

## Some Other Books of Interest

**The Reality Club.** JOHN BROCKMAN, Ed. Lynx, New York, 1988. viii, 326 pp. Paper, \$9.95.

The purpose of the Reality Club, an invitation-only group that has met in New York since 1981, is "to arrive at the edge of the world's knowledge, seek out the most complex and sophisticated minds, put them in a room together, and have them ask each other the questions they are asking themselves." Some of the results are presented in this volume in the form of papers by Morris Berman, Lynn Margulis, William Calvin, Julius Korein, Mihaly Csikszentmihalyi, K. Eric Drexler, Robert Sternberg, Robert Langs, Dorion Sagan, Roger Schank, Mary Catherine Bateson with Sevanne Margaret Kassarian, and Gerald Feinberg. The papers appear under such titles as "A flowing sentence, a train of consciousness, a rippling arpeggio: the trilogy of *Homo seriatum*" and "What Narcissus saw: the oceanic 'I'/Eye," as well as more prosaic representations such as "Exploring future technologies" and "In defense of elitism," and cover such subjects as artistic creativity, sociocultural evolution, the scientific study of love, psychotherapy, the teaching of reading, and impressions of kibbutzim. Discussions that might have ensued are not included. In opening and closing contributions the history and activities of the club are described by John Brockman (its founder) and Joan Richardson, and a list of other talks is appended. Publication of the volume was inspired by preparation of a "Reality Club Issue" of the *Whole Earth Review*, and it is planned that further such compilations will appear semiannually.

—K.L.

**Portraits of Viruses.** A History of Virology. F. FENNER and A. GIBBS, Eds. Karger, Basel, 1988. viii, 344 pp., illus. \$98.

"About 10 years ago," they write, Fenner and Gibbs "decided that the time was ripe for making a first collation of material for a history of virology and conceived the idea of doing this by asking senior virologists to prepare a 'portrait' of the virus, or family of viruses, that they had spent much of their life studying." The results, 15 papers that were published in *Intervirology* between 1979 and 1986, are here brought together, with addenda to update them in some cases and a subject index for the group. The subjects and authors are as follows: poxviruses (Fenner), influenza virus A (Burnet), bacteriophage lambda (Hayes), RNA phage (Zinder), tobacco necrosis virus (Kassanis), turnip yellow mosaic virus (Matthews), tobacco mosaic virus (Fraenkel-Conrat), foot-

and-mouth disease virus (Brooksby), picornaviruses (Melnick), viroids (Diener), arenaviruses (Lehmann-Grube), herpesviruses (Wildy), common cold viruses (Tyrell), Rous sarcoma virus (Svoboda), and tobacco rattle virus (Lister). It is expected that the "Portraits" series will be continued in *Intervirology*.—K.L.

**Recent Advances in Thin-Layer Chromatography.** F. A. A. DALLAS, H. READ, R. J. RUANE, and I. D. WILSON, Eds. Plenum, New York, 1988. xiv, 247 pp., illus. \$59.50. From a symposium, Brighton, U.K., March 1987.

Thin-layer chromatography (TLC) has "for many years suffered from the image of being a low sensitivity, low resolution, non-quantitative technique, suitable for chemists, but not a tool for real chromatographers," writes Ian Wilson in the preface to this volume sponsored by the Chromatographic Society. In his introduction Wilson describes and evaluates developments associated with a "resurgence in popularity" for the technique. In addition to its relative simplicity these include the introduction of high-performance plates and new development techniques and improvements in instrumentation for detection and quantification. TLC, Wilson concludes, "once again appears to be attracting innovative researchers who will continue to advance the capabilities of the technique and not let it stagnate as happened in the past." The remainder of the volume presents further discussion of and a sampling of (mostly European) work done with the technique. The opening group of papers, headed Instrumentation, consists of a general discussion by Poole of quantitative methods in TLC followed by five papers on more specific topics. There follow groups of four papers and three "notes" on radio-TLC and three papers and a note on sorbents and modifiers. The final group, Applications, consists of two papers and seven notes on uses ranging from standardization of medicinal plant extracts to screening of drug residues in the tissue of swine tranquilized to facilitate their transport to market. Compound and subject indexes conclude the volume.—K.L.

## Books Received

**The Biology of Algae and Diverse Other Verses.** Ralph A. Lewin. Boxwood, Pacific Grove, CA, 1987. xiv, 191 pp., illus. Paper, \$12.50.

**Biophysical Chemistry of Membrane Functions.** Arnošt Kotyk, Karel Janáček, and Jiří Koryta. Wiley-Interscience, New York, 1988. xviii, 377 pp., illus. \$97.

**Biotechnology and Bioapplications of Colloidal Gold.** Ralph M. Albrecht and Gisele M. Hodges, Compilers. Scanning Microscopy International, Chicago, 1988. iv, 312 pp., illus. Paper, \$39.

**Cardiovascular Physiology.** Jon Goerke and Allan H. Mines. Raven, New York, 1988. xii, 220 pp., illus. \$38; paper, \$29. Raven Press Series in Physiology.

**Case Studies in Population Biology.** L. M. Cook, Ed. Manchester University Press, Manchester, U.K., 1988 (U.S. distributor, St. Martin's, New York). vi, 218 pp., illus. Paper, \$19.95. Reprint, 1985 ed.

**Cell Structure and Cell Function.** Godfried M. Roomans and Bo Forslind, Eds. Scanning Microscopy International, Chicago, 1988. iv, 138 pp., illus. Paper, \$23. From a symposium, Stockholm, Sweden, Dec. 1985.

**Cities and Their Vital Systems.** Infrastructure Past, Present, and Future. Jesse H. Ausubel and Robert Herman, Eds. National Academy Press, Washington, DC, 1988. x, 357 pp., illus. Paper, \$35. Series on Technology and Social Priorities.

**The Climate of China and Global Climate.** Ye Duzheng *et al.*, Eds. China Ocean Press, Beijing, and Springer-Verlag, New York, 1987. xvi, 441 pp., illus. \$89.70. From a symposium, Beijing, China, Oct.-Nov. 1984.

**The Comparative Reception of Darwinism.** Thomas F. Glick, Ed. University of Chicago Press, Chicago, 1988. xviii, 505 pp. Paper, \$17.95. Reprint, 1974 ed.

**Competing Interactions and Microstructures.** Statics and Dynamics. R. LeSar, A. Bishop, and R. Hefner, Eds. Springer-Verlag, New York, 1988. viii, 275 pp., illus. \$44.50. Springer Proceedings in Physics, vol. 27. From a workshop, Los Alamos, NM, May 1987.

**Compliance and the Future of Arms Control.** Gloria Duffy, Project Director. Ballinger (Harper and Row), Cambridge, MA, 1988. \$34.95; paper, \$14.95.

**Computational Chemistry.** An Emphasis on Practical Calculations. Milton D. Johnston, Jr. Elsevier, New York, 1988. xviii, 680 pp. \$129; paper, \$58. Studies in Physical and Theoretical Chemistry, vol. 56.

**Computer Models of Mind.** Computational Approaches in Theoretical Psychology. Margaret A. Boden. Cambridge University Press, New York, 1988. xii, 289 pp., illus. \$42.50; paper, \$15.95. Problems in the Behavioural Sciences.

**Constructive Evolution.** Origins and Development of Piaget's Thought. Michael Chapman. Cambridge University Press, New York, 1988. xii, 459 pp., illus. \$59.50; paper, \$22.95.

**Controlling East-West Trade and Technology Transfer.** Power, Politics, and Policies. Gary K. Bertsch, Ed. Duke University Press, Durham, NC, 1988. xiv, 506 pp., \$59.50; paper, \$18.95.

**Current Research in Heat and Mass Transfer.** A Compendium and a Festschrift for Professor Arcot Ramachandran. M. V. Krishna Murthy *et al.*, Eds. Hemisphere, New York, 1988. xii, 283 pp., illus. \$65.

**Domestication of Plants in the Old World.** The Origin and Spread of Cultivated Plants in West Asia, Europe, and the Nile Valley. Daniel Zohary and Maria Hopf. Clarendon (Oxford University Press), New York, 1988. x, 249 pp., illus. \$75.

**The Dreams of Reason.** The Computer and the Rise of the Sciences of Complexity. Heinz R. Pagels. Simon and Schuster, New York, 1988. 352 pp. \$18.95.

**Drugs and the Elderly.** Clinical, Social, and Policy Perspectives. Helene Levens Lipton and Philip R. Lee. Stanford University Press, Stanford, CA, 1988. xvi, 263 pp. \$35.

**Dynamics Reported.** Vol. 1. U. Kirchgraber and H. O. Walther, Eds. Teubner, Stuttgart, and Wiley, New York, 1988. x, 306 pp., illus. \$71.95.

**The Early Universe.** Reprints. Edward W. Kolb and Michael S. Turner, Eds. Addison-Wesley, Redwood City, CA, 1988. xvi, 719 pp., illus. \$56.95. Frontiers in Physics, vol. 70.

**Elemental and Molecular Clusters.** G. Benedek, T. P. Martin, and G. Pacchioni, Eds. Springer-Verlag, New York, 1988. viii, 377 pp., illus. \$59.50. Springer Series in Materials Science, vol. 6. From a school, Erice, Italy, July 1987.

**The Elementary Structure of Matter.** J.-M. Richard, E. Aslanides, and N. Boccara, Eds. Springer-Verlag, New York, 1988. xii, 467 pp., illus. \$66.70. Springer Proceedings in Physics, vol. 26. From a workshop, Les Houches, France, March-April 1987.

**The Emergence of Drugs Which Block Calcium Entry.** R. D. Smith *et al.* Springer-Verlag, New York, 1988. viii, 154 pp. \$77.60. Progress in Clinical Biochemistry and Medicine, vol. 6.

**Energy Analysis of Thermal, Chemical, and Metallurgical Processes.** Jan Szargut, David R. Morris, and Frank R. Steward. Hemisphere, New York, 1988. xx, 332 pp., illus. \$59.50.

**Environmental Management in Agriculture.** European Perspectives. J. R. Park, Ed. Belhaven (Printer), London, 1988 (U.S. distributor, Columbia University

Press, New York). xiv, 260 pp., illus. \$45. From a workshop, Bristol, U.K., July 1987.

**Evaluating Applied Research.** Lessons from Japan. John Irvine. Pinter, London, 1988 (U.S. distributor, Columbia University Press, New York). xvi, 103 pp., illus. \$45.

**Evaluation of Performance.** A Judgmental Approach. Bettina Hannover. Springer-Verlag, New York, 1988. viii, 164 pp. Paper, \$34. Recent Research in Psychology.

**Experimental Techniques in Condensed Matter Physics at Low Temperatures.** Robert C. Richardson and Eric N. Smith. Eds. Addison-Wesley, Redwood City, CA, 1988. xiv, 338 pp., illus. \$45.25. Frontiers in Physics, vol. 67.

**The Facts on File Dictionary of Marine Science.** Barbara Charton. Facts on File, New York, 1988. vi, 325 pp., illus. \$22.95.

**Fermi Surface Effects.** J. Kondo and A. Yoshimori, Eds. Springer-Verlag, New York, 1988. x, 141 pp., illus. \$51.60. Springer Series in Solid-State Sciences, vol. 77. From an institute, Tsukuba, Japan, Aug. 1987.

**Fire in the Crucible.** The Alchemy of Creative Genius. John Briggs. St. Martin's, New York, 1988. xvi, 382 pp. \$18.95. A Thomas Dunne Book.

**The Food of China.** E. N. Anderson. Yale University Press, New Haven, CT, 1988. xvi, 263 pp. \$23.50.

**The Forest for the Trees?** Government Policies and the Misuse of Forest Resources. Robert Repetto. World Resources Institute, Washington, DC, 1988. viii, 105 pp. Paper, \$10.

**Genetics of Plant Pathogenic Fungi.** G. S. Sidhu, Ed. Academic Press, San Diego, CA, 1988. xviii, 566 pp., illus. \$99. Advances in Plant Pathology, vol. 6.

**Genotypic, Phenotypic and Functional Aspects of Haematopoiesis.** F. Grignani, M. F. Martelli, and D. Y. Mason, Eds. Raven, New York, 1988. xiv, 408 pp., illus. \$79. Sero Symposia Publications from Raven Press, vol. 41. From a meeting, Assisi, Italy, 1987.

**Global Competitiveness.** Getting the U.S. Back on Track. Martin K. Starr, Ed. Norton, New York, 1988. viii, 338 pp., illus. Paper, \$19.95. Based on a meeting, New York, Nov. 1987.

**Good Laboratory Practices.** An Agrochemical Perspective. Willa Y. Garner and Maureen S. Barge, Eds. American Chemical Society, Washington, DC, 1988. viii, 165 pp. \$39.95. ACS Symposium Series, vol. 369. From a symposium, New Orleans, LA, Aug.-Sept. 1987.

**High Redshift and Primeval Galaxies.** J. Bergeron et al. Eds. Editions Frontières, Gif sur Yvette, 1987. xiv, 526 pp., illus. \$63. From a workshop, Paris, June-July 1987.

**The Human Body and Ideology.** Concepts of the Ancient Nahuas. Alfredo López Austin. University of Utah Press, Salt Lake City, 1988. 2 vols. xiv, 449 pp., illus., and vi, 315 pp. \$65. Translated from the Spanish edition (Mexico City, 1980) by Thelma Ortiz de Montellano and Bernard Ortiz de Montellano.

**III-Posed Problems in the Natural Sciences.** A. N. Tikhonov and A. V. Goncharsky, Eds. Mir, Moscow, 1987 (U.S. distributor, Imported Publications, Chicago, IL). 344 pp., illus. Paper, \$9.95. Advances in Science and Technology in the USSR. Translated from the Russian by M. Bloch.

**Immunological Techniques in Insect Biology.** Lawrence I. Gilbert and Thomas A. Miller, Eds. Springer-Verlag, New York, 1988. xii, 284 pp., illus. \$59. Springer Series in Experimental Entomology.

**Inequalities.** G. H. Hardy, J. E. Littlewood, and G. Pólya. Cambridge University Press, New York, 1988. xii, 324 pp. Paper, \$19.95. Reprint, 1952 ed.

**Introduction to Supersymmetry.** Peter G. O. Freund. Cambridge University Press, New York, 1988. x, 152 pp. Paper, \$14.95. Cambridge Monographs on Mathematical Physics. Reprint, 1986 ed.

**Key Works to the Fauna and Flora of the British Isles and North-Western Europe.** Reginald W. Sims, Paul Freeman, and David L. Hawksworth, Eds. 5th ed. Published for the Systematics Association by Clarendon (Oxford University Press), New York, 1988. xii, 312 pp. \$75. The Systematics Association Special Volume, no. 33.

**Laboratory Management.** Principles and Practice. Homer S. Black, Ronald C. Hart, and Orrin M. Peterson. Van Nostrand Reinhold Series in Managerial Skills in Engineering and Science.

**Late Quaternary Climate, Tectonism, and Sedimentation in Clear Lake, Northern California Coast Ranges.** John D. Sims, Ed. Geological Society of America, Boulder, CO, 1988. vi, 225 pp., illus., + charts in pocket. Paper, \$34. Special Paper 214.

**Lehrbuch der Theoretischen Physik.** Vol. 3, Quantenmechanik. L. D. Landau and E. M. Lifschitz, 8th ed. Akademie-Verlag, Berlin, G.D.R., 1988. xiv, 644

pp., illus. DME 58. Transmitted from the Russian edition (Moscow, 1974).

**Long and Short Term Variability of Climate.** H. Wanner and U. Siegenthaler, Eds. Springer-Verlag, New York, 1988. viii, 175 pp., illus. Paper, \$29.10. Lecture Notes in Earth Sciences, vol. 16. From a symposium, Bern, Switzerland, Oct. 1986.

**Making Multicandidate Elections More Democratic.** Samuel Merrill, III. Princeton University Press, Princeton, 1988. xx, 149 pp.

**Medical Geography.** Melinda S. Meade, John W. Florin, and Wilbert M. Gesler. Guilford, New York, 1988. x, 340 pp., illus. \$35.

**Modelling Geomorphological Systems.** M. G. Anderson, Ed. Wiley, New York, 1988. xii, 458 pp., illus. \$101.

**Neural Networks and Natural Intelligence.** Stephen Grossberg, Ed. MIT Press, Cambridge, MA, 1988. xiv, 637 pp., illus. \$35. A Bradford Book.

**Night as Frontier.** Colonizing the World After Dark. Murray Melbin. Free Press (Macmillan), New York, 1987. viii, 230 pp. \$19.95.

**Nuclear Energy.** An Introduction to the Concepts, Systems, and Applications of Nuclear Processes. Raymond L. Murray. 3rd ed. Pergamon, Elmsford, NY, 1988. x, 392 pp., illus. \$69; paper, \$24.50.

**Numerical Analysis for Applied Mathematics, Science, and Engineering.** Donald Greenspan and Vincenzo Casulli. Addison-Wesley, Redwood City, CA, 1988. x, 341 pp., illus. \$43.25.

**Oncogenes.** An Introduction to the Concept of Cancer Genes. Kathy B. Burck, Edison T. Liu, and James W. Larrick. Springer-Verlag, New York, 1988. xvi, 300 pp., illus. \$35.

**Over the Mountains Are Mountains.** Korean Peasant Households and Their Adaptations to Rapid Industrialization. Clark W. Sorenson. University of Washington Press, Seattle, 1988. x, 308 pp., illus., + plates. \$25. Korean Studies of the Henry M. Jackson School of International Studies.

**Particulate Phenomena and Multiphase Transport.** T. Nejat Veziroglu, Ed. Hemisphere, New York, 1988. 5 vols. Vol. 1, xiv, 557 pp., illus. Vol. 2, xiv, 690 pp., illus. Vol. 3, xiv, 650 pp., illus. Vol. 4, xiv, 603 pp., illus. Vol. 5, xiv, 572 pp., illus. \$700. From a symposium, Miami Beach, FL, Dec. 1986.

**Pattern Recognition.** Mike James. Wiley-Interscience, New York, 1988. x, 144 pp., illus. \$29.95.

**Perspectives in Molecular Sieve Science.** William H. Flank and Thaddeus E. Whyte, Jr., Eds. American Chemical Society, Washington, DC, 1988. xvi, 630 pp., illus. \$99.95. ACS Symposium Series, vol. 368. From a symposium, Toronto, Ontario, June 1988.

**Practical Flow Cytometry.** Howard M. Shapiro. 2nd ed. Liss, New York, 1988. xxiv, 353 pp., illus. \$59.50.

**Practitioner's Handbook on the Modelling of Dynamic Change in Ecosystems.** J. N. R. Jeffers. Published for the Scientific Committee on Problems of the Environment of the International Council of Scientific Unions by Wiley, New York, 1988. xiv, 181 pp., illus. \$64.95. SCOPE, vol. 34.

**Prehispanic Settlement Patterns in the Lower Santa Valley, Peru.** A Regional Perspective on the Origins and Development of Complex North Coast Society. David J. Wilson. Smithsonian Institution Press, Washington, DC, 1988. xx, 590 pp., illus. \$55. Smithsonian Series in Archaeological Inquiry.

**The Primeval Universe.** Jayant V. Narlikar. Oxford University Press, New York, 1988. xii, 241 pp., illus. \$29.95. OPU.

**Principles of Applied Mathematics.** Transformation and Approximation. James P. Keener. Addison-Wesley, Redwood City, CA, 1988. xvi, 560 pp., illus. \$48.50.

**Processes in Continental Lithospheric Deformation.** Sydney P. Clark, Jr., B. Clark Burchfiel, and John Suppe. Geological Society of America, Boulder, CO, 1988. viii, 212 pp., illus. Paper, \$25. Special Paper 218.

**Psychodynamics and Cognition.** Mardi J. Horowitz, Ed. University of Chicago Press, Chicago, 1988. xii, 389 pp., illus. \$27.50. Based on a workshop, Stanford, CA, 1984.

**Psychological, Neuropsychiatric, and Substance Abuse Aspects of AIDS.** T. Peter Bridge, Allan F. Mirsky, and Frederick K. Goodwin, Eds. Raven, New York, 1988. xviii, 261 pp., illus. \$30. Advances in Biochemical Psychopharmacology, vol. 44.

**The Psychology of Fear and Stress.** Jeffrey Alan Gray. 2nd ed. Cambridge University Press, New York, 1988. x, 422 pp., illus. \$75; paper, \$22.95. Problems in the Behavioural Sciences.

**The Psychology of Politics.** William F. Stone and Paul E. Schaffner. 2nd ed. Springer-Verlag, New York,

1988. xii, 331 pp. \$34.

**Recent Trends in Theoretical Psychology.** Wm J. Baker et al., Eds. Springer-Verlag, New York, 1988. xvi, 380 pp., illus. Paper, \$33. From a conference, Banff, Alberta, April 1987. Recent Research in Psychology.

**Redesigning the Molecules of Life.** Steven A. Benner, Ed. Springer-Verlag, New York, 1988. viii, 175 pp., illus. Paper, \$32.50. From a symposium, Interlaken, Switzerland, May 1988.

**The Right to Be Born Healthy.** The Ethical Problems of Human Genetics in Hungary. Andrew Czeizel. Liss, New York, 1988. 194 pp. \$35. Translated from the Hungarian edition (Budapest, 1983).

**Rubik's Cube Compendium.** Ernő Rubik et al. Translation editor, David Singmaster. Oxford University Press, New York, 1988. xii, 225 pp., illus. \$26.95. Recreations in Mathematics, vol. 3. Translated from the Hungarian edition.

**Russell's Soil Conditions and Plant Growth.** Alan Wild, Ed. 11th ed. Longman Scientific, Harlow, U.K., and Wiley, New York, 1988. x, 991 pp., illus. \$95.

**Sand.** Raymond Siever. Scientific American Library, New York, 1988 (distributor, Freeman, New York). xiv, 237 pp., illus. \$32.95.

**Semiconductors and Semimetals.** Vol. 25, Diluted Magnetic Semiconductors. Jacek K. Furdyna and Jacek Kossut, Eds. Academic Press, San Diego, CA, 1988. xviii, 470 pp., illus. \$89.50.

**A Sense of the Morning.** Nature Through New Eyes. David Brendan Hopes. Dodd, Mead, New York, 1988. viii, 214 pp. \$18.95.

**Sharks of the Order Carcharhiniformes.** L. J. V. Compagno. Princeton University Press, Princeton, 1988. xxii, 486 pp., + plates. \$99.50.

**Small Ring Compounds in Organic Synthesis III.** A. de Meijere, Ed. Springer-Verlag, New York, 1988. x, 217 pp. \$89. Topics in Current Chemistry, vol. 144.

**The Social Foundations of Meaning.** Eike von Savigny. Springer-Verlag, New York, 1988. viii, 151 pp. \$29.50.

**The Social Psychology of Facial Appearance.** Ray Bull and Nicola Rumsey. Springer-Verlag, New York, 1988. x, 355 pp. \$62. Springer Series in Social Psychology.

**The Southeast Classic Maya Zone.** Elizabeth Hill Boone and Gordon R. Willey, Eds. Dumbarton Oaks, Washington, DC, 1988. vi, 412 pp., illus. \$40. From a symposium, Washington, DC, Oct. 1984.

**Spinors and Space-Time.** Vol. 2, Spinor and Twistor Methods in Space-Time Geometry. Roger Penrose and Wolfgang Rindler. Cambridge University Press, New York, 1988. x, 501 pp., illus. Paper, \$34.50. Cambridge Monographs on Mathematical Physics. Reprint, 1986 ed.

**Spirits of Resistance and Capitalist Discipline.** Factory Women in Malaysia. Aihwa Ong. State University of New York Press, Albany, 1987. xviii, 268 pp., illus. \$49.50; paper, \$14.95. SUNY Series in the Anthropology of Work.

**The State of Water in the Cell.** William Negendank and Ludwig Edelman, Compilers. Scanning Microscopy International, Chicago, 1988. iv, 114 pp., illus. Paper, \$19.

**Statistical Physics.** F. Mandl. 2nd ed. Wiley, New York, 1988. xvi, 385 pp., illus. Paper, \$27.95. Manchester Physics Series.

**The System of Professions.** An Essay on the Division of Expert Labor. Andrew Abbott. University of Chicago Press, Chicago, 1988. xvi, 435 pp. \$49.95; paper, \$19.95.

**Theoretical Immunology.** Alan S. Perelson, Ed. Addison-Wesley, Redwood City, CA, 1988. 2 vols. xxii, 404 pp., illus., and xxii, 407 pp., illus. Each vol. \$44.25; paper, \$24.75. Santa Fe Institute Studies in the Sciences of Complexity, vols. 2 and 3. From a workshop, Santa Fe, NM, June 1987.

**Theory of Reflection and Cybernetics.** The Concepts of Reflection and Information and Their Significance for Materialist Monism. Jiří Zeman. Elsevier, New York, 1988. 257 pp., illus. \$95. Translated from the Czech edition (Prague, 1978).

**Thermal Methods of Oil Recovery.** Thomas C. Boberg. Wiley, New York, 1988. xvi, 411 pp., illus. \$75. Exxon Monographs.

**Transduction Mechanisms of Drug Stimuli.** F. C. Colpaert and R. L. Balster, Eds. Springer-Verlag, New York, 1988. x, 236 pp., illus. \$89.70. Psychopharmacology Series, vol. 4. From a meeting, Antwerp and Beerse, Belgium, July 1986.

**Viral Hepatitis and Liver Disease.** A. J. Zuckerman, Ed. Liss, New York, 1988. xxii, 1136 pp., illus. \$350. From a symposium, London, U.K., May 1987.

## Products & Materials

### Theorem-Proving Software

The Expert Thinker program solves problems on microcomputers by logical reasoning rather than by heuristic algorithms. It solved the "Schubert's Steamroller" problem in 13 minutes on a computer with a 16-MHz 80386 processor, and it can solve most problems in first-order predicate calculus. The user need only describe the problem; the program finds the solution itself. The program is written in Prolog, but, unlike Prolog, it features true negation, non-Horn clauses, staged depth-first searches, and Meson reduction and extension operations. Results can be output on the screen only or on a printer as well. Expert Thinker operates on IBM PC, XT, AT, PS/2, and compatible computers with 640 kilobytes of random-access memory. \$149. Transpower. Circle 555.

