein-Barr virus expression in these diseases. Experience in recombinant DNA methods is required. Applicant should be eligible for support by NIH postdoctoral fellowship training grant. Position is available immediately but starting date is flexible. For further details, send curriculum vitae and three letters of reference to: **Dr. Robert Fox, Scripps Clinic, 10666 North Torrey Pines Road, La Jolla, Calif. 92037.**

PRE- AND POSTDOCTORAL FELLOWSHIPS IN MOLECULAR PATHOGENESIS—NIH training grant positions available to investigate molecular mechanisms (including genetic, biochemical, and immunological approaches) of microbial pathogenesis (viral, bacterial, fungal, and parasitic). Workshops and seminars in state-of-art technology. Please send curriculum vitae, three references, and past/present work and future interests to: **Dr. Barry I. Eisenstein, Training Grant Director, Department of Microbiology, University of Texas Health Science Center at San Antonio, 7703 Floyd Curl Drive, San Antonio, Texas 78284. An Equal Opportunity/Affirmative Action Employer.**

PATHOBIOLOGY—Pre- and postdoctoral fellowships in experimental pathology. Wide range of research programs include cell and molecular biology, carcinogenesis, toxicology, infectious disease, immunopathology, and virology. Please forward inquiries to: **Kenneth B. Adler, Ph.D., Department of Pathology, University of Vermont College of Medicine, Burlington, Vermont 05405.**

TRAINING PROGRAMS

POSTDOCTORAL AND PREDOCTORAL TRAINING PROGRAM IN INFECTION AND IMMUNITY.

This NIAID-supported program provides training for careers in research and teaching in the biochemistry and molecular genetics of the pathogenesis of infectious disease. Applicants must be citizens or permanent residents of the United States. Postdoctoral candidates should send résumé and the names of three references. Preference will be given to predoctoral applicants with an M.S. degree or equivalent in related fields. Predoctoral applicants should apply to **The Graduate School of Arts and Science, Emory University.** Postdoctoral applicants should write to:

**Dr. John K. Spitznagel
Professor and Chairman
Department of Microbiology and Immunology
502 Woodruff Memorial Building
Emory University School of Medicine
Atlanta, Ga. 30322**

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ACADEMIC TRAINING PROGRAM IN EMERGENCY AND TRAUMA SURGERY—University of Michigan Medical Center Emergency Services and General Surgery announce a 2-year postdoctoral training program in emergency and trauma surgery with an emphasis on the treatment of traumatic injuries in an emergency setting. This is a 2-year, instructor-level position. Send curriculum vitae to: **James R. Mackenzie, M.D., Head, Section of Emergency Services, Department of Surgery, University of Michigan Medical Center, C4020 Outpatient Building, 1405 East Ann Street, Ann Arbor, Michigan 48109. The University of Michigan is a nondiscriminatory, Affirmative Action Employer. PCN 233.**

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