### Membrane Filtration by Rotary Separation

The Benchmark Rotary Biopurification System is a benchtop biological filtration apparatus. Its membrane, constructed of a synthetic polymeric matrix, was designed to be hydrophilic, chemically stable, and physically durable. Separation by the rotary process reduces shear rates and improves fluid dynamics. These features enable the Benchmark Rotary Biopurification System to extract solvents, fractionate proteins, and recover labile biologicals. The membranes are available with molecular weight cut-offs from 10,000 to 1,000,000. Membrex. Circle 554.

### Scanning Electron Microscope

The ESEM scanning electron microscope allows the direct observation of unprepared specimens. Wet specimens can be examined in their natural state, without drying, freezing, fracturing, or coating. The microscope's vacuum system permits continuous observation of wet samples, including liquids, under

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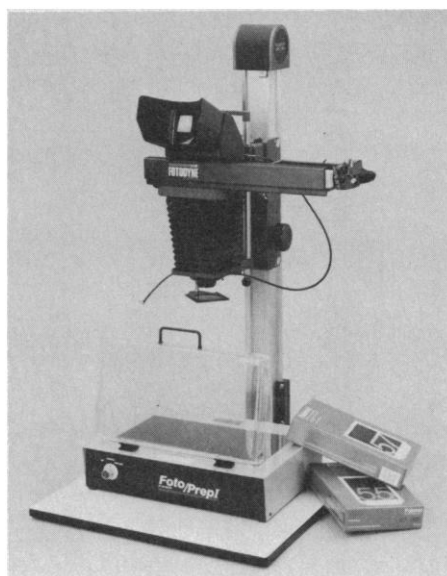
fully saturated water vapor conditions. Dynamic processes can be observed and recorded as they happen. The ESEM has a television-rate frame storing system and a VHS-compatible video signal output. Electro-Scan. Circle 575.

### Protein G

Recombinant protein G, an Fc-binding protein, is available. Cloned from *Streptococcus* sp. Lancefield group G, recombinant protein G is used in the production and purification of monoclonal antibodies. In-FerGene. Circle 576.

### DNA Gel Documentation System

The Foto/Prep I illuminates DNA gels and produces instant hard-copy images. Its ultraviolet transilluminator has a high-intensity setting for analytical gels and a low-



intensity setting for preparative gels; both settings operate at 300 nm, an appropriate wavelength for fluorescing ethidium bromide-stained DNA gels. The camera system provides instant photographs with a choice of film types, speeds, and formats. FOTO-DYNE. Circle 436.

### Warming Stages

The 51800 line of warming and heating stages for upright, inverted, and stereo microscopes is designed to control the temperature of living specimens. Stages are available for temperatures between ambient and 50°C, maintained within  $\pm 0.3^\circ\text{C}$ ; between ambient and 100°C,  $\pm 0.6^\circ\text{C}$ ; and

between ambient and 200°C,  $\pm 1.0^\circ\text{C}$ . A resistance heating element and thermistor within the warming stage control the temperature. An optional temperature probe enables the user to determine and control the actual sample temperature. The compact control unit features a liquid crystal digital display. Each stage consists of a fiber-reinforced silicone rubber heating pad embedded in an anodized aluminum stage plate. Frank E. Fryer. Circle 434.

### Automated HPLC System

The LiChroGraph D-6000 is a high-performance liquid chromatography (HPLC) system with a personal computer for system control and data processing. Its accompanying software features soft keys and on-screen help windows. Because the system is modular, the user can purchase individual parts to combine with existing equipment, and upgrading is possible and simple. The LiChroGraph D-6000 can be based on either an IBM AT-compatible computer or an IBM PS/2 computer. EM Science. Circle 433.

### Literature

*Scintillation Cocktails and Vials* is a catalog of cocktails, vials, standards, and other supplies for liquid scintillation counting. Beckman Instruments, SID Consumables. Circle 452.

The *Immunology Guide* describes streptavidin-biotin reagents, affinity-purified secondary antibodies, kits for hybridoma screening and enzyme-linked immunosorbent assay amplification, immunopurification reagents, enzyme substrates, and other immunology products. Bethesda Research Laboratories. Circle 453.

*Ion Chromatography Notes* is a twice-yearly 8-page newsletter of products and applications for ion chromatography. Waters Chromatography Division, Millipore. Circle 454.

*Varistaltic Pumps* is a product bulletin that features a line of tubing pumps for filtration, perfusion, infusion, electrophoresis, and sterile pumping. Manostat. Circle 455.

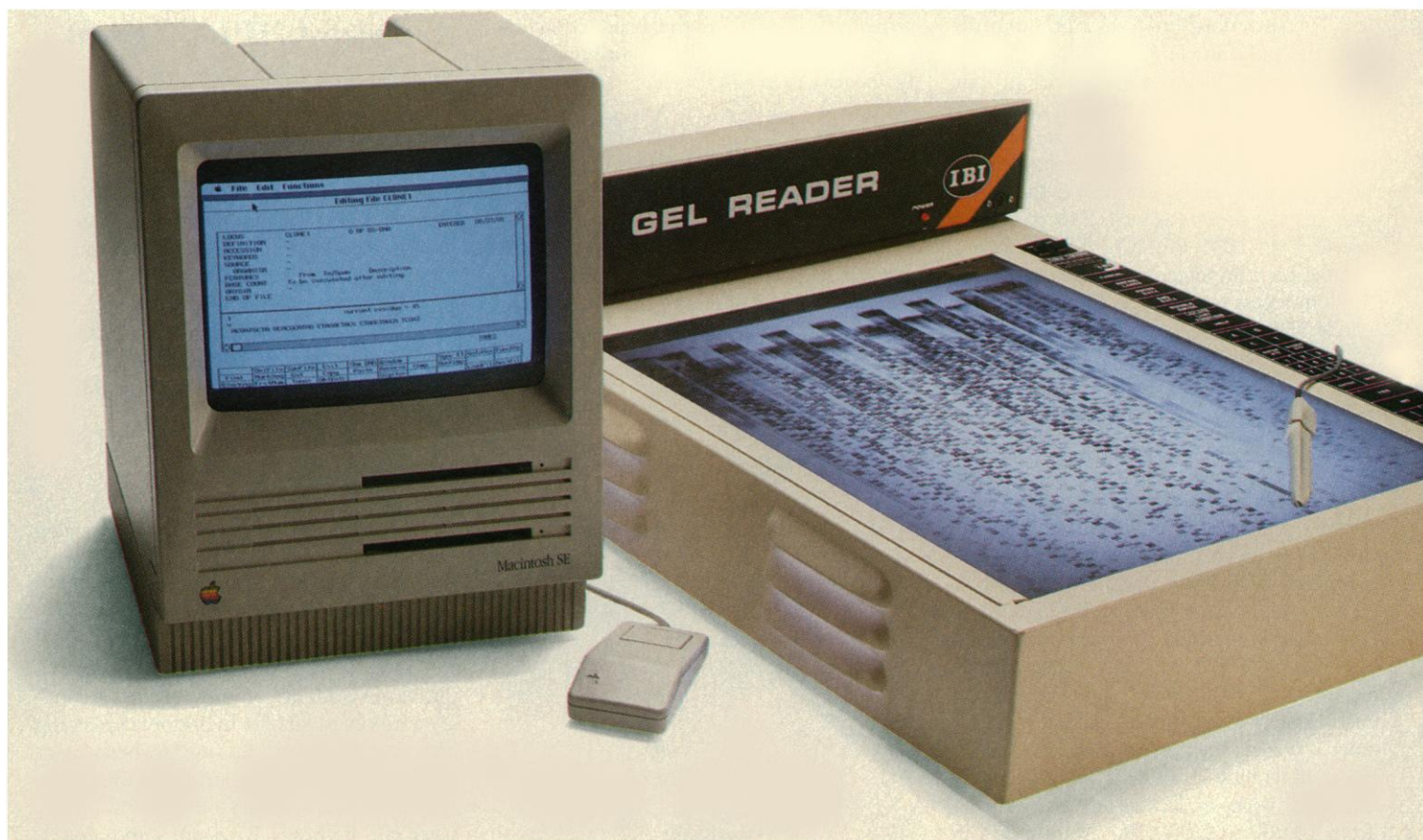
*Catalog 8788* describes laboratory accessories, including pipette fillers, microtubing connectors, pipettes, vials, centrifuge tubes, stir bars, and spectrophotometer cells. Bolab. Circle 456.

*Electrostatic Media* describes opaque, velum, and translucent paper for electrostatic plotters. Versatec. Circle 457.

*Radiation Sources* is a 40-page catalog of radiation standards and sources for research and industrial applications. Isotope Products Laboratories. Circle 563.



# Turn your the most powerful



New IBI software gives Macintosh users the most comprehensive sequence analysis capabilities ever assembled on a desktop in an easy-to-use, affordable package. Compatible with all Macintosh models, including the Macintosh II, IBI software handles over 100 applications and every major database including GENBANK™, BIONET™ and NBRF.

Enter your sequences via the keyboard or an IBI Gel Reader. IBI gives your Mac the analytical capabilities to restriction map, translate sequences, identify open reading frames, determine base and amino acid compositions, perform homology comparisons, run global searches of available databases and much more.

IBI takes advantage of unique Macintosh design features to save time on every function. It performs virtually every application — from searches to homologies — faster than other comparable programs. For example, it takes less than 20 seconds to find all restriction sites generated by 125 individual enzyme digests of pBR322.

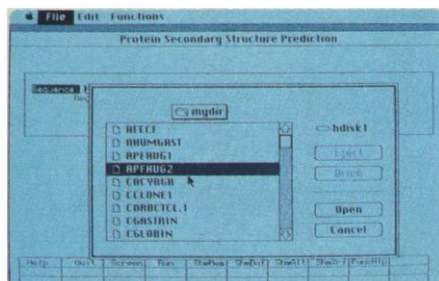
Each program gives you a host of valuable features not available from other software packages. For instance, all DNA programs use both strands 5' to 3'. Restriction analysis lets you select only enzymes that cut in a specific reading frame or enzymes that fit a combination of characteristics (e.g., size of cut site, end structure) that you identify. You also get the flexibility to combine and move between subroutines quickly on-screen.

The Global search program quickly identifies all database entries containing possible matches with your sequence. The Homology matrices then identify different levels of homology using a weighting scheme you define. This same weighting scheme is also useful in structural studies, allowing you to compare a sequence against itself to identify direct repeats and stem-loop structures.

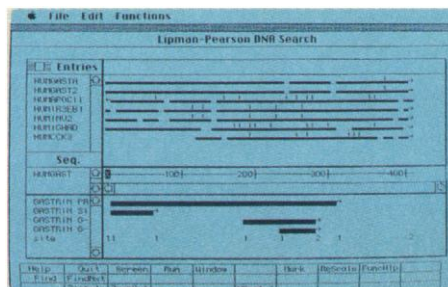
Protein users can also reverse translate, predict antigenic sites, predict protein flexibility, predict hydrophilicity and much more.

# Mac into tool in your lab.

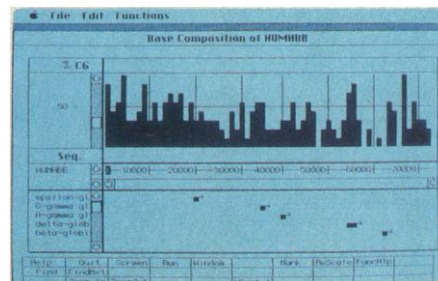
## Macintosh SE



Macintosh interface used for loading sequence in Secondary Structure Prediction program.

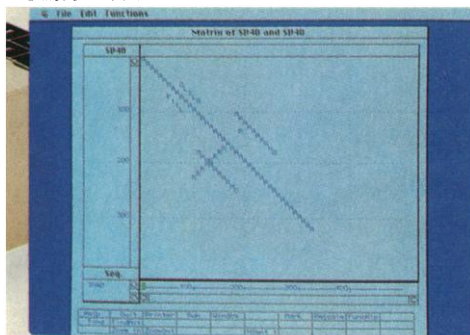


Global search: top seven matches of a DNA global search displayed graphically showing regions of similarity, insertions, deletions and strand.

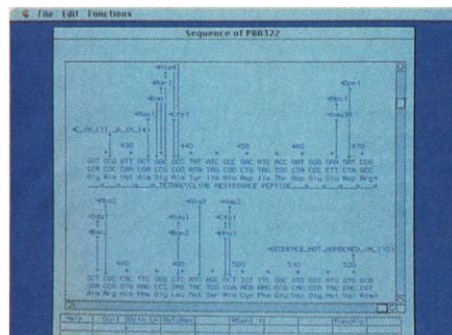


Base composition of the entire sequence (greater than 70 Kb) of the human Beta-globin locus.

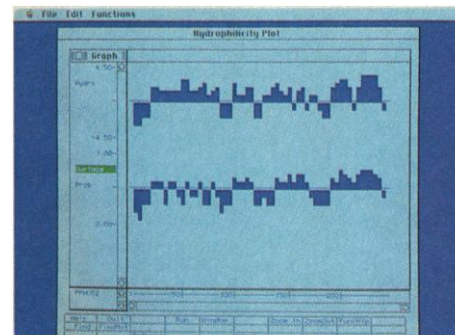
## Macintosh II



Homology matrix of a subregion of SV40 against itself showing similarity in both orientations.



Restriction enzyme analysis: sequence of pBR322 translated and fully annotated with all restriction cut sites.



Hydrophilicity and Surface Probability Plot of the Human Growth Factor protein.

And with IBI software you never have to waste time reformatting data. It is the only Macintosh software program that lets you use sequencing data in every major format including GENBANK™, BIONET™, STADEN, LINE and UWCCG (Wisconsin).

**Be the first in your lab with these desktop capabilities.**

Use the most comprehensive software available for any microcomputer. Call today to order or to request additional information.

**Call or write.**

IBI, P.O. Box 9558, New Haven, CT 06535,  
1-800-243-2555, or 203-786-5600.  
In Canada, call (416) 362-8278.  
In the UK, call Cambridge (0223) 242813.



*The Cutting Edge of Molecular Biology*

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# Personnel Placement

**SCIENCE** publishes each Friday, except the last Friday of the year. Advertising is accepted only in writing; no abbreviations. Any deadline in ad must be at least 2 weeks after date of issue in which ad appears. Also, personnel advertising is accepted only with the understanding that the advertiser does not discriminate among applicants on the basis of race, sex, religion, age, color, national origin, handicap, or sexual preference. **SCIENCE** reserves the right, in its discretion, to decline to publish advertisements submitted to it.

**LINE CLASSIFIED ADVERTISING DEADLINES:**  
Thursday, 10 a.m., 2 weeks prior to issue date (mailed on issue date). For deadlines for display advertising, please contact Scherago Associates.

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

**LINE CLASSIFIED (POSITIONS OPEN, COURSES, FELLOWSHIPS, MARKETPLACE, and so forth):** \$38.00 per line; \$380 minimum, per week (minimum charge covers one inch on a single column; one inch equals 10 lines of 52 characters and spaces per line). No charge for use of box number. No agency commission for ads less than 4 inches. No cash discount. Prepayment required for all foreign ads. Purchase orders and/or cover letter including billing address required for all other advertising.

**To ESTIMATE ad cost:**  
Structure ad copy on a separate page, on lines of 52 characters and spaces. Include any desired heading. Each line of heading, and/or extra line spaces, and all partial lines (including centered reply information) are counted as full lines. Ad titles located within the text are printed in boldface caps and are only 32 characters per line. In ESTIMATING the cost, multiply total lines x \$38.00 = approximate cost of ad. (This is an approximate cost ONLY. Allow for variation between estimated lines and actual typeset lines and the resulting final cost. Purchase orders must allow for some degree of flexibility and/or adjustment.)

**CANCELLATION POLICY:**  
NOTE: Ad cancellations made after Thursday, TWO weeks prior to issue date incur a 10% production charge. Final deadline for cancellations is 12 p.m. Tuesday, ONE week prior to issue date. Cancellations must be in writing.

Send copy for all **Positions Wanted** ads and **Line Classified** ads less than 1/6 page in size (39 lines) to:

**SCIENCE Classified Advertising**  
1333 H Street, NW, Room 940  
Washington, DC 20005  
Telephone: 202-326-6555

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

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

Blind ad replies should be addressed as follows:

**Box (give number)**  
**SCIENCE**  
1333 H Street, NW  
Washington, DC 20005

## POSITIONS WANTED

**Immunologist, D.V.M., Ph.D.** Research experience in human aging, monoclonal antibodies, tumor immunology, NK cells, biochemical immunology, cyclic AMP, calcium influx, enzymes, glycolipids and hormones on metabolism. Excellent publications and grant funding record including NIH as independent investigator. Good credentials and supervisory experience. Seeks suitable position in industry/academia/government. Box 161, **SCIENCE**.

**Immunologist, Ph.D.** Experienced biotechnology R&D scientist with experience in hybridomas, monoclonal antibodies, cellular immunology, and cancer immunotherapeutics. Seeks position as supervisor of hybridoma/cell culture laboratory in biotechnology or pharmaceutical laboratory. Box 163, **SCIENCE**.

## POSITIONS WANTED

**Retrovirologist, Ph.D.** AIDS researcher with publications and experience in HIV biology, antiviral agents, and some molecular biology. Seeks research/government position in Washington, D.C., area. Box 162, **SCIENCE**.

**Tumor and Cell Biologist, M.D., Ph.D.** Experience: Receptor biochemistry, peptide hormones, second messengers, cell differentiation, animal and cell culture models, molecular biology. Thirty publications. Seeking staff/faculty position in academia or industry. Box 160, **SCIENCE**.

## POSITIONS OPEN

### ALL NATIONAL OPENINGS MULTIPLE LEVELS

Recruiting for degreed professionals in the following fields:

- 1) Pharmacokinetics—industrial or postdoctorate. Pre-clinical and clinical. Up to \$65,000.
- 2) Pharmaceutical formulation scientists—solid and parenteral. Up to \$60,000.
- 3) Clinical researchers and auditors—cardiovascular, infectious disease, and CNS drugs.

Call or send résumé to:

**Guy Andrew**  
Central Clearing, Inc.  
10031 West Roosevelt Road  
Westchester, IL 60153  
Telephone: 312-450-2660

**Texas—ANATOMIST.** Full-time, tenure-track position. Applicants should hold Ph.D. or M.D. degree, record of productive research in neuroscience area and teaching experience in an anatomic discipline. Preference given gross anatomy. Salary commensurate with qualifications and appointment at associate or full professor level.

Send complete curriculum vitae, including names of three professional references, to: **Dr. J. W. Wagner, Head, Department of Anatomy, College of Medicine, Texas A&M University, College Station, TX 77843.**

*Texas A&M University is an Equal Opportunity/Affirmative Action Employer.*

### ASSISTANT PROFESSOR MOLECULAR-CELL VIROLOGY

The Department of Microbiology and the College of Medicine at the University of Illinois, Urbana-Champaign, seeks candidates for a full-time tenure-track faculty position at the assistant professor level. Starting date is August 1989. Applicants should have a Ph.D. or M.D. degree, postdoctoral experience, and show exceptional promise to develop an active research program in virology that preferably focuses on virus structure, the molecular or cellular biology of viral infection, or the application of viruses to study molecular genetics, cell biology and/or development. Responsibilities will include teaching medical and graduate students. Salary commensurate with qualifications.

The University of Illinois at Urbana-Champaign offers outstanding research facilities that include state-of-the-art facilities for molecular engineering, hybridoma production, flow cytometry, electron microscopy, x-ray crystallography and computer analyses. There are extensive opportunities for interdepartmental interactions in both microbial and eukaryotic cell and molecular biology, virology, immunology, biochemistry, and biophysics.

Applicants should submit curriculum vitae, statement of research interests, and the names of three references to:

**Jeffrey F. Gardner**  
Department of Microbiology  
University of Illinois  
131 Burrill Hall  
407 South Goodwin Avenue  
Urbana, IL 61801  
Telephone: 217-333-1736

To ensure full consideration applications should be received by 15 January 1989. Interviews may be conducted prior to 15 January 1989 but all applications received by that date will be given full consideration.

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

## POSITIONS OPEN

### ASSISTANT PROFESSOR M. D. ANDERSON CANCER CENTER

A position is available immediately to join a laboratory investigating immunotoxins directed to human tumors. Applicants should have a recent Ph.D. in molecular biology with a strong background in recombinant DNA technology. Experience in immunoglobulin gene molecular biology is preferred. Projects will focus on development of recombinant antibodies and immunotoxins. Send curriculum vitae, thesis abstract, and names and addresses of three references to: **Dr. Jack A. Roth, M. D. Anderson Hospital and Tumor Institute, Box 109, 1515 Holcombe Boulevard, Houston, TX 77030.** An Equal Opportunity/Affirmative Action Employer.

**ASSISTANT PROFESSOR.** Anticipated tenure-track position to teach physiology and anatomy-physiology, as well as graduate courses in specialty. Ability to teach cell biology is desirable. Ph.D. and pursuit of an active research program required. Appointment date: August 1989. Send curriculum vitae, reprints, summary of research plans, and three letters of recommendation by 15 December 1988 to: **Dr. Gary Gaston, Physiologist Search Committee, Department of Biological and Environmental Sciences, P.O. Box 92000, McNeese State University, Lake Charles, LA 70609.** McNeese State University is an Equal Opportunity Employer.

The Reed College Biology Department invites applications for a regular appointment at the **ASSISTANT PROFESSOR** level in developmental biology commencing with the academic year 1989 to 1990. A Ph.D. is required. The successful applicant is expected to pursue developmental research at the molecular and/or cellular level and to seek extramural research funding. Released-time from teaching for this purpose will be available initially. We seek an individual committed to teaching and directing the research of highly motivated undergraduates. Reed College is a highly selective undergraduate institution with a strong, traditional commitment to scholarship. Applications including curriculum vitae and three recent letters of reference should be sent by 15 December 1988 to: **Dr. Peter J. Russell, Chair, Biology Search Committee, Reed College, Portland, OR 97202.** Reed College is an Equal Opportunity/Affirmative Action Employer.

**ASSISTANT PROFESSOR, BIOCHEMISTRY.** The Chemistry Department at Hartwick College invites applications for an anticipated tenure-track position in the area of biochemistry to begin September 1989. Responsibilities include teaching undergraduate courses and supervising undergraduate research. Candidates should have a Ph.D. and a strong commitment to teaching chemistry in an undergraduate liberal arts context. The Department is accredited by the ACS and has well-equipped laboratories. Applicants should submit a letter of application, résumé, a brief description of research interests and three letters of recommendation to: **Dr. Lawrence Mirarchi, Chair, Department of Chemistry, Hartwick College, Oneonta, NY 13820.** Closing date for applications is 15 December 1988. An Equal Opportunity Employer.

### ASSISTANT PROFESSOR (MOLECULAR BIOLOGY)

We seek an individual to operate the Laboratory for DNA Sequencing and Genome Analysis which is part of the Center for Biotechnology. The position and facility are supported by state of Nebraska funds. The appointee will be responsible for supervising laboratory staff, operating two Nebraska-developed automated DNA sequencers and a PCR facility. Duties include: designing sequencing strategies, supervising staff, computer analyses, and interaction with on- and off-campus clients. Research responsibilities will include improving instrument capabilities and establishing fluorescently based PCR diagnostics.

Desire a Ph.D. in molecular biology with cloning, sequencing, and computer analysis experience.

Send curriculum vitae, synopsis of research interests and career objectives, and have three letters of reference sent by 1 December 1988 to: **Dr. J. A. Brumbaugh, School of Biological Sciences, 348 Manter Hall, University of Nebraska-Lincoln, Lincoln, NE 68588-0118.** Affirmative Action/Equal Opportunity Employer.

## POSITIONS OPEN

**ASSISTANT PROFESSOR:** Molecular/cell biologist. Tenure-track position at Earlham College to begin June or September 1989. Teaching excellence, research involving students, and Ph.D. are required. Teaching areas: eukaryotic gene regulation, molecular genetics, developmental and cell biology. Department known for curricular innovation, quality teaching, and high proportion of majors going on to Ph.D.'s. Excellent teaching and research facilities. Send curriculum vitae, teaching and research philosophy statement, transcripts, and three recommendations to: **Dr. John Iverson, Biology, Earlham College, Richmond, IN 47374.** Review begins 1 January 1989. *Women and minority candidates are especially encouraged to apply. Equal Opportunity/Affirmative Action Employer.*

### ASSISTANT PROFESSOR CLINICAL PHARMACOLOGY THOMAS JEFFERSON UNIVERSITY

Applications are invited for the position of an Assistant Professor of Medicine in our expanding Division of Clinical Pharmacology. M.D. degree is required with postdoctoral training in clinical pharmacology or related area. Divisional research interests include thrombosis and atherosclerosis, clinical research, and cardiovascular pharmacology. Send curriculum vitae, a statement of current/future research plans, and a list of three references to: **Dr. Thorir D. Bjornsson, Division of Clinical Pharmacology, Department of Medicine, Jefferson Medical College, 1100 Walnut Street, Philadelphia, PA 19107.** *Thomas Jefferson University is an Equal Opportunity/Affirmative Action Employer.*

### UNIVERSITY OF CALIFORNIA SAN FRANCISCO DEPARTMENT OF RADIOLOGY ASSISTANT PROFESSOR IN RESIDENCE

Position available for NMR spectroscopist with Ph.D. and postdoctoral training in in vivo localization techniques, proton water-suppressed spectroscopy, and brain metabolism. *UCSF is an Equal Opportunity/Affirmative Action Employer. Women, minorities and handicapped individuals are encouraged to apply.* Send curriculum vitae, and names of three references to: **Dr. M. Weiner, Magnetic Resonance Unit (11D), VA Medical Center, 4150 Clement Street, San Francisco, CA 94121.**

**ASSISTANT PROFESSOR—MARINE BIOLOGY:** Tenure-track position beginning September 1989. Specialty to be physiological ecology or biomechanics of marine organisms. Responsibilities include developing a strong research program, participation in an introductory biology course, teaching a course in marine biology and an advanced course based on one's specialty. Postdoctoral experience preferred. Please send curriculum vitae, statement of teaching and research interests, and three letters of reference to: **Dr. John Howland, Biology Department, Bowdoin College, Brunswick, ME 04011** by 1 December 1988. *Bowdoin College is committed to Equal Opportunity through Affirmative Action.*

**ASSISTANT PROFESSOR—MOLECULAR IMMUNOLOGY.** The Department of Microbiology and Immunology, University of Kentucky Medical Center invites applications for a tenure-track position in the general area of molecular immunology. Emphasis will be placed on those candidates utilizing molecular approaches toward the analysis of immunological problems. Specific areas of interest include T-cell receptors, immunoglobulin genes, lymphokines, or MHC. The successful candidate will join a highly interactive group of immunologists and molecular biologists as well as an excellent graduate program. A liberal salary and start-up package will be provided. The candidate is expected to develop an independent research program and to contribute to both graduate and medical education. A Ph.D. degree and at least 2 years of postdoctoral research experience are required.

Applicants should send curriculum vitae, a statement of research interests, and the names of three references to: **Dr. Jerold G. Woodward, Department of Microbiology and Immunology, University of Kentucky Medical Center, Lexington, KY 40536-0084.** *The University of Kentucky is an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

### ASSISTANT PROFESSOR

The Department of Chemistry, Philadelphia College of Pharmacy and Science, invites applications for a full-time, tenure-track faculty position at the assistant professor level, starting August 1989. We seek a candidate who will establish a vigorous, productive research program and who will excel at teaching in both our undergraduate and graduate programs. Applicants in the areas of biochemistry or molecular biology are preferred, although exceptional candidates from other areas of chemistry will also be considered.

The Philadelphia College of Pharmacy and Science is an independent, co-educational institution with 1500 undergraduate science majors in eight disciplines, 120 full-time faculty, and 60 graduate students. The Department of Chemistry has 14 faculty members and offers ACS approved undergraduate degrees in chemistry and biochemistry. Graduate programs lead to the M.S. and Ph.D. degrees in medicinal chemistry and pharmacognosy, and may involve interdisciplinary research with the Departments of Biology, Pharmacology and Toxicology, and Pharmaceutics.

Applications should consist of curriculum vitae, a brief statement of teaching experience and interests, and a description of research projects that would be pursued, as well as start-up requirements. Applicants should also arrange to have undergraduate and graduate transcripts, and three letters of recommendation, sent by 15 November 1988 to:

**Dr. Peter Campbell  
Chair, Faculty Search Committee  
Philadelphia College of Pharmacy and Science  
Woodland Avenue at 43rd Street  
Philadelphia, PA 19104  
Telephone: 215-596-8839  
*Equal Opportunity/Affirmative Action Employer***

### ASSISTANT PROFESSOR CELLULAR AND MOLECULAR PHARMACOLOGY

Applications and nominations are invited for a tenure-track faculty position at the rank of assistant professor. Applicants should have earned a Ph.D. degree, an M.D. degree, or both, and should have postdoctoral research training. We seek applicants who have the potential to attract support for an independent research program and who have an interest in professional and graduate education. All qualified applicants are urged to apply, particularly those with expertise in drug and chemical biotransformation and bioactivation or in cardiovascular/renal pharmacology. An appointment at the associate professor or professor level will be considered for established investigators. The deadline for applications is 1 December 1988. Applicants should forward curriculum vitae, a list of publications, three letters of recommendation or the names of three referees, and a summary of current and future research interests to: **Pharmacology Search Committee, Department of Pharmacology, School of Medicine and Dentistry, 601 Elmwood Avenue, Rochester, NY 14642.**

*The University of Rochester is an Equal Opportunity Employer, and applications from women and from minority groups are encouraged.*

### ASSISTANT PROFESSOR: MOLECULAR BIOLOGY

The Department of Biochemistry and the Institute of Human Genetics at the University of Minnesota Medical School invite applications for a tenure-track position at the assistant professor level. Preference will be given to individuals who have had at least 2 years of postdoctoral experience with a strong background in eukaryotic molecular genetics, who show promise of developing a vigorous research program, and whose research interests complement those of the current faculty. Applicants must be qualified to teach in the graduate and professional school courses offered by the Department and Institute. Applications must be postmarked no later than 31 December 1988. Send curriculum vitae, a concise plan for future research, and names of three references to: **Search Committee, Department of Biochemistry, Medical School, 4-225 Millard Hall, University of Minnesota, Minneapolis, MN 55455.** *The University of Minnesota is an Equal Opportunity Educator and Employer, and specifically invites and encourages applications from women and minorities.*

## POSITIONS OPEN

### ASSISTANT PROFESSOR IMMUNOLOGY/MICROBIOLOGY

Applications are invited for a regular faculty appointment in a liberal arts college near Caltech with a strong science program. Occidental College expects excellence in both teaching and research. The successful applicant will receive a research/teaching/office suite in a new building, start-up funds, and a half-time technician. Applicants should be able to teach immunology and introductory biology and to develop an ongoing research program involving undergraduates. Ability to teach microbiology is desirable but not required. Send curriculum vitae and three reference letters to: **Laura L. Mays Hoopes, Biology Department, Occidental College, Los Angeles, CA 90041** by 15 December 1988. *Occidental College is an Equal Opportunity/Affirmative Action Employer.*

### ASSISTANT PROFESSOR OF BIOLOGICAL CHEMISTRY JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE

The Department of Biological Chemistry at The Johns Hopkins University School of Medicine invites applications for a tenure-track position at the assistant professor level. The department is looking for candidates with a commitment to excellence in research and teaching in biochemistry. Applicants should submit curriculum vitae, list of publications including representative reprints, three letters of recommendation, and a summary of research plans to:

**Dr. Gerald W. Hart  
Search Committee Chairperson  
Department of Biological Chemistry  
The Johns Hopkins University School of Medicine  
Baltimore, MD 21205**

To insure full consideration, applications should be received by 31 January 1989. *Equal Opportunity/Affirmative Action Employer.*

**ASSISTANT PROFESSOR OF BIOLOGY for 15 August 1989.** Ph.D. required. Seeking a broadly trained ecologist. Competence in invertebrate biology desirable but not essential. Responsibilities include teaching ecology and one other upper-division course, involvement in core program, courses for nonmajors and a research program involving undergraduates. Within 3 weeks after advertisement appears, send copies of undergraduate and graduate transcripts, statement on teaching/research interests, equipment needs, curriculum vitae, and names of three references to: **Dr. James Watrous, Chairman, Biology Department, St. Joseph's University, Philadelphia, PA 19131.** *Equal Opportunity/Affirmative Action Employer.*

### ASSISTANT PROFESSOR OF BIOLOGY

The Department of Biology at Loyola College has an opening for an entry level, tenure-track position beginning fall 1989. Applicants should have the Ph.D. in an appropriate field and both teaching and research experience. Responsibilities include two undergraduate courses each semester. Courses to be taught are microbiology, immunology and two additional courses. Preference will be given to those who can teach a course in the botanical area. Faculty are expected to conduct active research programs. Please send curriculum vitae, statement of teaching and researching interests, and names and addresses of three references by 18 November 1988 to: **Dr. Donald Keefer, Chair, Department of Biology, Loyola College, 4501 North Charles Street, Baltimore, MD 21210-2699.** *Equal Opportunity Employer.*

**ASSISTANT PROFESSOR OF PHARMACOLOGY**—Applications are invited for a tenure-track position in pharmacology. Responsibilities include undergraduate teaching and development of an externally funded research program. Experience in autonomic and/or cardiovascular pharmacology of special interest. Undergraduate degree in pharmacology also desirable. Starting date is negotiable. Interested applicants should submit curriculum vitae and names of three references by 18 November 1988 to: **J. Mark Winston, Ph.D., College of Pharmacy and Health Sciences, Drake University, 2507 University Avenue, Des Moines, IA 50311.** *An Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

**ASSISTANT PROFESSORSHIP—IMMUNOLOGY/VIROLOGY/OR MICROBIOLOGY.** Medical school microbiology department with active Ph.D. program seeks one assistant professor (tenure-track) for appointment starting July 1989 (date negotiable). Responsibilities include development of productive independent research program plus team teaching in medical and graduate courses. Research facilities and start-up support are excellent. All outstanding candidates are encouraged to apply, but preference may be given to individuals who study immunology or molecular aspects of pathogenic mechanisms of viruses or bacteria. Doctoral degree and postdoctoral research experience are required. Selection will be based on potential for excellence in research and teaching. Salary commensurate with training and experience. Submit curriculum vitae and bibliography, description of research interests, major publications, and names of three professional references to: **Randall K. Holmes, M.D., Ph.D., Professor and Chairman, Department of Microbiology, c/o Civilian Personnel Division, Uniformed Services University of the Health Sciences, 4301 Jones Bridge Road, Bethesda, MD 20814-4799.** *Equal Opportunity/Affirmative Action Employer.*

### THE CENTER OF NEUROSCIENCE DEPARTMENT OF ANATOMY AND NEUROBIOLOGY COLLEGE OF MEDICINE THE UNIVERSITY OF TENNESSEE, MEMPHIS

Positions of **ASSISTANT AND ASSOCIATE PROFESSOR** are available. Rank and salary will be commensurate with qualifications. Candidates must show evidence of strong research achievement. The department is the center of a rapidly expanding, multidisciplinary neuroscience program. Candidates must be pursuing research programs in neuroscience, especially molecular neurobiology, neurochemistry, and neurogenetics. The position also requires teaching anatomical courses. Please submit by 30 November 1988 curriculum vitae, statement of research interests, and names of three individuals who can be contacted for letters of reference to: **S. T. Kitai, Chairman, Department of Anatomy and Neurobiology, College of Medicine, The University of Tennessee, Memphis, 875 Monroe Avenue, Memphis, TN 38163** or contact interviewer at the Placement Service, Society for Neuroscience Meeting. *UT Memphis is an Equal Opportunity Affirmative Action Employer.*

The University of Maryland Center for Environmental and Estuarine Studies (UMCEES), Horn Point Environmental Laboratories (HPEL) and the UM Sea Grant Extension Program seeks to appoint a tenure-track position at the **ASSISTANT/ASSOCIATE PROFESSOR** level. The successful applicant will be responsible for development of a research program in aquaculture associated diseases which should complement existing University and State programs in aquaculture research. Research will be directed toward identification, treatment, prevention and cure of diseases of shellfish and finfish with major emphasis being with oysters and striped bass.

Extension responsibilities will be coordinated by the University's Sea Grant Extension program of the Cooperative Extension. Send curriculum vitae and names of three references by 1 January 1989 to: **Dr. R. Harrell, Horn Point Environmental Laboratories, UMCEES, P.O. Box 775, Cambridge, MD 21613.** *The UM is an Affirmative Action/Equal Opportunity Employer.*

**ASSISTANT/ASSOCIATE PROFESSOR:** Biotechnology Center, University of Colorado, Colorado Springs, invites applications for tenure-track appointment. Responsibilities include teaching in biotechnology program and research in molecular biology of industrial yeasts. Other research areas will be considered. Candidates with research grants and postdoctoral experience preferred. Rank and salary negotiable. Send curriculum vitae and three reference letters to: **Dr. James R. Mattoon, Director, Biotechnology Center, University of Colorado, Colorado Springs, CO 80933-7150.** Telephone: 719-593-3231. Application review will begin 15 November 1988 and continue until position is filled. *Equal Opportunity Employer/Affirmative Action.*

## POSITIONS OPEN

### ASSISTANT OR ASSOCIATE PROFESSOR TENURE-TRACK POSITIONS AT DEPARTMENT OF BIOCHEMISTRY TUFTS UNIVERSITY HEALTH SCIENCES CAMPUS, BOSTON

The Department is seeking candidates who have demonstrated substantial accomplishment in their area of research and who show high potential for developing creative research programs. We will consider applicants with expertise in the following areas: eukaryotic gene organization and expression; functional aspects of protein-nucleic acid interactions; and structure-function relationships in proteins. Applications should include curriculum vitae, several reprints and a summary of planned research. Applicants should also have three letters of reference sent to: **Biochemistry Search Committee, Department of Biochemistry, Tufts University Health Sciences Campus, 136 Harrison Avenue, Boston, MA 02111.**

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

**ASSISTANT/ASSOCIATE PROFESSOR.** The Department of Microbiology and Immunology of the University of Michigan Medical School seeks an immunobiologist for a tenure-track appointment as assistant/associate professor. The successful applicant will establish an independent research program applying modern molecular/cell biological approaches to the study of the immune response. The position requires active participation in teaching of graduate and medical students. Salary support, a well-equipped laboratory and start-up funds are available from departmental resources. Send curriculum vitae, a brief statement of research interests and names and addresses of three referees by 30 December 1988 to:

**Immunology Search Chairman  
Department of Microbiology and Immunology  
The University of Michigan Medical School  
M6643/0620 Medical Science Building II  
Ann Arbor, MI 48109-0620**

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

### ASSISTANT/ASSOCIATE PROFESSOR

The Department of Microbiology and Molecular Genetics at the University of Medicine and Dentistry of New Jersey (UMDNJ)—New Jersey Medical School is seeking several outstanding scientists (Ph.D. or M.D.) for tenure-track, assistant or associate professor positions to be filled in 1989 to 1990. Successful candidates will be expected to establish a strong basic research program that is molecular in its approach and to participate in Medical and Graduate School teaching. The Department has excellent facilities and is part of a large medical complex. We are particularly interested in candidates studying molecular oncogenesis, retroviruses (especially HIV) or other viral systems. However, we encourage all qualified candidates with interests in molecular biology to apply.

Send curriculum vitae, a statement of research interests and names and addresses of three references to: **Dr. Lynn S. Ripley, Faculty Search Committee, Department of Microbiology and Molecular Genetics, UMDNJ-New Jersey Medical School, 185 South Orange Avenue, Newark, NJ 07103.**

*UMDNJ is an Equal Opportunity/Affirmative Action Employer.*

### ASSISTANT/ASSOCIATE PROFESSOR IN BACTERIAL PATHOGENESIS

The Department of Microbiology, Colorado State University, seeks applicants with Ph.D., D.V.M./Ph.D., M.D./Ph.D. or equivalent qualifications for a tenure-track position in an area related to molecular mechanisms of bacterial pathogenesis in human or veterinary diseases. Teaching in the graduate and undergraduate programs in microbial pathogenesis will be required. Applications and inquiries may be sent to: **Dr. P. J. Brennan, Chairman, Search Committee, Department of Microbiology, Colorado State University, Fort Collins, CO 80523.** Closing date is 15 December 1988 (or until a suitable candidate is found). *Colorado State University is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

## POSITIONS OPEN

### ASSISTANT/ASSOCIATE PROFESSORSHIPS IN MOLECULAR PHARMACOLOGY ALBERT EINSTEIN COLLEGE OF MEDICINE

Individuals with a record of excellence in postdoctoral research who can apply skills in biochemistry, molecular biology, genetics and cell biology to solve problems relevant to molecular pharmacology are being sought. Candidates are expected to devise an innovative research program and participate in teaching. The theme of the transmission of information and molecules across membranes is the focus for recruitment. Research areas of interest include: mechanisms of drug, hormone, growth factor and neurotransmitter actions; regulation of gene expression and differentiation by carcinogens, hormones and therapeutic agents; molecular basis of drug resistance; structure, function and regulation of receptors and channels; molecular parasitology, signalling mediated by calcium-calmodulin and protein phosphorylation and reconstitution of membrane functions from purified components. Candidates should submit curriculum vitae, research plan, and the names of four referees who can evaluate their research capabilities to: **Ms. Ginny Privitar, Administrator, Department of Molecular Pharmacology, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, NY 10461.**

*Equal Opportunity Employer*

### BEHAVIORAL NEUROSCIENCE

The Department of Psychology, University of Florida, invites applications for a tenure-track position at the **ASSISTANT OR ASSOCIATE PROFESSOR** level, starting August 1989. Candidates should have a research program in any area of psychobiology, but preferably one that includes the application of modern neurobiological techniques to the study of behavior. *Women and minority-group applications are encouraged.* Send curriculum vitae, a personal statement including past experience in both research and teaching and future goals, up to three reprints, and arrange for three letters of reference to be sent to: **Dr. Neil Rowland, Psychobiology Search, Department of Psychology, University of Florida, Gainesville, FL 32611.** Closing date: 31 December 1988. *The University of Florida is an Equal Opportunity/Affirmative Action Employer.*

### BIOCHEMIST—DUKE UNIVERSITY MEDICAL CENTER

The Connective Tissue Laboratory of the Department of Medicine is seeking Ph.D. or M.D. candidates for research associate and/or postdoctoral fellow. The laboratory is engaged in studies designed to explore the regulation of collagen biosynthesis and collagen gene mutations in inherited connective tissue diseases. Previous experience in protein chemistry and molecular biology is preferred. Send résumé and names of three references to: **Sheldon R. Pinnell, M.D. and Richard Wenstrup, M.D.—Department of Medicine, Box 3135, Duke University Medical Center, Durham, NC 27710.** *Equal Opportunity Employer.*

### BIOMEDICAL MASS SPECTROSCOPIST

The University of Kentucky invites applications for a tenure-track faculty position in biomedical mass spectrometry. The successful applicant should possess the ability and willingness to assume directorship of a new Biomedical Mass Spectrometry facility. A Ph.D. in chemistry or the biomedical/pharmaceutical sciences with extensive experience in mass spectrometry is essential. The applicant should be willing to interact with a wide variety of biomedical scientists to develop both a collaborative and independent research funding base. To apply, send curriculum vitae including publication list and funding history, and names of three references to:

**Dr. H. B. Kostenbauder  
Associate Dean for Research  
College of Pharmacy  
University of Kentucky  
Lexington, KY 40536-0082**

Applications should be received by 15 December 1988.

*Affirmative Action/Equal Opportunity Employer.*



## **CONGRESSIONAL SCIENCE AND ENGINEERING FELLOWSHIPS**

### **Applications Invited**

The American Association for the Advancement of Science (AAAS) invites applications for two 1-year Congressional Science and Engineering Fellowships it will offer for the period beginning 1 September 1989. The fellowship program provides an opportunity for accomplished and societally aware postdoctoral to mid-career scientists and engineers to participate in and contribute to the public policymaking processes within the Congress. Fellows work as special legislative assistants within the congressional staff system.

Persons may apply from any physical, biological or behavioral science or any field of engineering. The term "science" is used broadly to include the system sciences, public health, and other technical professions. In addition to the fellowships awarded by the AAAS, about 15 others are given by other participating professional societies. The AAAS runs a year-long seminar program for both its own Congressional Science and Engineering Fellows and those selected by the participating societies. Addresses of all participating societies are available from the address listed below.

The 1989-1990 AAAS Congressional Science and Engineering Fellows will receive a stipend of \$30,000; an additional \$2,000 is available for relocation expenses and travel in connection with the program.

The deadline for submission of application materials is 15 January 1989. The award will be announced about 1 May 1989. For detailed information on the program and specific application requirements, write:

**Congressional Science and Engineering Fellows Program  
American Association for the Advancement of Science  
1333 H Street, NW, Washington, DC 20005  
Telephone: (202) 326-6600**

## **EXECUTIVE BRANCH**

## **SCIENCE AND ENGINEERING FELLOWSHIP**

### **Applications Invited**

The American Association for the Advancement of Science (AAAS) invites applications for a 1-year Executive Branch Science and Engineering Fellowship to begin in early September, 1989. The fellowship program provides an opportunity for an accomplished and societally aware postdoctoral to mid-career scientist to participate in and contribute to the public policymaking processes within one of several agencies in the Executive Branch of the Federal government. Placement will be made at an appropriate Federal agency, based upon the agency's needs and the interests and expertise of the Fellow. Included in the fellowship program is an intensive science policy orientation and a year-long seminar series dealing with a wide array of science and technology issues.

Prospective Fellows may apply from any physical, biological, or behavioral science or any field of engineering. Qualified applicants must demonstrate exceptional competence in some area of science or engineering, be flexible, and have some experience and/or a strong interest in applying knowledge toward the solution of societal problems.

The 1989-1990 AAAS Executive Branch Science and Engineering Fellow will receive a stipend of \$30,000; an additional \$2,000 is available for relocation expenses and travel in connection with the program.

Applications must be submitted by 15 January 1989, with the award to be announced about 1 May 1989. For detailed program information and specific application requirements, write:

**Executive Branch Science and Engineering Fellowship Program  
American Association for the Advancement of Science  
1333 H Street, NW, Washington, DC 20005  
Telephone: (202) 326-6600**

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## **SCIENCE, ENGINEERING, AND DIPLOMACY FELLOWSHIPS**

### **Applications Invited**

The American Association for the Advancement of Science (AAAS), in cooperation with the U.S. Agency for International Development (AID) and the Department of State (STATE) is seeking applicants for approximately 12 Science, Engineering, and Diplomacy Fellowships. Fellows will spend 1 year, beginning 1 September 1989, working either in the Bureau of Oceans and International Environmental and Scientific Affairs of the Department of State or in one of several bureaus and offices of the Agency for International Development. Other assignments may also be possible.

Prospective Fellows must demonstrate exceptional competence in some area of science or engineering, be flexible, have some experience and/or a strong interest in applying knowledge toward the solution of problems in the area of foreign affairs, and have a Ph.D. or equivalent in years of experience. Awardees will work on scientific and technical subjects in international affairs; foreign policy for STATE and international development for AID. In general, individuals are urged to apply from any area of physical, biological, behavioral, and social science and engineering and whose experience and training is applicable to any one of the following areas: food and agriculture; health and population; nuclear nonproliferation; scientific exchange; forestry, natural resources and ecology; oceans and fisheries; communications; national security; and human resources and education, among others.

The Fellows will serve a 1-year appointment at a salary consistent with education level and experience, if possible, but not exceeding the GS-12 level (beginning at about \$34,000). A security clearance process will be initiated after selection. The clearance must be obtained before a selectee can begin work in STATE or AID and the fellowship award is contingent upon the selectee obtaining this clearance.

Deadline for receipt of applications is 15 January 1989. For more information and application details write:

**Science, Engineering, and Diplomacy Fellows Program  
American Association for the Advancement of Science  
1333 H Street, NW, Washington, DC 20005  
Telephone: (202) 326-6600**

## POSITIONS OPEN

**BIOLOGY:** Two tenure-track positions at **ASSISTANT PROFESSOR** rank, Berea College, to begin September 1989. Ph.D. required, along with demonstrated commitment to undergraduate teaching and ability to involve students in research. Cell physiology and molecular biology: Teach advanced courses in cell physiology and genetics, and other courses for majors and nonmajors. Anatomy and physiology: Teach human anatomy and physiology, advanced physiology, and other courses for majors and nonmajors. *In keeping with the College's Christian tradition and its emphasis on the worth and dignity of all persons, Berea encourages applications from women and members of minority groups.* Submit letter of application, curriculum vitae, and supporting materials by 15 December 1988 to: **Dr. Ralph Thompson, Biology Department, Berea College, Berea, KY 40404.**

**CELLULAR NEUROPHYSIOLOGIST/ANIMAL PHYSIOLOGIST.** The Department of Biology at Bryn Mawr College has a tenure-track opening for a highly qualified young investigator having an active interest in both research and teaching. The successful applicant will be expected to establish a funded research program and to participate in the undergraduate and graduate teaching programs of the department and of an anticipated new interdepartmental program in neural and behavioral sciences. We seek a broadly trained cellular neurobiologist whose program will complement existing strengths in neuroscience, and who is able to teach both cellular neurophysiology and animal physiology. Applications, including curriculum vitae, a statement of research and teaching interests, selected reprints, and the names of three references, should be sent to: **Dr. Paul Grobstein, Department of Biology, Bryn Mawr College, Bryn Mawr, PA 19010.** *Affirmative Action/Equal Opportunity Employer.*

### CHAIR DEPARTMENT OF PHARMACOLOGY UNIVERSITY OF KENTUCKY COLLEGE OF MEDICINE

The College of Medicine, Albert B. Chandler Medical Center, of the University of Kentucky is searching for an individual who is strongly committed to academic excellence to provide professional and academic leadership for the educational and research programs of the Department of Pharmacology. The department has a long tradition of excellence in research and education, with particular emphasis in neuropharmacology. The University is committed to excellence and has developed Commonwealth Centers of Excellence in related areas of science that enhance the academic environment. Please reply with curriculum vitae and a list of at least three references to:

**Thomas L. Roszman, Ph.D., Chairman**  
Search Committee for Chair for Pharmacology  
Department of Microbiology and Immunology  
University of Kentucky College of Medicine  
Lexington, KY 40536-0084

### CHAIRMAN/CHAIRWOMAN DEPARTMENT OF BIOLOGICAL SCIENCES FLORIDA ATLANTIC UNIVERSITY

The Florida Atlantic University Department of Biological Sciences invites nominations and applications for the position of Department Chairman/Chairwoman. Candidates should have a distinguished record of achievement in research, a commitment to excellence in teaching, demonstrated skills in administration, and an interest in leading a department of 16 faculty members through the development of a Ph.D. program. The department currently offers baccalaureate- and master's-level degrees. The successful applicant will be expected to maintain an active research program and teach at both the graduate and undergraduate levels.

Nominations, inquiries, and applications (to include curriculum vitae, a description of research activities and administrative experience, and the names of three references) should be sent to: **Dr. Sheldon Dobkin, Chairman, Department of Biological Sciences, Florida Atlantic University, Boca Raton, FL 33431.** Applications should be received by 15 January 1989.

*Florida Atlantic University is an Affirmative Action/Equal Opportunity Employer.*

## POSITIONS OPEN

Allegheny College, **BIOLOGY FACULTY POSITIONS.** At least two tenure-track faculty positions (of the three listed below), will be available in September 1989. In addition to teaching the courses indicated, establishment of an active research program and direction of undergraduate research projects is expected. These positions will be funded initially by a grant from the Howard Hughes Medical Institute, and include research support on a competitive basis. We are seeking individuals with demonstrated excellence in both teaching and research, as well as a strong commitment to liberal arts education. In addition, the Biology Department is in the design stage of a major new facility; successful applicants will be expected to participate in the design of their teaching, research, and support spaces.

**ANIMAL MOLECULAR BIOLOGY**—We seek a person with expertise in some aspect of the molecular biology of gene structure, control, or function in an animal system. Teaching duties will include genetics, molecular biology, a seminar and a freshman-level biology course.

**IMMUNOLOGY**—This position will include teaching immunology, cell biology, a seminar, and a freshman-level biology course.

**PLANT VIROLOGY/PHYSIOLOGY**—We seek a person with expertise in plant virology and physiology. Skills in electron microscopy are desirable. Duties will include teaching plant physiology, introductory biology, a seminar, and an advanced course in the candidate's specialty.

Send curriculum vitae, three reference letters, a statement of teaching and research interests, and graduate transcripts to: **Dr. Glen Wurst, Chair, Biology Department, Allegheny College, Meadville, PA 16335** by 21 November 1988. *Equal Opportunity Employer.*

### DEPARTMENT OF BIOLOGY THE JOHNS HOPKINS UNIVERSITY

The Department of Biology invites nominations and applications for the position of **CHAIRMAN** of the Department. Qualifications: Ph.D. or equivalent. The candidate should be a well-established investigator with demonstrated leadership and administrative experience.

The Department of Biology offers a broad program of undergraduate, graduate and postgraduate study in the Biological Sciences including: Biochemistry and biophysical chemistry, cell biology, developmental biology and genetics.

Applications should be postmarked not later than 15 December 1988. *Résumé to:*

**Dr. William F. Harrington**  
Chairman, Search Committee  
The Johns Hopkins University  
Baltimore, MD 21218

*The Johns Hopkins University is an Equal Opportunity/Affirmative Action Employer.*

### CHAIRPERSON OF DEPARTMENT OF NUTRITION

Case Western Reserve University School of Medicine and the Mt. Sinai Medical Center: Applications are invited for the position of chairperson of the Department of Nutrition and Professor of Nutrition at Case Western Reserve University School of Medicine and The Mt. Sinai Medical Center. The Department of Nutrition is expanding its initiatives in basic science research. A Pew Foundation Center for Molecular Nutrition has been established. We seek an individual with strong credentials who can direct the development of new laboratories and additional faculty in this area. The Department has strong independent and coordinate teaching programs and provides consultation and clinical nutrition to specialty services. The new chairperson should, therefore, be able to assist in continuing and enhancing these programs at the undergraduate and graduate levels and in other Case Western Reserve University-affiliated teaching hospitals. *Case Western Reserve University and The Mt. Sinai Medical Center are Equal Opportunity Employers.* Applications should be sent to:

**Saul Genuth, M.D., Chairman of the**  
Search Committee  
Professor of Medicine  
Case Western Reserve University  
The Mt. Sinai Medical Center  
One Mt. Sinai Drive  
Cleveland, OH 44106-4198

## POSITION ANNOUNCEMENT NEUROBIOLOGIST

The Department of Cell and Structural Biology at the University of Illinois, Urbana-Champaign, invites applications for a **TENURE-TRACK** position in **NEUROBIOLOGY** at the Assistant Professor level in the College of Medicine. The position is available August 21, 1989. Applicants should hold the Ph.D. and/or M.D. degree and show exceptional promise in research, which preferably should address cell and molecular issues in neurobiology. Salary will be commensurate with rank and experience. Duties will include participating in the teaching of neuroscience to medical and graduate students. The UIUC offers exceptional and broad-based supporting resources. These include the Biomedical Magnetic Resonance Laboratory, Center for Electron Microscopy, Center for Biotechnology, and Cell Science Center. The UIUC is a National Center for Supercomputing Applications and is home to the Beckman Institute for Advanced Science and Technology. Applicants are requested to send a curriculum vitae, a summary of research interests, and three letters of reference to:

**Dr. J. A. Weyhenmeyer**  
Search Committee Chairman  
Department of Cell and Structural Biology  
University of Illinois  
505 South Goodwin Avenue Urbana, Illinois 61801

Telephone: (217) 333-6118  
In order to ensure full consideration, applications should be received by January 15, 1989. Interviews may be conducted before January 15, 1989, but all applications received by that date will receive full consideration and the final selection will not be made until after that date. The University of Illinois is an Affirmative Action/Equal Opportunity Employer.

## Molecular Biologist

Genelabs is focusing on the development of novel medical therapeutics and diagnostics. Performance and pioneering technology are what set us apart. We have attracted outstanding scientists committed to basic research, collaborative work with academic laboratories and a team approach to solving human health care problems.

We presently have an opening for a PhD with 2-3 years experience in molecular biology and a solid background in E. coli genetics. Preference will be given to candidates with experience in prokaryotic/eukaryotic expression systems. You will be coordinating efforts in expression of heterologous proteins for both research and production as well as interacting with principal investigators and project leaders who will benefit from your expertise.

Our work environment is exceptional in our beautifully expanded facilities in the Seaport Centre located on the San Francisco Peninsula. Please forward CV and names of 3 references in confidence to: **GENELABS INCORPORATED, 505 Penobscot Drive, Redwood City, CA 94063.** Attn: Human Resources. We are an equal opportunity employer.



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INTERNATIONAL CENTRE FOR  
DIARRHOEAL DISEASE  
RESEARCH, BANGLADESH

#### VACANCIES

The International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B), is a non-profit international medical research institution situated in Dhaka, Bangladesh. Its aims are to conduct research and training in diarrhoeal diseases and related subjects of nutrition and fertility, and to develop improved health programmes for control of diarrhoeal diseases in developing countries. It is also involved in major demographic surveys. There are four scientific divisions: Clinical Sciences, Laboratory Sciences, Community Health and Population Sciences.

Salary, scales, rules and regulations are similar to those followed by the UN. The 1,400 employees include 200 researchers coming from 11 countries. ICDDR,B is supported by 21 countries and international organizations, including WHO and UNICEF.

##### 1. MICROBIOLOGIST

The ICDDR,B seeks an Assistant Scientist for immediate appointment to help establish the *E. coli* Diarrhoea Unit in the Department of Research and Development in the Division of Laboratory Sciences. The main objectives of the Department are to conduct research on the aetiology of diarrhoeal disease with a view to develop measures for prevention and treatment.

**Requirements:** PhD, preferably with post doctoral experience, but must have research experience as demonstrated by publications in international scientific journals. The appointed person is expected to train and supervise staff in bacterial genetic and DNA hybridization relevant to enteric bacteria and viruses including phages; to participate and initiate research projects related to diarrhoeagenic bacteria; and to assist in the development of rapid diagnostic tests. The position is in the Division of Laboratory Sciences which is headed by Dr. S. Tzipori to whom inquiries may be directed.

##### 2. VIROLOGIST

The ICDDR,B also seeks an Assistant Scientist for immediate appointment to help establish the Virology & Cell Culture Unit in the Department of Research and Development in the Division of Laboratory Sciences. The main objectives of the department are to conduct research on diarrhoeal diseases with a view to develop measures for prevention and control.

**Requirements:** PhD, preferably with post doctoral experience, but must have research experience as demonstrated by publications in international scientific journals. The appointed person will be expected to train and supervise staff in basic virological and related serological techniques (neutralization, ELISA, Immunofluorescence), development and maintenance of monoclonal antibody, gelelectrophoresis, western blot and electron microscopy. Experience with DNA hybridization will be an advantage. The appointed person will be expected to take part and initiate research projects related to viral gastroenteritis, and assist with development of rapid diagnostic tests. This position is also in the Division of Laboratory Sciences which is headed by Dr. S. Tzipori to whom inquiries may be directed.

The appointment to these positions will be made for two to three years at UN salary level P-1 up to P-3 according to experience and qualifications.

Applications for the above positions with a detailed *curriculum vitae*, together with names and addresses of three referees should be sent to the Personnel Manager (Professional), ICDDR,B, GPO Box 128, Dhaka, -1000, Bangladesh. A detailed job description will be provided on request.

## Research Scientist / Biologist

Triton Biosciences Inc., a subsidiary of Shell Oil Company, is a fully integrated pharmaceutical and diagnostics company focused on product development opportunities in the area of cancer and other life-threatening diseases.

The successful candidate will design and manage extramural research collaborations in support of the development of growth factor therapeutics. Will also identify, establish and monitor new extramural (therapeutic) research projects. Candidates should have a PhD in cell biology, experimental pathology, pharmacology or related field and 5+ years experience. Animal disease models, industrial experience in therapeutics R&D, and significant organizational and communication skills are preferred for this highly visible assignment. Experience in growth factor biology is desirable.

Triton is located in the San Francisco Bay Area and offers competitive salaries and benefits, including relocation assistance. For consideration, send C.V. with salary history and references to: Triton Biosciences Inc., Box JCJ, 1501 Harbor Bay Parkway, Alameda, CA 94501. An Equal Opportunity Employer.



Triton Biosciences Inc.

## RESEARCH VIROLOGIST

### MS Level

Burroughs Wellcome Co., a recognized leader among research-based pharmaceutical companies, has the following challenging opportunity available.

The Division of Virology has an immediate opening for a Research Scientist I to provide basic support for the virus research laboratory in the following areas: biochemical virology research aimed at elucidating the mechanism of action of antiviral compounds; basic molecular research efforts directed at identifying potential targets for antiviral chemotherapy; defining the nature of mutation in drug-resistant clinical isolates.

To qualify, your background must include the following: MS in microbiology, biochemistry, or related field OR a bachelor's degree in an area as above, with three years' experience in the microbiological field; one year recombinant DNA experience; one year basic cell culture experience. Experience in the following is preferred:

- Virus cultivation/purification methodology
- Nucleic acid and protein biochemistry

Burroughs Wellcome Co. offers the best overall benefits program in the industry including top pension, health, dental, and savings plans as well as a competitive salary. The Research Triangle Park area offers an excellent environment for living, recreation, cultural activities and academics.

Individuals interested in career growth in the pharmaceutical industry should send a resume by Nov. 28, 1988, to: **Recruiting and Staffing Administrator, Burroughs Wellcome Co., Pos. #60579-4, 3030 Cornwallis Rd., Research Triangle Park, NC 27709.**



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## POSITIONS OPEN

### CHAIRPERSON DEPARTMENT OF BIOLOGY

The University of Miami is seeking a highly qualified individual to serve as chairperson of the Department of Biology. Candidates should have an active program of funded research and strong leadership skills. The chairperson will be expected to play a major role in filling three open faculty lines. The department includes 21 faculty whose major research strengths lie in the areas of behavior, ecology, and tropical biology. Associated biological research units at the University and in Miami include the Rosenstiel School of Marine and Atmospheric Science, the Medical School, and Fairchild Tropical Gardens. The University is a charter member of the Organization for Tropical Studies. Candidates should submit curriculum vitae and the names and addresses of four references to: **Dr. Theodore H. Fleming, Chairperson of Search Committee, Department of Biology, University of Miami, Coral Gables, FL 33124.** Deadline for applications is 15 December 1988 or until the position is filled. An Equal Opportunity/Affirmative Action Employer.

### CHAIRPERSON DEPARTMENT OF RADIOLOGY AND RADIATION BIOLOGY COLORADO STATE UNIVERSITY

The College of Veterinary Medicine and Biomedical Sciences is accepting applications for the position of chairperson in the Department of Radiology and Radiation Biology. The Department consists of 13 tenured faculty who have developed an international reputation for excellence in research, teaching, and service. Five academic programs provide graduate education and research opportunities for students and postdoctoral appointees in cellular and molecular radiation biology, mammalian radiation biology, health physics, radioecology and veterinary diagnostic radiology. Requirements include administrative experience as well as a demonstrated ability to maintain an active research program and a dedication to teaching. Interested individuals should send inquiries or a letter of application accompanied by curriculum vitae and the names of three references to: **Dr. Stephen Roper, Chairman, Department of Anatomy and Neurobiology, Colorado State University, Fort Collins, CO 80523. Telephone: 303-491-5847.** Applications will be accepted until 1 January 1989. Colorado State University is an Equal Opportunity/Affirmative Action Employer.

**DEVELOPMENTAL BIOLOGIST:** The Department of Embryology of the Carnegie Institution of Washington seeks a staff (faculty) member who will carry out independent research in some aspect of Developmental Biology. Our Department is part of a nonprofit research institution and is situated on the Johns Hopkins University Homewood campus. Applicants should send curriculum vitae, a statement of research interest, and have three letters of recommendation sent to: **Director, Department of Embryology, Carnegie Institution of Washington, 115 University Parkway, Baltimore, MD 21210.** An Equal Opportunity/Affirmative Action Employer.

The Eppley Institute for Cancer Research of the University of Nebraska Medical Center invites applications for a **FACULTY POSITION** (tenure-leading) at the assistant professor level to strengthen its program in the molecular biology of cancer. Candidates should possess a Ph.D. or M.D., have several years of postdoctoral experience, and should be engaged in such research areas as oncogenic virology, molecular genetics, tissue-specific gene expression, or development of tools for gene therapy. Start-up funds and a competitive salary are available. The successful candidate will be expected to contribute to the academic programs of a department in the College of Medicine or Pharmacy in which he/she will hold an appointment. Submit curriculum vitae, a one-page summary of your research interests, and have three letters of reference forwarded to: **Dr. Edward Bresnick, Director, Eppley Institute for Research in Cancer and Allied Diseases, University of Nebraska Medical Center, Omaha, NE 68105.** The University of Nebraska Medical Center is an Equal Opportunity Employer/Affirmative Action Employer. Please refer to position #8-6158. Closing date: 30 November 1988.

## POSITIONS OPEN

### MASSACHUSETTS GENERAL HOSPITAL HARVARD MEDICAL SCHOOL CHIEF OF CARDIOLOGY

Massachusetts General Hospital and Harvard Medical School are seeking a professor of medicine to serve as chief of the cardiac unit at Massachusetts General Hospital. The successful candidate must be a distinguished clinician and investigator in the field of cardiology, with recognized achievements as a leader and administrator. The Chief of the Cardiac Unit must be capable of initiating and maintaining a broad program of research, as well as organizing and directing a large teaching program for residents, medical students, graduate fellows, and other health professionals. The Unit has subspecialty training programs in echocardiography, therapeutic catheterization, nuclear cardiology, magnetic resonance imaging, cardiac pacing, and electrophysiology, in addition to general cardiology. The Chief of the Cardiac Unit will be responsible for directing an excellent, large, academically oriented clinical service. Reply with curriculum vitae and statement of research interests to: **Karin E. Wetmore, Office for Faculty Affairs, Harvard Medical School, 25 Shattuck Street, A-302, Boston, MA 02115.**

Harvard Medical School and the Massachusetts General Hospital are Affirmative Action/Equal Opportunity Employers.

**ENZYMOLOGIST/BIOCHEMIST/X-RAY CRYSTALLOGRAPHY POSTDOCTORAL** position available to join our ongoing research efforts examining the structural basis of enzyme specificity using a combination of x-ray crystallography, site-directed mutagenesis and kinetics analysis.  $\alpha$ -Lytic protease provides an ideal model system for examining all aspects of specificity structure-function relationships. Two Xentronix area detectors, two diffractometers, two E&S displays, and state-of-the-art computational resources are available. Applicants should send curriculum vitae and names and addresses of three referees to: **Dr. David A. Agard, HHMI Structural Biology Unit, Department of Biochemistry, UCSF Medical Center, San Francisco, CA 94143-0448.**

### FACULTY, MOLECULAR VIROLOGY

The Department of Immunology and Medical Microbiology of the University of Florida, College of Medicine invites applicants for a 12-month tenure-track research and teaching position to complement ongoing programs in virology, immunology, molecular biology and bacterial pathogenesis. The individual will develop a research program preferably in molecular virology at the assistant professor level. However, the rank is negotiable and individuals with interests in related areas will also be considered. Ph.D., M.D. or equivalent degree and postdoctoral training are required. Tentative starting date is 1 June 1989 or thereafter. Send curriculum vitae, bibliography, brief description of research plans and names and addresses of three references by 15 November 1988 to: **Dr. William W. Hauswirth, Box J-266 JHMC, University of Florida, Gainesville, FL 32610.**

Equal Opportunity/Affirmative Action Employer

The Biology Department, California State University, Los Angeles will fill two tenure-track **FACULTY POSITIONS** beginning fall 1989. Successful candidates are expected to teach undergraduate and graduate courses, and to develop a productive, independently funded research program. Research space provided. Ph.D. required. Postdoctoral experience preferred.

**Molecular Biologist,** Assistant/Associate Professor. Research interest in molecular biology of plants. He/she will teach courses in a Genetic Engineering Certificate Program and Plant Physiology. The department has an NSF funded molecular biology facility.

**Comparative Physiologist/Adaptational Biologist,** Assistant Professor. Research interests in comparative physiology of animals. He/she will restructure a comparative physiology course, teach human anatomy and physiology for nursing students, and develop a course in area of expertise.

Submit curriculum vitae, statement of research plans, and three letters of reference by 1 January, 1989; **Dr. Alan Muchlinski, Biology Search Committee, California State University, Los Angeles, Los Angeles, CA 90032.**

Equal Opportunity/Affirmative Action/Handicapped Employer.

## POSITIONS OPEN

The Department of Surgery, University of North Carolina School of Medicine, is seeking a full-time **FACULTY MEMBER** who has completed his/her graduate education in general surgery and who has demonstrated ability as a teacher and clinician. Academic rank is dependent upon qualifications of individual. The successful applicant should have completed fellowship training in surgical oncology. He/she should have a special competence in tumor immunology with the ability to carry out basic and clinical investigations in this field. Interested applicants should forward their curriculum vitae and bibliography to: **George F. Sheldon, M.D., Chairman, Department of Surgery, University of North Carolina, 136 Burnett-Womack Building 229H, CB #7050, Chapel Hill, NC 27599.** The University of North Carolina is an Equal Opportunity/Affirmative Action Employer. Minority and female applicants are encouraged to voluntarily identify themselves.

### FACULTY POSITION DEPARTMENT OF MICROBIOLOGY MARSHALL UNIVERSITY SCHOOL OF MEDICINE Huntington, West Virginia 25755-9330

**IMMUNOLOGIST.** Assistant to associate professor, tenure-track, 12-month appointment starting 1 July 1989. Applicant must have a Ph.D. and at least 2 years of postdoctoral experience in general, cellular, and viral immunology. The successful applicant will be able to participate with other faculty members in presentation of a medical curriculum course in microbiology and immunology and to present advanced aspects of immunology in the graduate curriculum. This individual will also be expected to develop an independent research program in the field and to participate in cooperative programs with other members of the faculty. Salary will be commensurate with experience. Submit curriculum vitae, summary of research interests, and names of three references by 15 December 1988 to: **Dr. Albert G. Moat, Professor and Chairman, Department of Microbiology, Marshall University School of Medicine, 1542 Spring Valley Drive, Huntington, WV 25755-9330.** Marshall University, a state university of West Virginia, is an Equal Opportunity/Affirmative Action Employer.

### FACULTY POSITION HUMAN OR MAMMALIAN GENETICS

The University of Wisconsin-Madison, Department of Medical Genetics, is inviting applications for a tenure-track position as assistant or associate professor. Preference will be given to candidates with a research emphasis in human or mammalian genetics with potential human applications. Successful candidate will be expected to develop a vigorous, independent and research program, supervise graduate students and participate in the teaching program. The appointment can be made jointly with the Department of Pediatrics if appropriate. Send curriculum vitae, statement of plans for future research, and three letters of recommendation to:

**Richard A. Spritz, Chairman  
Medical Genetics Search Committee  
Laboratory of Genetics  
445 Henry Mall  
Madison, WI 53706**

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

### DARTMOUTH COLLEGE FACULTY POSITIONS

Thayer School of Engineering is expanding and is seeking new faculty in the following areas: Electrodynamics, materials science/solid state physics, mechanical engineering (solid mechanics), image processing, geosciences (ground water or computational fluid dynamics), manufacturing (senior-level endowed chair), and computer engineering (senior-level endowed chair). For more information or to apply (submit résumé and names of three references), write to: **Dr. Carol B. Muller, Assistant Dean, Thayer School of Engineering, Dartmouth College, Hanover, NH 03755.** Review of applications will begin 15 November 1988.

Dartmouth College is an Equal Opportunity/Affirmative Action Employer and encourages applications from women and members of minority groups.

U.S. DEPARTMENT OF ENERGY  
OFFICE OF HEALTH AND ENVIRONMENTAL RESEARCH



*Alexander Hollaender*  
D I S T I N G U I S H E D  
*Postdoctoral Fellowship Program*

Research Opportunities in Energy-Related  
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- Research in OHER-sponsored programs
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- Doctoral degree received after April 1, 1987
- U.S. citizens or PRA eligible
- Information and applications



Hollaender Postdoctoral Fellowships  
University Programs Division  
Oak Ridge Associated Universities  
P.O. Box 117  
Oak Ridge, TN 37831-0117  
(615) 576-3190

Deadline January 17, 1989

NATIONAL CANCER INSTITUTE  
National Institutes of Health, Public Health Service

## CANCER PREVENTION FELLOWSHIP PROGRAM (CPFP)

The DIVISION OF CANCER PREVENTION AND CONTROL (DCPC) is accepting applications for the Cancer Prevention Fellowship Program (CPFP). The primary purpose of this program is to attract individuals from a multiplicity of health science disciplines into the field of cancer prevention and control research. The program provides for : participation in the DCPC Cancer Control Academic Program (a formal four-month course in cancer prevention and control); 20 months at NCI working directly with individual preceptors on ongoing cancer prevention and control projects; and, one year at a DCPC-approved cancer control program or State Health Department (may be optional). Funding permitting, up to 10 Fellows will be accepted for up to three years of training, beginning August 27, 1989.

### APPLICANTS MUST (BY THE DEADLINE):

1. Possess an M.D. or D.O. degree from a U.S., territorial, or Canadian medical school OR foreign medical graduates must have current ECFMG/IMG certification and have completed one year residency in a training program approved by the Accreditation Council for Graduate Medical Education --OR-- Possess other accredited U.S., territorial, or Canadian doctoral degree (Ph.D., Dr. P.H., D.D.S., etc.) in a discipline related to cancer prevention and control research (biomedical, medical, nutritional, public health or behavioral sciences). Foreign doctoral graduates must provide documented evidence that the foreign education is comparable to doctoral education received in accredited institutions noted above;
2. Possess U.S. citizenship or be a resident alien eligible for citizenship within four years;
3. Complete and return the application packet by the deadline (including arranging for official academic transcripts and four current, original letters of reference to be sent directly by the academic institutions and referees to the CPFP Coordinator).

For questions concerning the program's scientific or administrative aspects, please contact Dr. Peter Greenwald or Mrs. Barbara Redding at (301) 496-8640. Application packets may be obtained by sending a POSTCARD with your name and home address to CPFP Coordinator, NIH/NCI/DCPC/CCAB, EXPS Terrace Level, 9000 Rockville Pike, Bethesda, MD 20892. Please do not send any material until after you have read the instructions in the application packet.

**DEADLINE FOR RECEIPT OF APPLICATIONS: JANUARY 11, 1989**

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at  
40

## Research Associate Electron Microscope Laboratory

The Structural Biology Laboratory of the Rosenstiel Basic Medical Sciences Research Center is seeking a Research Associate to work on electron microscope studies of muscle structure during contraction. Duties will include all stages of specimen preparation, microscopy and photographic work, as well as general laboratory maintenance and supervision. Experience with biological microscopy is required and familiarity with freeze-etch techniques is desirable. Salary commensurate with experience.

Please send resume including salary history to  
Dr. Hugh Huxley, c/o Employee Relations, Brandeis University, P.O. Box 9110, Waltham, MA 02254-9110.

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**BRANDEIS  
UNIVERSITY**

## Developmental Biology and Plant Transformation

The Biotechnology Division of Du Pont's Agricultural Products Department is seeking an individual with training and experience in plant developmental biology and transformation technology. The successful candidate should be able to apply an understanding of plant anatomy, development, and molecular genetics in order to achieve efficient gene transfer in a number of crop species. The position also requires the ability to collaborate with a group of molecular biologists, biochemists, and cell biologists in the creation and analysis of novel plant gene expression systems. Candidates should have a PhD. with post-doctoral experience, or an MS with a minimum of five years experience in the areas described.

At Du Pont you'll find a stimulating scientific environment in a modern research facility located near Wilmington, DE. Our Mid-Atlantic location offers a wide range of academic, cultural, and recreational activities. We provide excellent compensation, benefits, and relocation assistance. Qualified candidates should send curriculum vitae with three letters of reference to: Dr. Richard Broglie, c/o Employee Relations Department, Du Pont Company, Room X-51433, Wilmington, DE 19898



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University  
of Missouri  
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**DIRECTOR  
DIVISION OF BIOLOGICAL SCIENCES**

The Division of Biological Sciences of the College of Arts and Science invites applications and nominations for Professor and Director. Candidates must have an outstanding research program, a record of scholarly achievement, strong leadership qualities, and commitment to excellence in undergraduate and graduate education. Qualified women and members of minority groups are urged to apply.

**STRENGTHS:** This multidisciplinary department of 35 faculty has strong extramural research programs in cell and molecular biology, genetics, neurobiology and behavior, plant sciences, reproductive biology, developmental biology, evolution and ecology. The Columbia campus has 23,000 students in 14 Colleges including Medicine, Agriculture, Veterinary Medicine and Engineering. Our faculty are involved in collaborative research with each of these professional schools, and they are active participants in campus-wide programs in Molecular Biology and Food for the 21st Century. Service facilities in the Department include research greenhouses, an electron microscopy lab and new animal research facilities. Campus services include oligonucleotide synthesis, immunobiology, protein sequencing, HPLC, NMR, GC-mass spectrometry, computer services, and a research nuclear reactor.

**CHALLENGES:** To build on the momentum of recent program development, lead recruitment of at least eight new faculty, and expand relationships with other campus programs in biological and biotechnological research.

Nominations and applications in response to this announcement should be received no later than January 15, 1989 for a preferred fall, 1989 or January, 1990 appointment. Requests for information, letters of nomination, or applications including C.V. and names and telephone numbers of four or more references should be sent to:

Dr. H. Carl Gerhardt, Search Committee Chair  
Division of Biological Sciences, Tucker Hall  
University of Missouri  
Columbia, MO 65211

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

## Assistant or Associate Scientist Marine Meteorologist

Boundary layer Marine Meteorologist to work with a group spanning ocean engineering and physical oceanography, addressing problems of air-sea interactions. Ph.D. or equivalent in atmospheric or meteorological science and experience in field observations of lower atmosphere processes including momentum and buoyancy fluxes, aerosols, gas exchange, evaporation and/or structure in the flow field.

Apply to:

**Personnel Manager  
Box 54P**



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OCEANOGRAPHIC  
INSTITUTION**

**Woods Hole, MA 02543**

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### **The Growth Factor Research Department of Merck Research Laboratories has two posi- tions open in the following areas:**

**SENIOR SCIENTIST** - Membrane Protein Purification and Characterization. A Ph.D biochemist with one or more years of postdoctoral experience is being sought to establish a research program centered on the purification and characterization of membrane bound proteins. Expertise in protein purification and characterization is essential and specific experience in the purification of membrane bound proteins is desirable.

**JUNIOR SCIENTIST** - Molecular Biology of Growth Factor Expression. An opportunity is available for a BS/MS molecular biologist to participate in research on the transcriptional and translational control of protein growth factor expression. Candidates with two or more years research experience including expertise in basic recombinant DNA techniques are encouraged to apply.

Merck Sharp and Dohme Research Laboratories are located in Rahway, New Jersey, approximately 25 miles from New York City. Our salaries, benefits and growth potential are excellent. Interested candidates should submit their resume with the name of three references and salary requirements to **Ms. Jacqueline A. Eiermann, Merck & Co. Inc. P.O. Box 2000, Rahway, New Jersey 07065.**

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**Merck & Co., Inc.**

## Staff Researcher

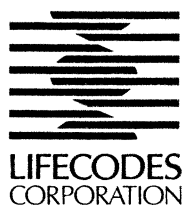
Syntex, an international leader in the pharmaceutical and health care industries, has an immediate opening in our Palo Alto research headquarters located on the San Francisco Peninsula.

The individual chosen will have responsibility for expanding the area of thrombosis/hemostasis. Expertise and familiarity with the modern science of both cellular and soluble contributions to hemostasis are essential. The successful candidate will be able to develop agents useful for preventing thrombosis, enhancing fibrinolysis, and modifying coagulation. Requires a PhD plus 3 years' experience in fields related to position. Post-doctorate work is preferred.



Syntex offers a competitive compensation and benefits package in campus-like surroundings. For immediate consideration, please send your resume, to: Syntex, Professional Staffing, Dept. KH/S21, 3401 Hillview Ave., Palo Alto, CA 94304. We are an equal opportunity employer.





### **VIRAL VECTOR DELIVERY SYSTEMS/GROUP LEADER**

Lifecodes Corporation, a leader in the use of DNA probes for human genetic diagnostics & therapeutics, is searching for a dynamic individual to build a strong innovative group concerned with the delivery of DNA to cells via viral vectors. Qualified applicants will have a Ph.D. and postdoctoral experience, which includes extensive work with viral delivery systems.

We also have openings for BS/MS level scientists experienced with tissue culture and/or recombinant DNA.

Lifecodes, a wholly-owned subsidiary of Quantum Chemical Corporation, is located just 30 minutes north of Manhattan in a campus-like park.

We offer an extremely attractive salary/benefits package, including a complete medical plan, 401-K savings and pension plans, and a stock bonus plan.

To apply, send your C.V. and names and telephone numbers of three references, to:

**Dr. Jeffrey Glassberg**  
**LIFECODES CORPORATION**  
Saw Mill River Road  
Valhalla, NY 10595

## **BioHybrid Technologies, Inc.**

BioHybrid Technologies is a Massachusetts based corporation developing artificial internal organs which incorporate living cells. Current emphasis is on diabetes research with pancreatic islets and beta cells.

### **Research Scientist**

A Senior Scientist position is available for a highly motivated individual with a background in cell biology. Requires PhD or MD with a minimum of two years post-doctoral research experience involving mammalian cell transportation and/or culture. Familiarity with islet/endocrine research desirable.

### **BioHybrid Technologies, Inc.**

Attn: Personnel  
910 Turnpike Road  
Shrewsbury, MA 01545

## **MOLECULAR BIOLOGIST**

**(Research Fellow)**

**A\$30,100-A\$36,937**

**DIVISION OF PLANT INDUSTRY  
BLACK MOUNTAIN, CANBERRA, ACT  
AUSTRALIA**

**GENERAL:** The Division of Plant Industry has the broad aim of increasing the efficiency of agricultural production through research in the plant sciences, including molecular biology, biochemistry, physiology, plant nutrition and microbiology, and for the development of new crops and agricultural management practices. It has its Headquarters in Canberra with wheat and cotton research units in Sydney and Narrabri, respectively. The strong microbiology group has its principal interests in the study and management of nitrogen fixation and in the breakdown of crop residues in soil.

**THE JOB:** The appointee will be responsible for the cloning, manipulation and introduction of cellulase genes into a variety of soil bacteria and study of the cellulolytic activity of bacterial derivatives under containment conditions in both the presence and absence of plants. The appointee will be based in the Canberra laboratories.

**THE PERSON:** Applicants should have a PhD or equivalent qualification in microbiology or microbial genetics, with experience in molecular biology. Experience in soil microbiology and/or host-plant interactions is desirable.

**CONDITIONS:** A term of three years from 1 January 1989 with Australian Government Superannuation benefits available. The position is supported by the Australian Wheat Research Council.

**MORE INFORMATION:** Prospective applicants are invited to telephone either Dr J.M. Watson 61 62 46 5780, Dr D.M. Halsall 61 62 46 5391 or Dr A.H. Gibson 61 62 46 5088 for further information. A copy of the detailed duty statement and selection criteria may be obtained by telephoning 61 62 46 5206.

**APPLICATIONS:** Applications should be submitted by 4 weeks from date of publication and quote reference number M8918. They should be framed against the selection criteria, and should state relevant personal particulars including details of qualifications and experience. Applicants should nominate at least to professional referees, and address their applications to:

**The Chief**  
**CSIRO Division of Plant**  
**Industry**  
**GPO Box 1600**  
**Canberra, ACT 2601**  
**AUSTRALIA**



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## POSITIONS OPEN

### FACULTY POSITION—BIOCHEMISTRY

The Chemistry Department of Reed College invites applications for a tenure-track faculty appointment at the assistant professor level. This position is designed to expand our biochemistry curriculum. Teaching participation in the biochemistry course and in one or more other courses (e.g. general chemistry, physical science, or physical chemistry) depending on background and interests is expected. Special consideration will be given to candidates with research expertise in biophysical chemistry. Reed College is a small liberal arts college with a strong tradition of teaching and research in the sciences. Recent instrument acquisitions in the Chemistry Department include GC/MS, FT-IR, and multinuclear 300 MHz FT-NMR. The successful candidate must have a demonstrable commitment to excellence in teaching and will be expected to conduct a vigorous research program and to guide undergraduates in the senior thesis program. Submit curriculum vitae, transcripts of academic record, an outline of research interests, a brief discussion of teaching interests, and arrange to have three letters of recommendation sent to: **Professor Thomas G. Dunne, Chairman, Department of Chemistry, Reed College, 3203 S.E. Woodstock Boulevard, Portland, OR 97202-8199.** We should have complete applications in hand by 31 December 1988. *Reed College is an Affirmative Action/Equal Opportunity Employer.*

### FACULTY POSITIONS IN BIOCHEMISTRY

The Department of Biochemistry at Mississippi State University invites applications for up to four 12-month tenure-track assistant professor positions. It is hoped that at least two positions will be filled as soon as possible and up to two additional positions by June 1989 depending on funding. Responsibilities include participation in our undergraduate and graduate teaching program and the development of an active research program in any area of biochemistry, molecular biology, or biotechnology which would be compatible with a joint appointment in the College of Agriculture and the Mississippi Agricultural and Forestry Experiment Station. A Ph.D. in biochemistry or molecular biology with postdoctoral experience is required. Send résumé, summary of research interests and names of three references to: **R. P. Wilson, Head, Department of Biochemistry, P.O. Drawer BB, Mississippi State, MS 39762.**

*Mississippi State University is an Affirmative Action/Equal Opportunity Employer.*

### FACULTY POSITIONS IN MOLECULAR EVOLUTION AND POPULATION BIOLOGY

The Department of Biological Sciences, University of Cincinnati is expanding its research and teaching in the areas of population biology and evolution and announces the availability of three tenure-track positions at the assistant professor level for the 1989-1990 academic year. The University of Cincinnati has an enrollment of approximately 36,000 students and the department currently has 29 full-time faculty in the biological sciences and a graduate enrollment of 65 students, approximately 60% of whom are pursuing the Ph.D. degree. The openings include: (i) **MOLECULAR EVOLUTIONARY BIOLOGIST:** Conduct research using molecular techniques to address questions in evolutionary biology. (ii) **EVOLUTIONARY ECOLOGIST:** Conduct research directed toward understanding species interactions (e.g. coevolution; host/parasite; plant/pollinator). Preference will be given to those using mathematical and/or molecular/biochemical approaches in their research. (iii) **POPULATION BIOLOGIST:** Conduct research using quantitative approaches and field experimentation in the study of plant or animal populations. Preference will be given to those who can interact with our plant sciences faculty. Successful candidates will be expected to develop vigorous, externally funded research programs, train graduate students, and teach courses at the undergraduate and graduate levels. The Ph.D. is required and postdoctoral experience is preferred. Applicants should submit a description of their research interests and future research plans, a current curriculum vitae, and three letters of reference to: **Dr. J. Robie Vestal, Evolution Search Committees, Department of Biological Sciences, University of Cincinnati, Cincinnati, OH 45221-0006** by 1 December 1988. Candidates should indicate the position for which they are applying. *The University of Cincinnati is an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

### FACULTY POSITION IN INORGANIC CHEMISTRY AT IOWA STATE UNIVERSITY

Applications and nominations of candidates are invited for a faculty position available 1 July 1989. Candidates in any specialty within inorganic chemistry will be considered. Any appointment probably will be made at the level of assistant professor, although an advanced-level appointment might be possible for an outstanding person with suitable experience and credentials. The position requires demonstrated aptitude for creative research and for teaching, and a commitment to excel in both. Applications should be directed to: **Inorganic Search Committee, c/o Professor D. K. Hoffman, Chairman, Department of Chemistry, Iowa State University, Ames, IA 50011.** Applicants should submit curriculum vitae, transcripts, and an outline of their research plans during the initial stages of their independent scientific careers. Applicants for assistant professor should arrange for three references to send letters directly to **Professor Hoffman.** Screening of applications will begin in November 1988. *Women and minority applicants are encouraged to apply. Iowa State University is an Affirmative Action/Equal Opportunity Employer.*

### ALBERT EINSTEIN COLLEGE OF MEDICINE DEPARTMENT OF MOLECULAR GENETICS FACULTY POSITIONS IN MOLECULAR GENETICS

As part of an expanding program in molecular genetics, applications and nominations are invited for two positions at the assistant professor level. Individuals with qualifications for higher level positions will also be considered. Candidates with outstanding academic achievements who will develop individual research programs in nonmammalian, eukaryotic molecular genetics are sought. The department is created by merging the departments of molecular biology and genetics and contains a very active group of researchers.

Candidates should send curriculum vitae, a research plan, and request three letters of recommendation to be sent to: **Dr. Frank Lilly, Department of Molecular Genetics, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, NY 10461.** *AECOM is an Equal Opportunity/Affirmative Action Employer.*

### FACULTY POSITIONS DEPARTMENT OF BIOCHEMISTRY AND MOLECULAR BIOLOGY

The E. A. Doisy Department of Biochemistry and Molecular Biology at St. Louis University intends to make two faculty appointments at the junior or senior level to strengthen current expertise in the following areas: **PROTEIN STRUCTURE AND FUNCTION,** individuals with research experience and interest in the mechanisms of enzyme catalysis, protein-protein and/or protein-nucleic acid recognition, and allosteric effects are encouraged to apply for this position; **CELLULAR REGULATION,** individuals with research experience and interest in membrane biochemistry and function, biosynthesis of membrane lipids and carbohydrates, organelle biogenesis and transport mechanisms are encouraged to apply for this position. Of particular interest are those applicants who combine classical biochemistry and modern strategies in an innovative independent research program. Successful candidates will complement ongoing research in the areas of metabolism and regulation, molecular and developmental biology, genetics, cell biology, and physical biochemistry and can participate in the multidisciplinary cell and molecular biology program at St. Louis University School of Medicine. Excellent start-up funds and salary are available. Curriculum vitae, description of research plans, and at least three letters of recommendation should be sent by 1 February 1989 to: **Search Committees, c/o Dr. William S. Sly, Chairman, Department of Biochemistry and Molecular Biology, St. Louis University School of Medicine, 1402 South Grand Boulevard, St. Louis, MO 63104.** *St. Louis University is an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

**FACULTY POSITION: TRANSPLANTATION, BIOLOGY AND IMMUNOLOGY.** Permanent track position for persons with Ph.D. and/or M.D. degrees. Involves conducting an independent research program on some aspect of transplantation, biology such as physiology and/or immunology with a focus toward transplantation. Candidate expected to be competent in basic immunology, to conduct an independent research program and be willing to participate with clinicians involved in a large multi-organ transplantation program (liver, renal, pancreas, heart, lung, bone marrow). Will receive academic appointment commensurate with his/her qualifications. Start-up funds for establishment of the laboratory are available. Send curriculum vitae, a description of research interests and names of three references to: **Dr. Keith A. Kelly, Chairman, Department of Surgery, Mayo Clinic, Rochester, MN 55905.** *An Equal Opportunity/Affirmative Action Institution.*

### FACULTY POSITIONS DEPARTMENT OF PHARMACOLOGY UNIVERSITY OF NEBRASKA MEDICAL CENTER

Applications are invited for two faculty positions in the Department of Pharmacology, one at the assistant professor level (search reopened) and the other at the associate professor level. Research interests in the broad areas of neuroscience, toxicology and molecular biology are of particular interest, although outstanding applicants in other areas will also be considered. Candidates should have a Ph.D. or M.D. and postdoctoral experience. Successful candidates will be expected to teach graduate, medical and pharmacy students and to develop or continue an independent research program. Applicants should submit curriculum vitae, a detailed description of research goals and names of three references by 1 December 1988 to: **Dr. David B. Bylund, Chairman, Department of Pharmacology, University of Nebraska Medical Center, Omaha, NE 68105.**

*The University of Nebraska Medical Center is an Equal Opportunity/Affirmative Action Employer.*

**FACULTY POSITIONS IN VISION RESEARCH:** The Combined Program in Ophthalmology, Eye Foundation Hospital—University of Alabama (UAB) at Birmingham School of Medicine will accept applications for tenure-track, faculty positions (two) at the assistant professor level. Applications are invited from individuals with a demonstrated ability to conduct productive independent research in the areas of visual psychophysics and retinal pharmacology/anatomy. Successful applicants will be expected to obtain and maintain extramural grant support. Laboratory space, appropriate start-up support, and the facilities of UAB's interdepartmental Vision Science Research Center are available. Interested and qualified individuals should submit curriculum vitae, statement of research interests and three letters of reference to: **Dr. Harold W. Skalka, Chairman, Department of Ophthalmology, School of Medicine/Eye Foundation Hospital, University of Alabama at Birmingham, UAB Station, Birmingham, AL 35294.** *UAB is an Affirmative Action/Equal Opportunity Employer.*

### HONEY BEE POPULATION GENETICIST

The Department of Entomology, University of California, Davis, announces a tenure-track faculty position in applied entomology (11 months plus 1 month of paid vacation) at the assistant, associate, or full professor/entomologist level. Appointee must become involved in undergraduate and graduate instruction and advising in entomology, supervise graduate students, and participate in the graduate programs. Ph.D. with training and research interests emphasizing genetics of quantitative characters, population genetics, ecological genetics, and experimental population biology; demonstrated research ability. Research experience with honey bees necessary. Letter of application, curriculum vitae, reprints, names and addresses of three referees should be sent to: **Christine Y. S. Peng, Chair of Search Committee, Department of Entomology, University of California, Davis, CA 95616.** To be assured of consideration applications should be postmarked by 15 November 1988. *The University of California is an Affirmative Action/Equal Opportunity Employer.*

## MICHIGAN STATE UNIVERSITY

THREE TENURE-TRACK PROFESSORIAL POSITIONS  
IN CROP AND SOIL SCIENCES.

**ASSISTANT, Plant Breeding and Genetics.** Research focus will be in the development of improved varieties of Eastern wheats. Plant breeding initiatives include milling and baking quality, winter hardiness and resistance to diseases and insects using classical and molecular approaches. Teaching includes plant breeding and genetics at the undergraduate and/or graduate levels. Ph.D. in plant sciences with emphasis on plant breeding and genetics.

**ASSISTANT/ASSOCIATE, Plant Breeding and Genetics.** Research using classical and molecular approaches leading to the production of superior varieties of edible dry beans meeting Michigan's production and marketing demands. Academic duties include graduate student supervision and courses in plant breeding—genetics or bean production. Ph.D. in plant sciences or closely related fields.

**ASSISTANT, Forage Physiology.** Research will focus on physiological problems relevant to forage production and quality. Teaching will include two courses in forage production and management. Ph.D. in plant physiology or closely related field and experience in current agricultural production required.

Send resume, transcripts and three letters of recommendation to: Eldor A. Paul, Chairperson, Department of Crop and Soil Sciences, Michigan State University, E. Lansing, MI 48824-1325.

## SR. INFORMATION SCIENTIST (PhD)

We're The R.W. Johnson Pharmaceutical Research Institute, a member of the Johnson & Johnson Family of Companies. Our strategy is to maintain a fast-growing pharmaceutical business by continuing to develop products of the highest quality.

We currently have a significant career opportunity for an individual to become part of our scientific team. To qualify, you should be a successful biomedical scientist interested in pharmaceutical development with a Ph.D. in Biomedical Research or related discipline and a solid record of research and publication. Excellent verbal and written communication skills as well as good interpersonal skills are essential. You will be responsible for gathering and synthesizing data for submission to the FDA plus preparing reports on scientific issues pertinent to our ongoing and future projects.

The position supports our important research endeavors and affords professional growth. We offer a competitive salary and the comprehensive benefits of a Johnson & Johnson Company as well as a convenient suburban Philadelphia location. For immediate confidential consideration, please submit curriculum vitae and salary requirements to: Ms. Amy Rothwell, Dept. SC-1028, McNeil Pharmaceutical, Spring House, PA 19477.



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## HUMAN MOLECULAR BIOLOGIST

We're a 934-bed voluntary teaching hospital offering an excellent opportunity for a Human Molecular Biologist to implement a DNA Diagnosis Laboratory for various inherited diseases.

The candidate should have a Ph.D. and some experience in human DNA technology. There will be opportunity for independent research and faculty appointment at The Mount Sinai School of Medicine according to credentials.

Interested applicants should submit their resume to: B.B., Human Resources Department, Beth Israel Medical Center, First Avenue at East 16th Street, New York, N.Y. 10003.

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## HUMAN GENOME CENTER

The Human Genome Center at Lawrence Berkeley Laboratory, University of California, has a variety of job opportunities for individuals interested in mapping portions of the human genome, pilot projects in sequencing and analyzing interesting regions of the genome, or development of new DNA handling, mapping and sequencing methods, especially those suitable for automation. The ideal candidate will have experience in a variety of DNA techniques and a specific interest in applying these as part of a long term effort to explore the genome.

A number of positions are available for Technicians and Postdoctoral Research Associates. There are also scientific staff positions for more experienced individuals with a Ph.D. in Molecular Biology, Genetics or related fields and demonstrated ability to conduct independent research.

When responding, please note position of interest and Job number: Technicians, Job A/4866 & A/4867; Postdoctoral Research Associates, Job A/4868; Staff Scientist II, Job A/4865.

Please send C.V. and names of references to: **Dr. Charles R. Cantor, Director, C/O Ron Lowder, LBL Employment, Bldg. 90-1042, #1 Cyclotron Road, Berkeley, CA 94720;** or call Employment Office (415) 486-4226 for an application and/or further information. An Equal Opportunity Employer, M/F/H.



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## RESEARCH ASSOCIATE PHARMACOLOGY

**Amgen**, an industry leader in the development of human health care products through applied biotechnology, has an immediate opportunity for a BS/MS scientist to join an innovative group conducting IN VIVO pharmacologic studies of bioactive proteins and peptides.

Qualified candidates for this position must have a BS or MS degree in Pharmacology or a related discipline with two or more years' experience in immunopharmacology, tumor biology or small animal surgery. Knowledge of statistics and use of micro computers for the organization and analysis of data are highly desirable.

**Amgen** offers a challenging and exciting research environment as well as an attractive location northwest of Los Angeles. **Amgen** also offers an excellent compensation and benefits package.

Qualified candidates should send a resume, including references, in confidence to:

**Recruitment, Dept. #350**

**AMGEN**

**1900 Oak Terrace Lane**

**Thousand Oaks**

**CA 91320**

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# AMGEN

## STATE UNIVERSITY OF NEW YORK AT BUFFALO BIOLOGICAL SCIENCES—FACULTY OPENINGS

**TWO ASSISTANT PROFESSORSHIPS:** We anticipate that we will be hiring two faculty for Fall 1989. Those appointed will be individuals whose research program is in the forefront of their field and who will be able to interact with other members of our faculty.

One position in **ECOLOGY/EVOLUTIONARY BIOLOGY** is open to candidates with all specialties, however we are particularly interested in the area of aquatic and plant population ecology.

The second position will be open to candidates who 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, or (c) regulation in an organism to provide a model for studies of regulation at the level of gene transcription.

Successful candidates 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.

Candidates will also be expected to demonstrate above average teaching ability for both undergraduate and graduate teaching. Salary will be nationally competitive; excellent laboratory space and equipment 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 of New York at Buffalo, Buffalo, NY, 14260**. Applications will be received until January 13, 1989, or until the position is filled thereafter.

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



**2 FACULTY POSITIONS**  
in Neurobiology  
Division of Biological Sciences  
University of Missouri-Columbia



The Division of Biological Sciences is continuing a multi-year effort to enhance an already strong research base. Seven young faculty have been hired in the past three years, including three in neurobiology. We are pleased to invite applications for two more tenure-track faculty appointments in neurobiology (Assistant or Associate Professor level) for the Fall, 1989.

Desirable areas of research include, but are not limited to: molecular neurobiology, cellular neurobiology, neurophysiology, developmental neurobiology and neuroethology. The positions include excellent start-up funds, new laboratory space and new animal facilities. Women and minorities are encouraged to apply.

Candidates should have a Ph.D., postdoctoral training, a demonstrated record of research accomplishment, and a commitment to undergraduate and graduate education. Curriculum vitae, a brief statement of research interests, and the names of three references should be sent to **Dr. John David, Director, Division of Biological Sciences, University of Missouri, 105 Tucker Hall, Columbia, MO 65211**. Applications will be accepted until **December 15, 1988** or until suitable candidates are identified.

*The University of Missouri is an Equal Opportunity Employer.*

## NEW ENGLAND BIOLABS

### Postdoctoral Positions

New England Biolabs, a pioneer and leader in biotechnology, located twenty miles north of Boston, is seeking applicants for postdoctoral positions.

**Nucleic Acid Enzymologist**—To study endonuclease/DNA interactions. Candidate should have training in biochemistry/enzymology and/or molecular biology. Experience with overproduction and mutagenesis of proteins in bacterial systems would be helpful.

**Molecular Genetics**—Candidate should have strong background in molecular biology or bacterial genetics to study the interaction between restriction modification systems and the host cell. Knowledge of protein chemistry would be helpful.

**Immunologist/Parasitologist**—To study the cellular immune response to recombinant filarial antigens (Molecular Parasitology Division).

In addition to competitive salary, New England Biolabs offers a very generous fringe benefits package. Attendance at meetings, publication of research results and open communication with others are encouraged.

Candidates please submit curriculum vitae with three references to:

**New England Biolabs, Inc.**  
**Human Resources**  
**32 Tozer Road**  
**Beverly, MA 01915-5510**



# Regulatory Toxicologists

## (Senior and Postdoctoral)

The Agricultural Research Division of American Cyanamid Company has a long-standing and highly successful commitment to the discovery and development of products to improve worldwide crop and livestock production. We are growing rapidly and currently have the following opportunities at our laboratory and experimental farm complex ideally located near Princeton, one hour from New York and Philadelphia.

### Senior Regulatory Toxicologist

Requires PhD in Toxicology or related medical field and preferably 3 to 5 years of industrial, government or contract laboratory experience in toxicology. You will design, monitor and review the full range of toxicity testing performed in-house and on contract for EPA and FDA registrations of pesticides and animal drugs.

### Postdoctoral in Regulatory Toxicology

We offer a postdoctorate position which requires a PhD in Toxicology or related medical field.

American Cyanamid offers a competitive compensation and benefits package. For prompt and confidential consideration, please forward your resume and salary history, indicating the position of your specific interest, to the Employment Office.



#### American Cyanamid Company

Agricultural Research Division

P.O. Box 400

Princeton, NJ 08540

An Equal Opportunity Employer M/F/H/V

## PLANT BIOTECHNOLOGY

# Sogetal

Sogetal, Inc. is launching a vigorous program for the genetic engineering of cereals. We are inviting well qualified and experienced scientists in the areas of plant molecular biology and tissue culture to apply for positions which will be open in early 1989.

Sogetal, located in the San Francisco Bay Area, is a research center for ORSAN, the biosciences division of LAFARGE COPPEE. We have developed leading technology for the hybridization of small grains, and have an established program in cereal tissue culture.

We announce the following openings in our multidisciplinary program:

### Senior Plant Molecular Biologist

The ideal candidate will have a PhD in a plant science with extensive hands on experience in molecular biology including vector design and construction as well as gene characterization. He/she should have excellent communication skills as well as supervisory experience.

### Plant Molecular Biologists

(PhD, MS)

The ideal candidates will have practical experience in molecular biology including vector construction, plant transformation, and gene expression.

### Plant Cell Biologists

(PhD, MS)

Ideal candidates will have a background in plant science with a detailed knowledge of regeneration and transformation methods in monocots.

Interested applicants please send curriculum vitae to:

Human Resources/GEC

**Sogetal, Inc.**

3876 Bay Center Place  
Hayward, CA 94545

Equal opportunity employer

## POSITIONS OPEN

### FACULTY POSITIONS

The University of Chicago Department of molecular genetics and cell biology is seeking candidates for tenure-track appointments in the areas of cell biology, developmental biology, genetics and virology. Candidates should have sufficient research experience to demonstrate both significant accomplishment and outstanding promise. The selected candidates will be offered generous space in a modern facility and substantial equipment and start-up funding. Please send curriculum vitae, bibliography, a statement of past and future research interests and the names of three references to: **Dr. E. W. Taylor, Faculty Research Committee, Department of MGCB, The University of Chicago, 920 East 58th Street, Chicago, IL 60637.** Deadline, 7 December 1988. *The University of Chicago is an Affirmative Action/Equal Opportunity Employer.*

**GENETICIST FACULTY POSITION.** A tenure-track position in the Biology Department is available for August, 1989 at the assistant professor level. The successful candidate must have postdoctoral research experience and must be able to attract extramural support for an independent research program in genetics; and alternately teach an undergraduate genetics laboratory course and a specialty graduate course. Applications received by 15 December 1988 will be given priority. Send complete curriculum vitae, statement of research, and names of at least three references to: **Dr. Peter Abramoff, Biology Department, Marquette University, Milwaukee, WI 53233.** *Equal Employment Opportunity/Affirmative Action Employer.*

### BRANDEIS UNIVERSITY GENETICS AND MOLECULAR BIOLOGY

The Rosenstiel Basic Medical Sciences Research Center and the Department of Biology seek a tenure-track **ASSISTANT PROFESSOR** in the area of genetics and molecular biology. Candidates with research interests in the genetics and biochemistry of recombination, chromosome structure, DNA replication, and protein-nucleic acid interactions are especially encouraged to apply. Candidates at a more senior level may also be considered. Applicants should submit curriculum vitae including a description of research goals and should arrange for three letters of recommendation to be sent to: **Genetics and Molecular Biology Search Committee, Rosenstiel Center, Brandeis University, Waltham, MA 02254-9110** by 10 November 1988. *Brandeis University is an Equal Opportunity/Affirmative Action Employer.*

**INTERNATIONAL SCIENTIFIC NON-GOVERNMENTAL ORGANIZATION** seeks person to be second in command of small secretariat located in Paris. Candidates must have scientific degree or equivalent, experience of international activities and in administration of international organizations. They must be bilingual in English and French, with knowledge of other languages helpful. Position will require management, writing, speaking and computer skills and will entail frequent travel to all parts of the world.

Interested persons should apply by 15 December 1988 and send a comprehensive curriculum vitae with list of references to: **International Council of Scientific Unions, 51 Bld. de Montmorency, 75016 Paris, France.** Salary will be in the range of 18,000 to 22,000 French Francs per month with other advantages. Position will begin 1 April 1989 and interviews of candidates retained on short list will be in January 1989. Telephone inquiries not answered.

### MICROBIOLOGIST

Applications are invited for a tenure-track endowed assistant professorship of biological sciences. Preference will be given to individuals with postdoctoral experience whose research interests and experience involve recombinant DNA technology. Successful candidates will be expected to participate in the undergraduate program, supervise graduate students, and develop a research program with extramural support. Review of candidates will begin 1 December 1988. Submit curriculum vitae, description of research plans, and the names of three references to: **Chairman, Microbiologist Search Committee, Department of Biological Sciences, Southern Methodist University, Dallas, TX 75275.** *SMU is an Equal Opportunity/Affirmative Action/Title IX Employer.*

## POSITIONS OPEN

### LIMNOLOGIST

The Aquatic Biology Program at The University of Alabama seeks a senior level limnologist with an international reputation to fill the J. Nicholene Bishop Professorship of Field Biology. Research interests in the ecology and physiology of macrophytes and the roles of littoral zones in freshwater ecosystems are desired. Appointment will be made at the full professor level. Applicants should send a letter of interest, curriculum vitae, and names and addresses of three references by 21 November 1988 to:

**Aquatic Search Committee  
Department of Biology  
Box 870344  
University of Alabama  
Tuscaloosa, AL 35487**

*Affirmative Action/Equal Opportunity Employer.*

**MAGNETIC RESONANCE IMAGING/SPECTROSCOPY FACULTY POSITION.** Research-oriented scientist with strong background in NMR to join a multidisciplinary, active group of scientists engaged in basic and clinical NMR imaging and in vivo spectroscopic research at Department of Radiology, Virginia Commonwealth University/Medical College of Virginia. Apply to: **Dr. Panos Fatouros, Radiation Physics Division, Box 72, MCV Station, Richmond, VA 23298-0072** by 31 December 1988. *VCU/MCV is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

### MICROBIOLOGIST/FERMENTATION SAN DIEGO AREA

Calbiochem Corporation, an established manufacturer of fine chemicals located in La Jolla, CA, has positions for experienced Fermentation Microbiologists. Will direct, plan and execute development of a fermentation process including media growth conditions, optimization, strain improvement by selection, mutation, protoplast fusion or other forms of genetic manipulation. Scale-up and production. B.S., M.S., Ph.D. in microbiology or appropriate discipline plus 2 to 7 years of experience in fermentation development. Send résumé: **Manager Human Resources, Calbiochem Corporation, 10933 North Torrey Pines Road, La Jolla, CA 92037.** *Equal Opportunity Employer.*

**MICROBIOLOGIST/IMMUNOLOGIST.** Full-time tenure-track position in a nine-member biology department. Ph.D. required. Experience teaching at the college level preferred, to teach undergraduate microbiology, medical microbiology, immunology, virology, and introductory biology. Review of applications begins 16 January 1989. Submit curriculum vitae, three letters of recommendation, and transcripts to: **Personnel Services, Northeastern State University, Tahlequah, OK 74464.** *Affirmative Action/Equal Opportunity Employer.*

**MICROBIOLOGY TWO POSITIONS.** Anticipated tenure-track assistant professor, to teach microbial physiology starting fall 1989, and immunology vacancy, nontenure-track assistant professor, 1 January 1989 to 15 June 1993. Both positions involve teaching upper division and graduate level courses plus introductory courses in microbiology or general biology. Research and outside research support expected. Review of applications begins 22 November 1988 and continues until filled. Application, curriculum vitae, three letters of recommendation to either: **Physiology or Immunology Search, Division of Biological Sciences, University of Montana, Missoula, MT 59812.** *Affirmative Action/Equal Employment Opportunity.*

### MOLECULAR IMMUNOLOGIST POSTDOCTORAL POSITION

A postdoctoral position is open in the spring of 1989 for an outstanding individual with a strong background in molecular biology to join a group attempting to clone factors that initiate delayed-type hypersensitivity (DTH) employing a cDNA library derived from a DTH-initiating T cell clone. Send curriculum vitae, statement of experience and interests, and names and addresses of three references to: **Dr. Philip W. Askenase, Department of Medicine, Yale University School of Medicine, 333 Cedar Street, New Haven, CT 06510.** *Yale University is an Equal Opportunity/Affirmative Action Employer.*



THE STATE UNIVERSITY OF NEW JERSEY  
**RUTGERS**

## M.D./PH.D. PROGRAM

**University of Medicine and  
Dentistry of New Jersey  
Robert Wood Johnson Medical School  
and  
Rutgers University-Graduate School  
University of Medicine and  
Dentistry of New Jersey  
Graduate School of Biomedical Sciences**

The University of Medicine and Dentistry of New Jersey-Robert Wood Johnson Medical School and Rutgers University-Graduate School/University of Medicine and Dentistry of New Jersey-Graduate School of Biomedical Sciences offer a combined M.D./Ph.D. program. The stipends for students entering the program will be \$6,500 per year plus tuition for the 1st and 2nd years of medical school. Beginning in the third year, the Graduate School stipend will be \$10,000 per year plus tuition. For the last 2 years of medical school, the stipend will be \$8,000 per year plus tuition.

Students will be able to take their Ph.D. training in any of the following graduate programs: Biochemistry, Biochemistry & Molecular Biology, Biomedical Engineering, Cell & Developmental Biology, Microbiology, Molecular Genetics & Microbiology, Pharmacology, Physiology & Neurobiology, Toxicology.

For further information and an application form, please contact the **Graduate School of Biomedical Sciences, UMDNJ-Robert Wood Johnson Medical School, 675 Hoes Lane, Piscataway, NJ 08854-5635.**

## INFECTIOUS DISEASE DIAGNOSTIC PRODUCTS

### Ph.D Clinical Microbiologist California

Ortho Diagnostic Systems, Inc., is a leader in the development and manufacture of medical diagnostics, reagents, immunological and related products. Our Carpinteria, California location, just outside Santa Barbara, specializing in R&D, manufacture and marketing of infectious disease testing kits, has an excellent opportunity for a PhD in Clinical Microbiology to join our project team.

We are seeking a PhD in Microbiology or equivalent, and a minimum of 2 years experience in clinical virology, bacteriology and cell culture as well as current laboratory exposure.

Position involves conducting research and/or product development of non-isotopic rapid diagnostic assays.

As part of the world's most diversified health care firm, we provide competitive salaries and superior benefits. Reply in confidence, with resume and salary history, to **MARILEE MOY, Plant Personnel Manager, ORTHO DIAGNOSTIC SYSTEMS, INC., 1125 MARK AVE., CARPINTERIA, CA 93013-9990.**



**Ortho Diagnostic Systems Inc.**  
A Johnson & Johnson COMPANY

We are an Affirmative Action  
Equal Opportunity Employer M/F/H/V

A Unique Formula For Career Success





**INTERNATIONAL LIVESTOCK  
CENTRE FOR AFRICA**

**RESEARCH SCIENTIST/  
SENIOR RESEARCH SCIENTIST  
VACANCY INT/014/88**

**GENERAL**

The International Livestock Centre for Africa (ILCA), with headquarters in Addis Ababa, Ethiopia is one of the 13 international agricultural research organizations supported by the Consultative Group on International Agricultural Research (CGIAR). The Centre has research activities throughout sub-Saharan Africa and regional offices in Kenya, Nigeria, Niger and Mali.

ILCA's major activities are research, training and information, and its goal is to achieve measurable and sustainable increases in livestock output in sub-Saharan Africa.

With purpose-built offices and research facilities on a large landscaped site close to Addis Ababa's international airport, the Centre's headquarters provide a pleasant working environment and sports and leisure facilities. The city, which enjoys pleasant weather throughout the year, has a large, diverse expatriate community and diplomatic missions from more than 75 nations. It is also the seat of the Organization of African Unity (OAU) and the United Nations Economic Commission for Africa (UNECA). There are several international schools covering American, British, French, German and Italian systems, among others.

**POSITION**

Experienced Research Scientist in Forage Agronomy, based at ILCA HQ, Addis Ababa, to take a leadership role in the research of the Division of Plant Science. The research will be focussed on the development of Animal Feed Resources, principally in the application of improved forage resources to the predominantly mixed crop/livestock farming systems of sub-Saharan Africa, with a likely major focus on acid soil systems. This research will be carried out in the multidisciplinary framework of the Animal Feed Resources Thrust which integrates these activities with those of Soil and Plant Nutrition, Animal Nutrition and Policy/Economics. The thrust is closely coordinated with other thrust's activities in the main livestock output commodities of milk, meat and traction/power.

The scientist will be expected to carry out research more widely in Africa in partnership with National Scientists through the developing Feed Resources Networks for which travel will be required.

**QUALIFICATIONS**

- PhD/MSc Degree in Agronomy.
- Substantial experience in Forage Agronomy Research and of working in developing countries.
- English essential and working knowledge of French desirable.
- Proven ability to work in interdisciplinary and intercultural scientific teams desirable.

Salary and related benefits are paid in US\$ and will be in line with comparable international organizations. Initial salary will be determined by qualifications and experience.

Applicants should send current curriculum vitae, recent salary history, names and addresses of three professional referees and photocopies of supporting documents (not returnable) before November 4, 1988 in confidence to the Personnel Manager, ILCA, P.O. Box 5689, Addis Ababa, Ethiopia.

## **Director of the Molecular Science Research Center**

The Department of Energy's Pacific Northwest Laboratory, operated by Battelle Memorial Institute, is initiating a Molecular Science Research Center. Located in the Pacific Northwest, this center will be a user facility devoted to the study of complex molecular systems. Areas of emphasis will include chemical dynamics at interfaces, the chemistry of small particles, chemistry and interactions of macromolecules, and the theory of complex systems. Ultimately, the Center is anticipated to employ over 100 people, depending on operating and equipment budgets.

Due to this expansion, we are currently seeking a Director of the Molecular Science Research Center. The successful candidate must have experience in the direction of government or industrial research and will have maintained an active research program. The responsibilities of this position include leadership in formulating the Center's initial research portfolio; recruitment of senior members of the research staff; operation of an interim facility; and oversight of the design, construction and operation of a new facility to house the Center's operation in the 1993 time frame.

Applications and nominations, including a complete vitae and publication record, should be sent to: **Dr. Charles B. Duke, K1-48, Deputy Director and Chief Scientist, Battelle, Pacific Northwest Laboratories, P.O. Box 999, Department 059, Richland, WA 99352.** U.S. Citizenship is required. Equal Opportunity Employer, M/F.



**Battelle**  
Pacific Northwest Laboratories

## **Senior Research Chemist**

We're Monsanto, a worldwide company that continues to make technological advances in a range of products and industries. We currently have an exciting opportunity available in our Animal Science Division.

You will join a dynamic team of researchers working to isolate, purify and determine the structure of product metabolites and residues. You will also share supervisory responsibilities of the clinical chemistry/endocrinology laboratory and maintain GLP documentation.

To qualify, you must have a Ph.D. in Biochemistry, Endocrinology, Immunochemistry, Pharmacology or a related area and have a working knowledge of bioanalytical methods used to isolate and quantitate prostaglandins and proteins. Experience with computers and SAS programming is desirable.

We offer a highly competitive salary and benefits package. For consideration, send your resume to: **John R. Amato; MONSANTO COMPANY; BB2A; 700 Chesterfield Village Parkway; Chesterfield, MO 63198.** An Equal Opportunity Employer M/F/H/V.

# **Monsanto**

## POSITIONS OPEN

### MOLECULAR BIOLOGIST

Millsaps College invites applications for an opening as assistant/associate professor of molecular biology, Ph.D., beginning September 1989, to have primary responsibility for teaching cell biology, molecular genetics, and to participate in teaching general introductory biology courses. This appointment is a tenure-track position. Teaching experience is desirable. Millsaps College seeks faculty members with a strong commitment to the liberal arts and sciences and undergraduate teaching, and encourages research through a strong program of faculty development. Send letters of application, résumé, transcripts, and three letters of recommendation to: **James P. McKeown, Chairman, Department of Biology, Millsaps College, Jackson, MS 39210.** To ensure consideration, application materials should be received by 1 December 1988. *Women and minorities are encouraged to apply.*

### THE BLOOMFIELD CENTRE FOR RESEARCH IN AGING AT LADY DAVIS INSTITUTE FOR MEDICAL RESEARCH IN ASSOCIATION WITH MCGILL UNIVERSITY

**MOLECULAR BIOLOGY/BIOCHEMISTRY**—Two assistant professor positions are available in the newly developed Bloomfield Centre for Research in Aging. Applications are sought from individuals working on eukaryotic systems at the molecular and biochemical levels; the specific research area is flexible within the general area of control mechanisms for development, growth and aging. Candidates with interests in aging-related disease issues such as Alzheimer's disease and cancer are also encouraged. The positions carry with them appointments in the Department of Medicine at McGill University, along with generous equipment, supply, and initial salary funding. Successful candidates must have demonstrated research potential through postdoctoral experience and recent publications, and are expected to maintain a vigorous research program through extramural funding. Applicants should send their curriculum vitae and a statement of research goals, and arrange to have three letters of recommendation sent to: **Dr. Eugenia Wang, Director, The Bloomfield Centre for Research in Aging, Lady Davis Institute/McGill University, 3755, Chemin Côte Ste-Catherine, Montreal, Quebec H3T 1E2, Canada.** *In accordance with Canadian immigration regulations, applications from Canadian citizens and landed immigrants will be considered first.*

**MOLECULAR DEVELOPMENTAL BIOLOGIST** with excellent scientific credentials to develop independent program at appropriate professorial rank from assistant through full professor in the tenure-track. Submit curriculum vitae, a short statement of future plans and direct three letters of recommendation to be sent to: **Dr. Gerald Litwack, Deputy Director, Fels Institute for Cancer Research and Molecular Biology, Temple University School of Medicine, 3420 North Broad Street, Philadelphia, PA 19140.** *An Equal Opportunity Employer.*

### NEUROSCIENTIST

A basic research position in neurochemistry, neuroimmunology, neuropharmacology, or molecular neurobiology, is available at the R.S. Dow Neurological Sciences Institute of Good Samaritan Hospital and Medical Center. Persons with interests in neural regeneration, plasticity, development, transmitter or receptor function are especially encouraged to apply. Opportunities exist for interaction with basic research programs related to CNS function and with active clinical programs in neurosurgery and neurology. M.D. or Ph.D. and postdoctoral experience required. Substantial startup funds from the "Cooper Foundation for Neurologic Research and Education" are available, with the expectation that continued funding will be from extramural grant support. Level of appointment will depend upon experience. Please submit résumé and names of three references by 15 December 1988 to: **Robert S. Dow, M.D./Ph.D., Chairman, Irving Spencer Cooper Laboratory Search Committee, Good Samaritan Hospital and Medical Center, 1015 NW 22nd Avenue, Portland, OR 97210.** *Good Samaritan Hospital and Medical Center is an Equal Opportunity Employer.*

## POSITIONS OPEN

### MOLECULAR BIOLOGY

Applications are invited for a tenure-track position at the level of **ASSISTANT PROFESSOR**, effective 1 January 1989. Individuals interested in prokaryotic molecular genetics, or nucleic acid-protein interactions are especially encouraged to apply. The successful candidate will be expected to maintain an independent funded research program and participate in graduate and undergraduate teaching. Send curriculum vitae, statement of present and future research plans, and three letters of reference before 30 November 1988 to: **Chairman, Molecular Biologist Selection Committee, Department of Biology, Tulane University, New Orleans, LA 70118.** *Minorities and women are especially encouraged to apply. Tulane University is an Affirmative Action/Equal Opportunity Employer.*

**MOLECULAR GENETICIST:** Biology Department of Western Washington University is seeking applicants with Ph.D. for tenure-track assistant professor position in genetics to begin 15 September 1989. Applicants must be strongly committed to teaching (at the undergraduate and graduate (M.S.) levels) and to creative research. Teaching competency in evolutionary and/or population genetics desired. Send curriculum vitae, brief statement of research interests, and three letters to: **Ronald J. Taylor, Chair, Department of Biology, Western Washington University, Bellingham, WA 98225.** *Deadline 1 January 1989. Affirmative Action/Equal Opportunity Employer.*

### NEUROSCIENCES

**ASSISTANT OR ASSOCIATE PROFESSOR** of neurosciences. Requirements: Ph.D. with preparation in neurosciences and anatomy; commitment to teaching podiatric medical students and graduate students; minimum 5 years of full-time teaching experience; postdoctoral teaching/research experience. Applicants should be engaged in active ongoing research program. Responsibilities include lecture, laboratory, and student advising. Salary open. Send résumé, transcripts, and three letters of recommendation by 20 November 1988 to: **Sister John Karen Frei, O.P., Ph.D., Associate Vice President, Academic Health Science Center, Barry University, Miami Shores, FL 33161.**

**PHYSIOLOGY FACULTY POSITION:** The Department of Physiology, University of New Mexico School of Medicine invites applications for a tenure-track appointment as assistant professor, beginning 1 July 1989. The candidate must have an established research record and expertise to develop an independent research program in some area of neural and/or endocrine control of the cardiovascular system. Must also demonstrate potential for quality teaching of medical and graduate students. Application deadline: 1 February 1989. Submit curriculum vitae, statement of research goals and the names of three references to: **Dr. Donald W. Priola, Physiology Department, University of New Mexico School of Medicine, Albuquerque, NM 87131.** *Affirmative Action/Equal Opportunity Employer.*

### PLANT POPULATION BIOLOGIST/ECOLOGIST

The Department of Biology at Trinity University invites applications for a tenure-track assistant professor position beginning August 1989. Candidates must possess a Ph.D., and have interests in mechanisms-oriented plant population biology. Duties include the development of a lecture/laboratory course in the area of specialty, participation in core courses for majors, and academic advising. The successful candidate will also be expected to establish a vigorous research program in which undergraduates can participate.

Applicants should send curriculum vitae, summary of research experience and names of three references to: **Professor Thomas L. Koppenheffer, Chairman, Department of Biology, Trinity University, San Antonio, TX 78284.** *Application deadline is 17 November 1988. Women and minority candidates are strongly encouraged to apply.*

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

## POSITIONS OPEN

**NEUROANATOMIST.** The Department of Veterinary and Comparative Anatomy, Pharmacology and Physiology, College of Veterinary Medicine, Washington State University solicits applications for a tenure-track position at the assistant/associate professor level. Duties will include teaching veterinary and graduate neuroanatomy and developing a viable research program in the area of neuroscience. Qualifications: Ph.D. or D.V.M./Ph.D. in anatomical sciences. Candidates with demonstrated teaching and research experience are preferred. Experience in veterinary or human gross anatomy would be helpful. The Department has a strong focus in neurobiology. Other areas of research in the Department include: biomechanics, bone metabolism, teratology, toxicology, endocrinology and cellular, cardiovascular and exercise physiology. Rank and salary will be commensurate with qualifications. Written applications must include curriculum vitae, list of publications, description of teaching experience, summary of research interests, and the names, addresses, and telephone numbers of three references. Applications and inquiries should be addressed to: **Dr. Sue Ritter, Chair, Neuroanatomy Search Committee, Department of VCAPP, College of Veterinary Medicine, Washington State University, Pullman, WA 99164-6520.** *Application deadline—1 December 1988 or until the position is filled. WSU is an Equal Opportunity/Affirmative Action Educator and Employer. Protected group members are encouraged to apply.*

A **NEUROSCIENTIST** with an M.D. or Ph.D. degree is required to establish a neuronal regeneration unit within the Brain Tissue Resource Center at McLean Hospital and the Harvard Medical School. Basic studies on neuronal regeneration applicable to neuropsychiatric disorders such as Huntington's and Alzheimer's diseases will be carried out.

Candidates must presently be actively engaged in this field and have published their work. Previous experience with neuronal regeneration in small animals as well as primates would be essential. In addition, the scientist should be familiar with PET techniques and should have used this method in studies on regeneration.

This unit would be expected to expand; therefore, the candidate must be able to attract both M.D. and Ph.D. postdoctoral fellows in the future. Support will initially be for 1 year, and thereafter, the director of this unit will be expected to seek grant support. *McLean Hospital and Harvard Medical School are Equal Opportunity Affirmative Action employers, and we are especially eager to identify qualified women and minority persons.*

Applicants should send curriculum vitae and letter of application to: **Dr. Edward Bird, Brain Tissue Resource Center, Mailman Research Center, McLean Hospital, P.O. Box 9106, Belmont, MA 02178-9106.**

### PLANT SYSTEMATICS

The Rancho Santa Ana Botanic Garden invites applications for a staff position in systematic and evolutionary botany, available 1 September 1989. Individuals specializing in cytogenetics are particularly encouraged to apply. The successful candidate will be expected to maintain a vigorous, independent research program and to participate in the graduate program in Botany. Applicants representing various levels of experience are welcome, corresponding with assistant professor to full professor levels, and if hired, will be appointed to the faculty of the Claremont Graduate School. Send curriculum vitae, statement of research interests, reprints, and at least three letters of reference by 15 December 1988 to: **Search Committee, Rancho Santa Ana Botanic Garden, 1500 North College Avenue, Claremont, CA 91711.**

**POSTDOCTORAL ASSOCIATE**—Fully funded opportunity in ongoing research utilizing site-directed mutants to study the catalytic mechanism and cellular function of the carbonic anhydrases. Recent Ph.D. with experience in recombinant DNA techniques or enzyme kinetics preferred. Please send curriculum vitae and the names of three references to: **Drs. David Silverman and Philip Laipis, J-267 Health Science Center, University of Florida, Gainesville, FL 32610.**

# New Division of Cellular and Molecular Sciences

Glaxo have just released results that show that in four years the Company has risen from seventeenth to second position in the world ranking of ethical Pharmaceutical Companies, as a result of its success in research and innovation. To further this success, Glaxo Group Research Limited has now established a new Division of

Cellular and Molecular Sciences to optimise its drug hunting programmes for the therapy of important human diseases. As a result of this re-organisation, major new research management opportunities have been created which will play a key role in the development of the drug hunting programmes of the new Division.

## Head, Department of Cellular Science

Reporting to the Divisional Director, you will formulate and implement research programmes to identify potential drugs for use in important diseases such as Rheumatoid Arthritis, Inflammation, psoriasis, atheroma, thrombosis and cancer. To be considered for this excellent career opportunity, you will preferably have managed a large bio-medical research team within the drug industry. Your primary research

skills will have been developed in the cellular aspects of Cell Biology, but you will have a thorough appreciation of the importance of the application of modern molecular techniques to the study of intact cell. The new department will have about 70 research scientists and the position offers unequalled opportunities for the application of research management and team building skills.  
Reference G88244

## Divisional Screening Manager

Your responsibility will be to establish and manage an interactive screening group, reporting to the Divisional Director. Your overall objective will be to develop screening programmes through which novel chemical leads may be identified. A key requirement will be to integrate these activities with other aspects

of our drug discovery programme.

You should be a flexible and responsive manager with good team building skills, together with experience in managing a screening function or similar activity.

Reference G88245

## Research Managers

We wish to appoint specialist Research Managers to direct the activities of Cellular Research Groups in the above disease areas. These managers will report to the Head of the Department of Cellular Science and will be responsible for teams of 10 to 20 scientists. You must be able to demonstrate a successful track record in research in one of these areas, and

possess proven managerial skills.

Glaxo Group Research has an excellent skill base from on-going research in these important disease areas, and so the new posts offer significant opportunities for the management of innovation.

Reference G88246

The remuneration packages offered fully reflect the seniority of these positions and include comprehensive relocation assistance.

Full job descriptions for the above posts can be obtained by phoning Ted Smith, Senior

Personnel Officer, on 01-422 3434 extension 2934 or by writing to him at Glaxo Group Research, Greenford Road, Greenford, Middlesex UB6 0HE, quoting the relevant reference number.

**Glaxo** Group Research Ltd.



## POSITIONS OPEN

**Ph.D. ORGANIC CHEMIST.** ProCyt Corporation, A Seattle-area biotechnology firm dedicated to the research and development of wound treatment and skin health products, seeks a Ph.D. organic chemist with 3 to 5 years of experience to synthesize peptide analogs. Familiarity with computer assisted molecular design a plus. We offer challenging work in an exciting field, with excellent benefits for significant contributors. Please send curriculum vitae and letter of interest to: **ProCyt Corporation, Attention: Human Resources, 2893 152nd Avenue N.E., Redmond, WA 98052.** An Equal Opportunity Employer.

## PHYSIOLOGICAL PLANT ECOLOGIST

The Department of Botany of the University of Florida invites applications for a tenure-track assistant professorship. The appointee will be expected to establish a vigorous research program and to teach introductory biology plus an advanced course. Submit curriculum vitae and description of research interests, and have letters from four referees sent to: **Dr. William L. Stern, Search Committee Chairman, Department of Botany, University of Florida, Gainesville, FL 32611** by 8 December 1988.

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

## POSTDOCTORAL ASSOCIATE

Position available now for research on the behavioral pharmacology of opioid drugs in rodents and small primates. Applicants should have received within the last 3 years a Ph.D. in pharmacology or other basic medical science or in experimental psychology. Skill in stereotaxic surgery and in the use of microcomputers is desirable.

Send curriculum vitae and names of three references to: **Stephen G. Holtzman, Ph.D., Department of Pharmacology, Emory University School of Medicine, Atlanta, GA 30322.**

Emory University is an Equal Opportunity Employer.

**POSTDOCTORAL ASSOCIATE** to investigate regulatory changes in gene expression during moth eggshell formation, and their relationship to morphological evolution [e.g. see *PNAS* 84, 479-483, (1987)]. Research experience with recombinant DNA technology helpful. Send curriculum vitae and names and addresses of 2 to 3 references to: **Dr. Jerome Regier, Center for Agricultural Biotechnology, c/o Zoology Department, University of Maryland, College Park, MD 20742, telephone: 301-454-8356.**

**POSTDOCTORAL ASSOCIATE IN PLANT MOLECULAR GENETICS:** A position is available immediately to study the mechanisms regulating the preferential expression of specific genes during anaerobic (flooding) stress in maize. A strong background in molecular biology is required. A solid understanding of genetics is desired. Applications including curriculum vitae, a summary of research interests and experience, and names of three references should be forwarded to: **Dr. Martin M. Sachs, Department of Biology, Washington University, St. Louis, MO 63130.**

**POSTDOCTORAL FELLOW:** Position available, with funding for more than 1 year, to study the functional effects of DNA structural lesions on DNA processing enzymes involved in replication and repair. Background in chemistry and/or molecular biology preferred. Curriculum vitae and references to: **G. Peter Beardsley, Ph.D., M.D. Department of Pediatrics and Pharmacology, Yale University School of Medicine, 333 Cedar Street, New Haven, CT 06510.** Yale University is an Equal Opportunity Employer.

**POSTDOCTORAL IMMUNOLOGY POSITION** available to study mechanisms of cell activation during anti-tumor and antiviral immunity. Special focus on natural killer cells, signal transduction, and regulation of gene expression. Integrated program will include evaluations at cellular, pharmacological, biochemical, and molecular levels. Please send curriculum vitae, statement of background and goals, and three references to: **Paul J. Leibson, M.D., Ph.D., Department of Immunology, Mayo Clinic, Rochester, MN 55905.** An Equal Opportunity/Affirmative Action Institution.

## POSITIONS OPEN

**Announcement—POSTDOCTORAL FELLOWSHIP.** Two-year position in the area of remote sensing and biological optics. Cover letter and curriculum vitae to: **Mr. Robert Kidd, Bigelow Laboratory for Ocean Sciences, West Boothbay Harbor, ME 04575.** An Equal Opportunity Employer.

**POSTDOCTORAL FELLOWSHIP** available immediately in thrombosis and atherosclerosis research. Background in arachidonic acid metabolism, prostaglandin biochemistry, omega-3 fatty acid metabolism, or GC/MS analysis desirable, but not essential. Studies will include arachidonic acid and omega-3 fatty acid metabolism in platelets, vascular tissue and monocytes, and their relationship to thrombosis and atherosclerosis. Send curriculum vitae and names of three references to: **Victor A. Skrinsky, Ph.D., Cleveland Research Institute, 2351 East 22nd Street, Cleveland, OH 44115.**

## POSTDOCTORAL POSITION

Ph.D. experienced in tissue culture required for development of tissue model for inherited metabolic disease. Requires knowledge or development of a variety of skills including tissue culture, immunocytochemistry, subcellular fractionation, metabolic and kinetic studies using reconstituted membrane enzyme. Position is non-federally funded. Start immediately. Contact: **Dr. Gary J. Murray, Building 10, Room 3D04, National Institutes of Health, Bethesda, MD 20892.**

**POSTDOCTORAL POSITION** available fall 1988 for recent Ph.D. in biochemistry, cell biology, or related discipline to investigate regulation of enzymatic antioxidant defenses and organellar free radical production in lung tissue and cultured lung cells. [See *J. Appl. Physiol.* 65(1), 228-234 and 235-241 (1988)]. Appointment is at GS-11 level (\$27,700 per year) and is funded by the VA Research Service for 5 years. Send inquiries and curriculum vitae to: **Robert M. Jackson, M.D., Pulmonary Research, 323 Lyons-Harrison Research Building, University of Alabama at Birmingham, Birmingham, AL 35294.**

**POSTDOCTORAL POSITION:** Johns Hopkins Oncology Center. A postdoctoral position is available for the study of early ionic signals (calcium and pH), protein kinase activation, and gene expression stimulated by growth factors. Digital image analysis, in situ hybridization and gel analysis are used to study ionic changes and subsequent activation events. Send curriculum vitae to: **Dr. Robert W. Tucker, Johns Hopkins Oncology Center, Room SB-210, 600 North Wolfe Street, Baltimore, MD 21205.**

**POSTDOCTORAL POSITION** available to synthesize modified DNA probes. The physical and chemical properties of the probes will be investigated and the probes used as inhibitors of gene expression. Organic and/or biophysical chemistry background required. Send curriculum vitae and three letters of reference to: **Dr. Thomas Meehan, Department of Pharmacy, S-926, University of California, San Francisco, CA 94143-0446.**

**POSTDOCTORAL POSITION** available immediately to study EMC virus-induced diabetes. Projects include site directed mutagenesis and construction of recombinant DNA molecules. Preference to recent Ph.D. experienced in cloning. Starting salary: \$24,000. Send curriculum vitae and names of three references to: **George W. Jordan M.D., Division of Infectious Diseases, University of California, Davis, School of Medicine, 4301 "X" Street, Sacramento, CA 95817.** Equal Opportunity/Affirmative Action Employer.

**POSTDOCTORAL POSITION** available immediately to study structure-function relationships in phosphoglycerate kinase. Ph.D. in molecular biology, biochemistry or chemistry required. An interest in protein structure, function and dynamics and experience in recombinant DNA techniques, protein chemistry (purification and physical characterization), enzymology, or spectroscopy (UV/VIS, CD, fluorescence) desirable. Send curriculum vitae and names of three references to: **Dr. Maria T. Mas, Physical Biochemistry Section, Division of Biology, Beckman Research Institute of the City of Hope, 1450 East Duarte Road, Duarte, CA 91010.**

## POSITIONS OPEN

**POSTDOCTORAL POSITION** available in the field of bone marrow stem cell research and bone marrow transplantation. Current projects include the influence of the pedigree of donor marrow on long term hematopoietic function in recipients following marrow transplantation, mechanisms of engraftment and graft rejection of T depleted marrow across varying genetic barriers, and the role and long term effect of lymphokine use in engraftment and hematopoietic recovery following marrow transplantation. Salary is negotiable depending on experience. Applicants should send curriculum vitae and three letters of reference to: **Dr. Peter Mauch, Joint Center for Radiation Therapy, Harvard Medical School, 50 Binney Street, Boston, MA 02115.** An Equal Opportunity Employer.

## POSTDOCTORAL POSITION

The postdoctoral research fellowship is available immediately in the Department of Horticulture, Rutgers the State University of New Jersey, New Brunswick, New Jersey. The appointee will isolate and characterize molecular markers useful in mapping *Vaccinium* (blueberry) genomes of one diploid species. The laboratory facilities are excellent, and present activities include transformation, isolation and characterization of selected genes, and finger printing of cultivated crop species. It is located in proximity of the laboratories of newly formed Center for Agricultural Molecular Biology and only 3 miles from the Center for Advanced Biotechnology and Medicine. The fellowship is of 1-year duration, subject to renewal for up to 3 years. Successful candidate should have a Ph.D. and experience in the use of molecular biology techniques. Application with curriculum vitae and three letters of reference should be sent to: **Dr. Gojko Jelenkovic, Department of Horticulture, Rutgers University, New Brunswick, NJ 08903.**

**POSTDOCTORAL POSITION** available immediately to join a well-established research program using three-dimensional electron microscope tomography to investigate the three-dimensional structure of mitotic and polytene chromosomes. Of fundamental interest is understanding the higher order structure of chromosomes throughout the mitotic cell cycle and to relate such structural dynamics to chromosome function. Thick-section tomographic data is collected using our 300-Kv Phillips EM430 IVEM with an ultra-high tilt ( $\pm 80^\circ$ ) eucentric stage and a cooled 1024<sup>2</sup> CCD image detector. State-of-the-art computation and image display systems are available. Applicants should send curriculum vitae and names and addresses of three referees to either: **Drs. David A. Agard or John W. Sedat, HHMI Structural Biology Unit, Department of Biochemistry, UCSF Medical Center, San Francisco, CA 94143-0448.**

**POSTDOCTORAL POSITION IN BIOCHEMICAL PHARMACOLOGY** for recent Ph.D. interested in the biochemical modulation of anticancer drug activity. Research on the use of nucleoside transport inhibitors to increase the selectivity of antimetabolites against human tumors growing in culture or as xenografts in mice. Salary \$22,000 to \$25,000. Send curriculum vitae and four letters of recommendation to: **Judith A. Belt, Ph.D., Department of Biochemical Pharmacology, St. Jude Children's Research Hospital, 332 North Lauderdale, P.O. Box 318, Memphis, TN 38101.**

An Equal Opportunity/Affirmative Action Employer.

## POSTDOCTORAL AND/OR RESEARCH ASSOCIATE POSITIONS IN CELL BIOLOGY

Positions are available for persons interested in projects involving functional and molecular aspects of the cytoskeletal system of cells from different human tissues. Emphasis is being placed on studies of human diseases which are related to alterations in cytoskeletal or cell surface components. Applicants should possess a Ph.D. degree with experience in cell biology, biochemistry, and/or molecular biology.

Please send a recent curriculum vitae to: **Dr. Robert D. Goldman, Department of Cell Biology and Anatomy, Northwestern University Medical School, 303 East Chicago Avenue, Chicago, IL 60611.**

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



**UNIVERSITY OF CALIFORNIA  
DIRECTOR  
UNIVERSITYWIDE AIDS  
PROGRAMS**

The Director--Universitywide AIDS Programs reports to the Vice President-- Health Affairs. Responsibilities include management of a \$10 million Universitywide AIDS Research Program; administrative coordination of the activities of the Universitywide Task Force on AIDS; coordination of the analysis and development of AIDS-related policies and responses to AIDS-related issues of concern to the UC system; representing the Office of Health Affairs in interactions with legislative and administrative units of State Government with respect to AIDS-related issues; policy development; planning; analysis of reports and research proposals; the development and implementation of recommendations based on such analyses.

Position requires understanding of the scientific, medical, legal, and societal issues pertaining to AIDS; proven ability to successfully manage the scientific and fiscal aspects of a research award program; excellent oral and written communication skills; demonstrated ability to interact effectively with a broad spectrum of individuals; demonstrated supervisory skills; doctoral research or professional degree in a health-related discipline; research experience in the field of academic specialization, including publication in the scientific literature; experience in policy analysis and development in subject areas of concern to University Academic Health Centers.

Salary commensurate with experience and qualifications ranging between \$60,000 and \$75,000. Excellent benefits and relocation package. Send resume, salary history, and letter of application by December 2 to: University of California, Office of the President, Screening Committee 6, 2199 Addison Street, 192 University Hall, Berkeley, CA 94720.

An Equal Opportunity/Affirmative Action Employer

## BIOCHEMIST

A position is available in the Department of Basic Microbiology in the Merck Sharp & Dohme Research Laboratories for a bio or clinical chemist. The candidate will be responsible for HPLC and other chemical assays for antibiotics in biological specimens. A strong background in computer database systems is desirable. Acceptable candidates will have a Ph.D and postdoctoral experience.

Merck Sharp and Dohme Research Laboratories are located in Rahway, New Jersey approximately 25 miles from New York City. Our salaries, benefits and growth potential are excellent. Interested candidates should submit their resume with the names of three references and salary requirements to **Dolores Barefield, Merck Sharp & Dohme Research Laboratories, P.O. Box 2000, WBD-362, Rahway, New Jersey 07065.**

Equal Opportunity Employer.



**Merck & Co., Inc.**

# Biochemistry and Molecular Biology of Lipid Biosynthesis

**The Biotechnology Division** of Du Pont's Agricultural Products Department is seeking candidates for postdoctoral and/or permanent research positions in the area of lipid biosynthesis in plants. Both positions require a Ph.D. degree and expertise in one or more of the following areas: isolation and characterization of membrane-bound enzymes; quantitative analysis of lipid metabolism; molecular biology and genetics of lipid metabolism. Previous experience with higher plants, though desirable, is not required.

**At Du Pont** you'll find a stimulating scientific environment in a modern research facility located near Wilmington, DE. Our Mid-Atlantic location offers a wide range of academic, cultural, and recreational activities. We provide excellent compensation, benefits, and relocation assistance. Qualified candidates should send curriculum vitae with three letters of reference to: Dr. John Pierce, c/o Employee Relations Department, Du Pont Company, Room X-51434, Wilmington, DE 19898



U.S. Citizenship Required  
An Equal Opportunity Employer M/F/H/V

## TWO POSITIONS IN FISHERIES RESEARCH

The CSIRO Division of Fisheries is a major component of the CSIRO Marine Laboratories, which is Australia's principal marine research institution.

**•FISHERIES GENETICIST SENIOR RESEARCH SCIENTIST/PRINCIPAL RESEARCH SCIENTIST (Ref No: FC 88/27).** The Division is looking for a Senior Scientist to undertake research on diverse aspects of the genetics of Australia's commercially exploitable fish and invertebrates.

The research should complement other research groups in the Division providing direct input into problems of species identification, stock delimitation, movement and recruitment dynamics, growth studies and developing problems in mariculture.

The applicant should hold a PhD or equivalent qualifications in genetics with at least six years post doctoral research experience in population genetics including at least five years in fisheries or wildlife research together with substantial research achievement. **SALARY RANGE: AUS\$38,203 pa — AUS\$51,552 pa.**

**•FISH POPULATION ECOLOGIST RESEARCH SCIENTIST/SENIOR RESEARCH SCIENTIST (Ref No: FC 88/30).** The Division is looking for a Research Scientist to lead a team undertaking research into the abundance, distribution, movement and population ecology of commercially important fishes of the outer shelf and continental slope of Australia.

The appointee will be responsible for the formulation, performance and completion of the research, and in collaboration with other research staff, will include the development of field programs to assess population size and dynamics of continental shelf and slope fin fish species in Southern Australia.

The applicant should hold a PhD or equivalent qualification in Zoology, Marine Biology or Fisheries Ecology with post doctoral experience in population or fisheries biology of deep-water marine fin fishes. A demonstrated ability to plan and implement a field program for such fishes is essential.

**SALARY RANGE: AUS\$30,100 pa — AUS\$43,861 pa**

Appointment for both positions will be indefinite (tenured) with Australian Government Superannuation and will be located at the Marine Laboratories Headquarters in Hobart.

Further information including job description and selection criteria can be obtained from Dr PC Young by Fax Australia (002) 23 7125 or telephone Australia (002) 20 6222.

Applications are to be framed against the selection criteria, stating relevant particulars, including details of qualifications and experience and nominating at least three professional referees (for Ref No: FC 88/27) and at least two professional referees (for Ref No: FC 88/30). Applications should be addressed, quoting the appropriate reference number to:

**The Chief - CSIRO Division of Fisheries  
GPO Box 1538, HOBART, TASMANIA, 7001 AUSTRALIA  
By November 18, 1988**

CSIRO is an equal opportunity employer



## FELLOWSHIPS IN THEORETICAL NEUROBIOLOGY

The Neurosciences Institute invites applications for positions as Institute Fellows in Theoretical Neurobiology. Institute Fellows receive a stipend and are usually appointed for a period of two years with discretionary renewal for up to an additional two years.

The Institute is an independent organization located on the campus of The Rockefeller University in New York City. In addition to serving as the home of the Neurosciences Research Program, the Institute is a center of study and research for distinguished visiting neuroscientists. The Institute also supports a program of research in theoretical neurobiology which seeks to develop detailed simulations of neural function that are biologically based and experimentally testable. Current projects include the construction of categorization automata, analysis of synaptic modification mechanisms, and detailed simulations of various cortical and subcortical regions.

Applicants should be at the postdoctoral or assistant professor level. A background in experimental or theoretical neuroscience or related fields is required; training in physics or mathematics will be viewed with favor. Applicants should also have some computer expertise.

Address applications to Dr. W. Einar Gall, Research Director, The Neurosciences Institute, 1230 York Avenue, New York NY 10021. Include a short statement of interests, a curriculum vitae, and the names of three references.



**The Neurosciences Institute**  
of the Neurosciences Research Program

## Faculty Positions

**The Milton S. Hershey Medical Center**  
**The Pennsylvania State University**

The Department of Biological Chemistry is making a major commitment in the general area of molecular biophysics and structural biology. Applications and nominations are invited for six new faculty positions, three to be filled this year, with the remaining three to be filled in the next successive two years. All six positions will be either tenured or tenure-track 12-month appointments, with the initial three at any level from Assistant to Full Professor. Space, start-up funds, and salary are extremely competitive.

Successful candidates will be responsible for developing independent research programs and teaching in their discipline. Applicants who utilize X-ray crystallography, spectroscopic methods including 2-dimensional NMR, and modeling are particularly sought.

The ten current faculty members within the Department represent research interests in molecular genetics, enzymology, carbohydrate and lipid biochemistry, and protein folding. The Department also participates actively in several interdepartmental programs including those in Cell and Molecular Biology, Neurosciences, and the MD/PhD program.

The deadline for receipt of this year's applications is 1 December 1988. Interested individuals holding the Ph.D. degree with appropriate experience are invited to apply by sending their curriculum vitae, a short description of future research interests, and the names of three references to:

**Search Committee**  
**c/o Dr. George Rose, Chairman**  
**Department of Biological Chemistry**  
**The Milton S. Hershey Medical Center**  
**P.O. Box 850C**  
**Hershey, PA 17033**

Penn State is an equal opportunity/affirmative action employer.

## Microbiology Research

Pfizer Central Research is inviting applications from microbiologists to join its antibacterial discovery program. Working with a strong multidisciplinary project team, you will apply your basic research skills to ongoing projects and to conceptualizing new strategies for the discovery of mechanistically novel antibacterials for animal health applications.

We are seeking an accomplished scientist who is innovative, enthusiastic, has good communication skills, enjoys working as part of a team and has broad interests and capabilities. You must possess a PhD and at least two years of post-doctoral experience in microbiology. While specific experience in bacterial physiology/pathogenesis would be an asset, educational training, intellectual capabilities and leadership traits are most important.

This position offers excellent opportunities for professional recognition and career growth. We offer an excellent salary, benefit and relocation package, plus an attractive southeastern Connecticut shore location. Qualified applicants should submit their resume, a brief description of research accomplishments, and the names, addresses and phone numbers of three professional references to: Mr. Donald R. Nelson, Manager of Employee Relations, Pfizer Central Research, Eastern Point Road, Groton, CT 06340.



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## THE SCIENCE RECRUITMENT

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**CURRENT DISTRIBUTION 160,000**

**Department of Health and Human Services  
Public Health Service  
National Institutes of Health  
National Heart, Lung, and Blood Institute  
DIRECTOR, DIVISION OF  
INTRAMURAL RESEARCH**

Opening Date: October 17, 1988  
Closing Date: November 16, 1988

The National Heart, Lung, and Blood Institute is recruiting for the Scientific Director of the Division of Intramural Research. The Scientific Director directs a program of multi-disciplinary laboratory and clinical research for the National Heart, Lung, and Blood Institute, NIH. The Scientific Director serves as the principle advisor to the Institute Director on biomedical and scientific affairs involving the intramural research program. The Scientific Director develops and recommends policies for the execution of the intramural research programs, determines their ongoing effectiveness, and recommends or develops new or revised direct research programs dealing with fundamental and clinical research related to heart, lung, and blood diseases. In collaboration with senior officials, participates in the design and implementation of overall Institute management policies including program planning, budget formulation, and resource allocation. The division has a staff of approximately 425 employees and a current annual budget in excess of \$68 million.

This is a Civil Service position in the Senior Executive Service (SES), with base salary from \$65,994 to \$73,400 per year depending on qualifications. SES members are eligible for various bonuses and awards, and physicians are eligible for payments of up to \$20,000 per year, although total compensation cannot exceed the rate for Executive Level I (currently \$99,500 per year). (Alternatively, candidates may be eligible for appointment in the Commissioned Corps of the U.S. Public Health Service.) The SES individual selected, if not presently in the Senior Executive Service, must serve a one year probationary period.

Further information about the position and qualification requirements may be obtained by contacting Ms. Donna A. Brooks at (301) 496-6477. An Application for Federal Employment (SF-171) along with a Curriculum Vitae and Bibliography should be submitted to: Donna A. Brooks, Personnel Management Specialist, Building 31, Room 5A32, National Institutes of Health, National Heart, Lung, and Blood Institute, 9000 Rockville Pike, Bethesda, Maryland 20892. Additional information may be obtained from: Dr. Anthony S. Fauci, Chairman, Director, Division of Intramural Research Search Committee, Building 31, Room 7A-03, National Institute of Allergy and Infectious Diseases, National Institutes of Health, 9000 Rockville Pike, Bethesda, Maryland 20892 (301) 496-2263.



*(All applications must be post-marked by the closing date.)*  
**AN EQUAL OPPORTUNITY EMPLOYER**

## **POST DOC OR RESEARCH ASSOCIATE**

At Cetus Corporation, we are committed to maintaining our leading role in the research and development of biotechnology-based products.

### **CELL BIOLOGY**

We are currently seeking an experienced Research Associate to conduct experiments on the characterization and production and cloning of factors produced by the immune system. You will develop biological assays and perform Biochemical studies to characterize function, receptors, and mechanism of action.

To qualify for this position, you must have a Ph.D or Masters degree in immunology/cell biology or related areas, with hands on experience in immunology biochemistry and cell biology and a minimum of 5 years' related experience. Good oral and written communication skills are essential. Please respond to Box AC.

Cetus offers competitive salaries and excellent benefits. For immediate and confidential consideration, please send your C.V. including publications and references, indicating the appropriate box number, to:

**Cetus Corporation**  
1400 Fifty-Third Street  
Emeryville, CA 94608  
We are an Equal  
Opportunity Employer.



## **Visual Scientist**

Alcon Laboratories, Inc., is a \$500 million multinational manufacturer of pharmaceutical and surgical products supporting the ophthalmologist, as well as products used in the care of contact lenses. As a result of our continued dynamic growth, we have a need for an experienced Visual Scientist to assume a leadership role in our basic research and drug discovery efforts. We are looking for a mature professional who brings their own ideas into our multidisciplinary Research and Development environment.

Your primary responsibility will be developing and leading a group which supplies expertise in the measurement of visual function in animal models of ocular diseases such as glaucoma, retinal degenerative diseases, and inflammatory processes. Thus, your minimal tool skills will include the electrophysiologic, neurophysiologic and psychophysical assessment of vision. Beyond this, you must possess an understanding of the pathology, biochemistry, physiology, pharmacology and anatomy of the retina sufficient to take a leadership role in our team approach to research. Your duties will range widely from hands-on experimentation to proposing new programs and advising upper management on long-term goals and strategies.

This position offers excellent opportunity to participate in one of the world's most sophisticated ophthalmic clinical and research laboratories, in addition to providing a professional environment for growth and recognition. We offer a competitive salary, company paid benefits, an excellent profit sharing plan and a desirable Fort Worth location with recreational, cultural and economic advantages indigenous to the Sunbelt. For immediate and confidential consideration, please send curriculum vitae to: **Sherry H. Rightmer, Employment Supervisor, Alcon Laboratories, Inc., Placement and Development, P.O. Box 6600, Ft. Worth, TX 76115.**

Equal Opportunity Employer, M/F/H/V • Principals Only, Please



## POSITIONS OPEN

### POSTDOCTORAL POSITION IN IMMUNOLOGY

Position for Ph.D. or M.D. available immediately to investigate retinoid and lymphokine modulation of in vitro and in vivo cell development in humans. Emphasis will be on defective development/differentiation seen in humoral immunodeficiency. This postdoctoral scholar will work closely with the laboratories of **Dr. Andrew Saxon** (B cell differentiation defects) and **Dr. Neil Sidell** (retinoids and lymphoid development) in conducting these studies. Experience in one or more of the following general areas is desired: Cellular immunology, lymphoid development, molecular biology.

Please send curriculum vitae and three letters of recommendation to:

**Professor Andrew Saxon**  
Department of Medicine  
Division of Clinical Immunology and Allergy  
52-175 Center For Health Sciences  
UCLA School of Medicine  
Los Angeles, CA 90024  
Telephone: 213-206-8050

**POSTDOCTORAL RESEARCH** on the Effect of Mutations at an Enzyme Active Site on Function. A position is available for a candidate with research experience in enzymology or biophysical chemistry to join a research group active in this area [see *J. Biol. Chem.* **263**, 9187 and 10304 (1988)]. Training will be provided in methods for studying ligand binding, conformational equilibria and catalysis, include methods for the study of transient state kinetics. Starting salary \$22,000 or higher depending on relevant experience. To apply send curriculum vitae and three references to: **Dr. R. L. Blakley**, Department of Biochemical and Clinical Pharmacology, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, TN 38101. An Equal Opportunity Employer.

**POSTDOCTORAL RESEARCH ASSOCIATE** needed. Research on the organic synthesis of conductive polymers. (This project receives federal funding support from the U.S. Department of Defense.) This job involves the operation of High Resolution, FT-NMR (Fourier Transform-Nuclear Magnetic Resonance), FT-IR (Fourier Transform-Infrared) and GC-MC (Gas Chromatography-MASO Spectrometer) and Polymer Characterization equipments. Forty hours per week, 8:00 a.m. to 5:00 p.m., \$17,000 per year, no overtime. Six years of grade school, 5 years of high school, 4 years of college, Ph.D. degree with major field of study in chemistry required. One year of experience in related occupation as organic researcher required. Apply at the Texas Employment Commission, Arlington, Texas, or send résumé to: **The Texas Employment Commission, TEC Building, Austin, TX 78778, J.O. #5418055.**

### UNIVERSITY OF NEBRASKA-LINCOLN POSTDOCTORAL RESEARCH FELLOW MICROBIOLOGY/VIROLOGY

Conduct research in area of herpesvirus latency including identification and characterization of herpesvirus genes and gene products involved in initiation, maintenance, and reactivation of latent virus infections. Ph.D. in microbiology, biochemistry, or molecular biology with experience in molecular biology, protein biochemistry, and/or virology/tissue culture required. Send curriculum vitae and three letters of reference by 10 November 1988 to: **Dr. Daniel Rock, Veterinary Science Department, University of Nebraska-Lincoln, Lincoln, NE 68583-0905.** Affirmative Action/Equal Opportunity Employer.

**POSTDOCTORAL RESEARCH POSITION** is available in the Department of Biochemistry for studies on the role of the complement system in human immune defense. Projects include investigations of the mechanism of self-nonspecific recognition by the complement system and the design and use of fluorescent assays to study complement activation and control. The research areas include protein and carbohydrate chemistry, fluorescence, kinetics and computer modeling of complement activation. Salary above NIH standard and dependent upon relevant experience. Partial travel expenses. Send curriculum vitae and letters of recommendation to: **Dr. Michael K. Pangburn, Department of Biochemistry, The University of Texas Health Center at Tyler, P.O. Box 2003, Tyler, TX 75710.**

## POSITIONS OPEN

**POSTDOCTORAL RESEARCH ASSOCIATE**—Mechanism of HIV Cytopathicity. Position available to participate in studies on mechanism of HIV mediated cytopathicity and mechanisms of viral persistence in AIDS [Stevenson *et al.*, *Cell* **53**, 483-496 (1988)]. Experience in molecular biology is desirable. Curriculum vitae and three letters of recommendation to: **Mario Stevenson, Ph.D., Pathology and Microbiology, University of Nebraska Medical Center, 42nd and Dewey Avenue, Omaha, NE 68105** by 1 January 1989. An Affirmative Action/Equal Opportunity Employer.

**POSTDOCTORAL RESEARCH FELLOW IN MOLECULAR CELL BIOLOGY.** Skilled in basic recombinant DNA techniques, experience in mammalian cell culture, mRNA isolation and characterization (i.e. northern blotting and in situ hybridization), and protein purification. Interest in the changes of connective tissue genes (collagen, fibronectin and actin) as a function of tissue injury. Salary: \$16,000 to \$24,000. Excellent research environment, health benefits and scientific travel funds. Résumé and reference letters to: **Professor David Amiel, Director, Orthopaedic Biochemistry, UCSD M-030, La Jolla, CA 92093.**

The Division of Geological and Planetary Sciences at the California Institute of Technology expects to offer **POSTDOCTORAL RESEARCH FELLOWSHIPS** in one or more of the following areas: geology, geophysics, geochemistry, cosmochemistry, and planetary sciences. Interested persons are asked to send their résumés to: **The Division Chairman, Division of Geological and Planetary Sciences, California Institute of Technology, Pasadena, CA 91125.** An Equal Opportunity/Affirmative Action Employer.

**POSTDOCTORAL RESEARCH POSITION**, immediately available, devoted to the purification and molecular biology of human platelet thromboxane A<sub>2</sub> receptors. Opportunity to work with an interdisciplinary group. Experience with protein purification desired. Send curriculum vitae to: **Dr. Perry V. Halushka, Department of Cell and Molecular Pharmacology, Medical University of South Carolina, 171 Ashley Avenue, Charleston, SC 29425.** MUSC is an Equal Opportunity/Affirmative Action Employer.

**POSTDOCTORAL RESEARCH POSITION** available to study the role of polyunsaturated fatty acids in immunoinflammatory phenomena, particularly the salutary effect of essential fatty acid deficiency on glomerulonephritis and renal transplants. Experience in lipid biochemistry or immunology desirable. Salary competitive and commensurate with experience. Send curriculum vitae and names of three references to: **James B. Lefkowitz, M.D., Department of Pharmacology, Box 8103, Washington University School of Medicine, 660 South Euclid Avenue, St. Louis, MO 63110.**

### PROGRAM/PROJECT DIRECTOR WORLD RESOURCES INSTITUTE (WRI)

WRI, a non-profit research center, seeks a Director for its *World Resources Report* series and the associated Resource and Environmental Information Program. The *Report*, a biennial series, provides information and analyses of conditions and trends in global natural resources and the environment. Responsibilities include: planning and managing preparation of the *Report* under tight deadlines, overseeing five staff members plus numerous outside chapter authors and production assistants, developing and implementing distribution plans in foreign and domestic markets, developing other projects within the program to increase access to and use of the *Report's* database, library and staff expertise. The ideal candidate possesses demonstrated skills in research/publication management, staff supervision, quantitative data and policy analyses, writing and editing, and a knowledge of the subject areas. Candidates should submit résumé, writing samples, and salary requirement to: **J. Alan Brewster, WRI, 1750 New York Avenue, NW, Washington, D.C. 20006.** WRI is an Equal Employment Opportunity Employer.

## POSITIONS OPEN

### PROFESSOR OF BIOMECHANICS

The University of Berne seeks a new **Director of the Maurice E. Müller Institute for Biomechanics.** The position is that of a **Full Professor** in the Faculty of Medicine. The M. E. Müller Institute for Biomechanics is part of the Faculty of Medicine and is financed in part by the Maurice E. Müller Foundation for the advancement of research in orthopaedic surgery, and by the State of Berne. The Institute's task concerns applied and basic research on the biomechanics of the locomotor system in its broadest sense. The Institute collaborates closely with the Department of Orthopaedic Surgery and participates in postgraduate teaching. The new director is expected to pursue advanced specialized research with his own group. He shall also be prepared to engage in collaboration and to foster research projects of other groups related to biomechanics. Applicants must have an accomplished research record in this field. Applications should comprise curriculum vitae, a complete list of publications, reprints of the five most important representative papers, and personal references. They should be received by 1 December 1988 at: **Erziehungsdirektion des Kantons Bern, Sulgenekstrasse 70 (1300.15/88), CH-3005 Berne, Switzerland.**

**PROTEIN BIOCHEMIST** with excellent scientific credentials to develop his/her own program preferably in the areas of growth factors or receptors to qualify for a tenure-track position at any professorial rank. Submit curriculum vitae, a short statement of future plans, and direct three letters of reference to be sent to: **Dr. Gerald Litwack, Deputy Director, Fels Institute for Cancer Research and Molecular Biology, Temple University School of Medicine, 3420 North Broad Street, Philadelphia, PA 19140.** An Equal Opportunity Employer.

**PROTEIN BIOCHEMIST**—Proficient in purification and characterization of connective tissue proteins using ion-exchange, gel exclusion and affinity chromatography, isoelectric focusing, hydroxyapatite chromatography, HPLC, electrophoresis, blot transfer, tissue culture. Knowledge of producing and characterizing monoclonal and polyclonal antibodies. Identify new proteins in bone dentin and tumor tissues. Understand the molecular mechanisms of isolation of receptors for growth factors.

Requirements include a doctorate in biochemistry or biology, and at least 2 years of postdoctoral and 1 year of practical experience involving protein biochemistry of protein purification. Forty hours per week. Salary negotiable. Position located at UCLA.

Résumé only to: **Susan Wall, 1000 Veteran Avenue, Room A3-34, Los Angeles, CA 90024.**

### PROTEIN MOLECULAR BIOLOGY/BIOCHEMISTRY UNIVERSITY OF CALIFORNIA, IRVINE

A tenure-track **ASSISTANT PROFESSOR** working on protein structure and function is being recruited by the Department of Molecular Biology and Biochemistry, University of California at Irvine. Candidates should have pre and/or postdoctoral experience in protein biochemistry and the molecular manipulation of protein structure as a probe for critical functional domains involved in biologically significant macromolecular interactions. Please submit curriculum vitae, representative publications, a statement of current and future research interests and the names and addresses of three references by 1 February 1989 to the following address.

**Dr. B. A. Hamkalo, Chair**  
Protein Structure/Function Search Committee  
Department of Molecular Biology and Biochemistry  
University of California, Irvine  
Irvine, CA 92717

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

**RESEARCH ASSOCIATE** to conduct research in population genetics using molecular methods. Will use the following techniques in experiments on *Drosophila*: plasmid and phage constructions, DNA sequencing, in vitro mutagenesis, and embryo microinjection. Ph.D. in genetics to include training/education in population genetics and the basic methods of molecular biology. Salary: \$17,400 per year. Forty hours per week. Contact: **The Job Service at 516 North Mangum Street, Durham, NC 27102** or the **Job Service office nearest you.** Refer to Job Order Number NC 8104057.



# SENIOR SCIENTISTS

## Toxicology Research

For more than a century, scientists at ELI LILLY AND COMPANY have developed innovative, high quality pharmaceutical products. In 1988, Lilly is investing over \$500 million in research-and-development programs. More than 3,000 scientists at the company's Lilly Research Laboratories are pursuing creative research programs that involve many important health care needs.

To further build its research capabilities, Lilly is seeking self-motivated, innovative scientists in the following areas:

### Cardiovascular Physiology

- To direct laboratory efforts investigating the cardiac and hemodynamic effects of new pharmaceuticals and agrichemicals in the context of toxicology research and safety assessment, utilizing a variety of conscious animal models and state-of-the-art instrumentation.
- Must have Ph.D. in pharmacology, physiology, or a related discipline. (Post-doctoral training is preferable, but not essential.)
- Laboratory experience in the design, execution, and analysis of hemodynamic parameters in whole animal preparations is required.
- Experience with the programming or use of laboratory computers is necessary.

### Biochemical Toxicology

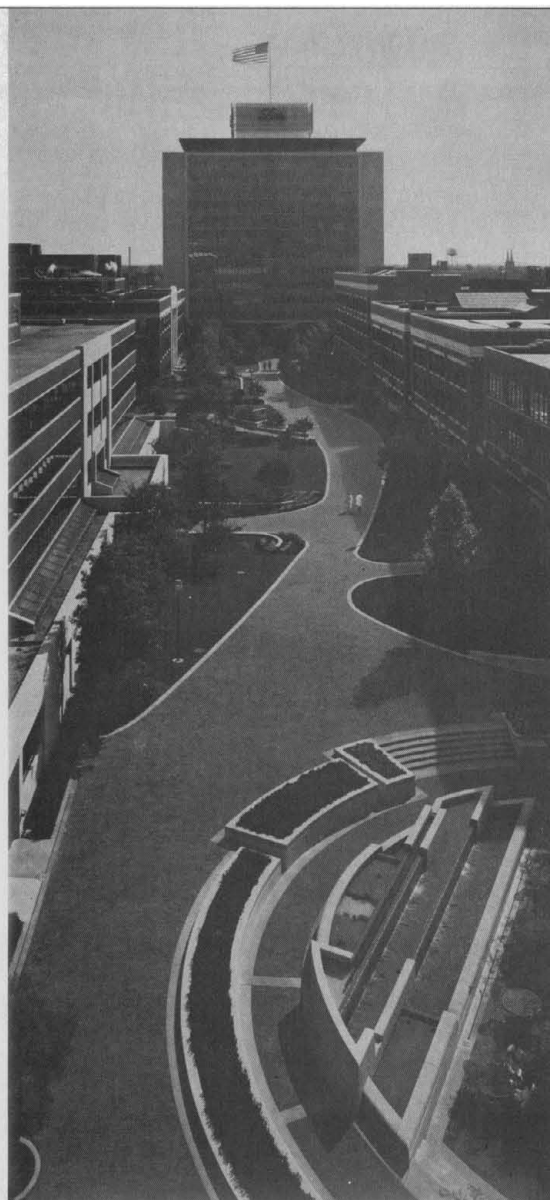
- To investigate the toxicology of novel therapeutic agents; to support these investigations through the design, conduct, and evaluation of pharmacokinetic studies; and to provide insights into the mechanisms of toxicity in a laboratory environment.
- Ph.D. in pharmacology, toxicology, or a related discipline is required. (Post-doctoral training is preferable, but not essential.)
- Experience in toxicology, pharmacokinetics, and/or drug metabolism is necessary.

In addition, these scientists must have the leadership capabilities needed—technical, communication, interpersonal, and organizational skills—to build a research program.

Eli Lilly and Company is committed to scientific excellence. Lilly provides a stimulating professional atmosphere with many opportunities for collaborative, multidisciplinary research. The company offers an attractive total compensation program. Entry level and salary will be based upon each candidate's experience.

For prompt consideration, please forward your *curriculum vitae* to:

**John W. Crooks, Manager**  
**Ph.D. Recruitment (BCT)**  
**Eli Lilly and Company**  
**Lilly Corporate Center**  
**Indianapolis, Indiana 46285**



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## POSITIONS OPEN

**RESEARCH ASSISTANT/ASSOCIATE** to aid in landscape level spatial simulation modeling of the Chesapeake Bay drainage basin. A balance between advanced computer skills and ecological experience is required along with the ability to interact with a large interdisciplinary group. Minimum requirements are a M.S. in a relevant discipline and demonstrated computer skills. Salary is \$18,000 to \$23,000. Send a résumé and three references by 18 November 1988 to: **Dr. Robert Costantza, Chesapeake Biological Laboratory, University of Maryland, Solomons, MD 20688-0038.** The UM is an Affirmative Action/Equal Opportunity Employer.

### RESEARCH ASSOCIATE

The Division of Oncology at the University of Minnesota has an immediate opening for a non-tenured track, annually renewable appointment as a research associate in cancer biology. Research will be conducted on hormonal regulation of gene expression and oncogene expression of growth factors in human breast cancer. A Ph.D. in biochemistry is required, while Ph.D. with M.D. is preferred. Send curriculum vitae, brief summary of research interests, future goals, and names of three references by 30 November 1988 to:

**Dr. David Kiang**  
Associate Professor of Medicine  
Division of Medical Oncology  
University of Minnesota Medical School  
420 Delaware Street, Box 168 UMHC  
Minneapolis, MN 55455

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

University of Minnesota Department of Radiology has an annual-renewable position available for a synthetic organic chemist at the rank of **RESEARCH ASSOCIATE** beginning 15 December 1988. The individual must have a Ph.D. in chemistry with specialization in synthetic organic chemistry. The individual must have documented research and experience in synthesis and radiolabeling of analogs of MPTP. The individual must also have experience in safe handling of neurotoxins; synthesis of non-classical nucleotides as potential antiviral agents; animal handling to determine the biodistribution of these compounds and potential adverse effects; ability to perform autoradiographic analysis of animal specimens and should be comfortable with quantum mechanical modeling to determine structure activity relationships of potential radiopharmaceuticals. An interest in the application of super-computer based algorithms to this modeling is desirable. Responsibilities include the areas mentioned above and graduate and undergraduate teaching. Salary is negotiable and competitive, and is dependent upon past scholarly activity and post-Ph.D. experience. Applications for this position will be accepted through 30 November 1988. Send letter to: **Dr. Robert Boudreau, Director of Nuclear Medicine, Department of Radiology, University of Minnesota Medical School, Box 382 UMHC, 420 Delaware Street, S.E., Minneapolis, MN 55455.** The University of Minnesota is an Equal Opportunity and Affirmative Action Educator and Employer and specifically encourages applications from women and minorities.

### RESEARCH ASSOCIATE

Ph.D. in molecular biology/biochemistry, available immediately. Experience in membrane proteins. Salary up to \$25,000. Send résumé and three references to: **Dr. O. P. Bahl, Department of Biological Sciences, SUNY, Cooke Hall, Buffalo, NY 14260.** SUNY is an Affirmative Action/Equal Opportunity Employer.

**RESEARCH ASSOCIATE/POSTDOCTORAL POSITION** is available for a neuropharmacologist to participate in studies of brainstem and spinal regulation of nociceptive behavior. Applicants should have a Ph.D. or M.D. degree with research experience. The work involves neurochemical studies of nociceptive neurotransmitters, stereotaxic catheter placement for microinjections, and the use of nociceptive testing paradigms. Send résumé to: **David J. Smith, Ph.D. (Anesthesiology/Pharmacology) at the Department of Anesthesiology, West Virginia University, Health Sciences Center, Morgantown, WV 26505.** The position is funded by the University Health Associates which is an Equal Opportunity Employer/M/F/H.

## POSITIONS OPEN

**RESEARCH ASSOCIATE AND INSTRUCTOR IN PATHOLOGY** at teaching hospital affiliated with medical school. Duties include research on the basic mechanisms of fibrinolysis/blood coagulation with emphasis on thrombin activation of fibrinogen and tPA/plasminogen interaction with fibrin. Applicant must have a Ph.D. in biochemistry and a minimum of 2 years of relevant research experience. Must have demonstrated, detailed knowledge of fibrin(ogen) biochemistry as shown by scientific publications. Must have detailed experience with techniques for plasma protein purification, HPLC, and ion exchange chromatography, Western blotting, autoradiography, protein modification, binding and kinetic analysis, and preparation and characterization of monoclonal antibodies. Salary: \$27,000 per annum. Send résumés to: **Division of Employment Security, Hurley Building, Boston, MA 02114** and refer to job reference **#81306.** An Equal Opportunity/Affirmative Action Employer.

**RESEARCH ASSOCIATE IN NEUROCHEMISTRY**—staff position at the CSI/IBR Center for Developmental Neuroscience at The College of Staten Island of the City University of New York. Seeking candidates with 2 to 4 years of postdoctoral experience for studies on the role of protein phosphorylation in the regulation and adaptation of receptor function, utilizing neuronal cell-lines and CNS neurons grown in culture. Previous experience in protein purification desirable. Starting date: 1 January 1989; competitive salary, excellent benefits. Send curriculum vitae and names of three references by 30 November 1988 to: **Dr. Yigal H. Ehrlich, CSI/IBR Center for Developmental Neuroscience, The College of Staten Island/CUNY, 50 Bay Street, Staten Island, NY 10301.** Equal Opportunity/Affirmative Action Employer.

**SCIENTIFIC DIRECTOR, OFFICE OF AGRICULTURE BIOTECHNOLOGY**—The U.S. Department of Agriculture is seeking an individual with recognized credentials to serve as scientific advisor to the Secretary of Agriculture and the Assistant Secretary for Science and Education in coordinating the Department's policies and procedures pertaining to all facets of biotechnology. In addition, this individual will act as a consultant to other USDA agencies and Federal research and regulatory organizations on issues relating to biotechnology. This is a full-time permanent position providing leadership, direction, and guidance to nationwide and international research programs and projects. Advanced education/experience in the area of biotechnology research and the public issues relating to biotechnology is required. Starting salary is \$64,397 to \$72,500 based on experience and salary history. Full Federal benefits package. Send SF-171 form to: **USDA, ES, PMSD, Room 3547-S, 14th and Independence Avenue, SW, Washington, DC 20250-0900.** Reference announcement 373-A. Applications must be postmarked by 21 November 1988. For further information and a copy of the complete application package, call: **Wayne Winker at 202-475-4811.**

USDA is an Equal Opportunity Employer.

### SENIOR FACULTY POSITION

Applications and nominations being accepted for a senior faculty member at full professor. Requires distinguished record of accomplishment in research and teaching. Remit curriculum vitae, including a list of publications and an indication of research interests and the names of three references, by 20 November 1988 (or until suitable candidates apply thereafter) to: **Professor Michael D. Gross, Department of Chemistry, University of Nebraska—Lincoln, Lincoln, NE 68588-0304.** Telephone: 402-472-2794. Affirmative Action/Equal Opportunity Employer.

Louisiana State University (LSU) Eye Center is looking for a **SENIOR PHARMACOLOGIST.** Applicant should be interested in drug delivery systems although other areas of research will be considered.

Previous experience in ophthalmology not necessary. Interested applicants send curriculum vitae to: **Herbert E. Kaufman, M.D., LSU Eye Center, 2020 Gravier Street, Suite B, New Orleans, LA 70112.** LSUMC is an Equal Employment Opportunity/Affirmative Action Employer.

## POSITIONS OPEN

**STAFF SCIENTIST**—Nuclear Radiation Physics—for NE Ohio manufacturer to conceive, plan, develop, and coordinate research projects to create new products/processes; conduct research in frontier areas of thermoluminescent dosimetry; serve as staff specialist in all areas of dosimetry providing expert advice both internally and to customers. No experience required. Must have Ph.D. or A.B.D. in physics, radiation physics, or nuclear engineering, with specialization in thermoluminescent dosimetry, together with detailed knowledge of the following as evidenced by successful completion of one graduate course or one paper (authored or co-authored and submitted for publication in refereed journal) on each of three topics: Non-linear least squared techniques applied to deconvolution of thermoluminescent glow curves and computerized glow curve deconvolution techniques and applications; general cavity theory applied to thermoluminescent dosimetry; and theoretical and practical aspects of dosimetry of heavy charged particles using lithium fluoride thermoluminescent dosimetry and application of track structure theory and track intersection theory to dosimetry in radiation fields with emphasis on supralinear thermoluminescent dose response region. Forty hours per week, 8 a.m. to 5 p.m. Salary: \$48,300 per year. Qualified applicants reply immediately with résumé to: **R. Lechler, JO# 1083817, Ohio Bureau of Employment Services, P.O. Box 1618, Columbus, OH 43216.**

**STAFF SCIENTIST** to work on the genetic manipulation of maize utilizing haploid plant cell and tissue culture techniques. Ph.D., postdoctoral and previous experience with maize haploids required. Applications will be accepted until 11 November 1988. Send letter, transcripts, publications, and three letters of reference to: **Debbie Bosch, Recruitment, United AgriSeeds, Inc., P.O. Box 4011, Champaign, IL 61820.**

The Department of Environmental, Population and Organismic Biology, University of Colorado, invites applications in **STRUCTURAL BOTANY.** Rank is open, assistant professor level preferred. We are strongly committed to diversity in all areas; therefore, we encourage applications from all people, including women, minorities and disabled persons. A vigorous research program in an area such as plant morphogenesis, biomechanics, or organismal evolution is expected. Teaching duties include plant anatomy and development, and a course in research specialty. Curriculum vitae, statement of research interests, and three letters of recommendation should be sent by 1 January 1989 to: **Meredith A. Lane, EPOB—Campus Box 334, University of Colorado, Boulder, CO 80309-0334.**

### SAINSBURY LABORATORY TRANSPONSON TAGGING IN ARABIDOPSIS

A Sainsbury Laboratory **POSTDOCTORAL POSITION** is available immediately to develop an efficient transposon tagging system in *Arabidopsis thaliana*. The successful candidate will be seconded to work with **Dr. Caroline Dean** in the John Innes Institute. The project involves developing lines of *Arabidopsis* which contain maize transposons in genetically mapped locations. The lines will be tested by tagging specific *Arabidopsis* genes. Experience in molecular genetics would be desirable.

The position is for 3 years and the salary will be on the scale £9,865 to £15,720. Contributory superannuation. Equal Opportunities Employer.

Applications, including full curriculum vitae, and the names of two referees, should be sent to: **The Personnel Officer, John Innes Institute, Colney Lane, NORWICH, NR4 7UH.** Closing date: 14 November 1988. Quote Reference: SL/CD.

### VERTEBRATE EMBRYOLOGIST— FACULTY POSITION

Tenure-track starting fall, 1989. Ph.D. required; university/college teaching and/or postdoctoral experience desirable. Teaching will include vertebrate embryology, comparative vertebrate anatomy and introductory courses. The appointee will be expected to develop a research program involving undergraduates and masters-level students. Send curriculum vitae, undergraduate and graduate transcripts, a brief statement of teaching philosophy and research interests, and three letters of recommendation by 15 December 1988 to: **Dr. Carl Train, Department of Biology, Southeast Missouri State University, Cape Girardeau, MO 63701.** An Equal Opportunity/M/F/Affirmative Action Employer.

## FACULTY POSITIONS—HERPES VIROLOGIST/ MOLECULAR BIOLOGIST

### ST. JUDE CHILDREN'S RESEARCH HOSPITAL

The Department of Virology and Molecular Biology at St. Jude Children's Research Hospital has two positions available at the junior and senior levels for individuals with research interests in the molecular biology and pathogenesis of the herpesviruses. Candidates should have a Ph.D., M.D., or veterinary degree with research accomplishments that reflect an ability to maintain an independent program. We are seeking to complement our current research programs which include studies of the replication and pathogenesis of influenza and paramyxoviruses, iridoviruses, adenoviruses and EBV.

The 17-member Department of Virology and Molecular Biology is part of St. Jude's multidisciplinary staff of 120 faculty and 60 postdoctoral fellows engaged in both clinical and basic research. The positions, which are well supported by institutional resources, offer opportunities for collaborative research with members of the Immunology, Tumor Cell Biology, Biochemistry, and Pharmacology Departments, as well as with members of the clinical staff.

The Institution has Core facilities for the synthesis of oligonucleotides and peptides, for peptide and DNA sequencing, a hybridoma facility, an electron microscope facility, two shared flow cytometers, a molecular modeling/molecular biology computer facility, and a state-of-the-art animal care facility. A new basic research building will provide over 200,000 square feet of laboratory space.

Candidates should send a *curriculum vitae*, including a brief description of research, and names of three references to: Dr. John W. Sixbey, Chairman, Search Committee, Departments of Infectious Diseases and Virology and Molecular Biology, St. Jude Children's Research Hospital, P.O. Box 318, Memphis, TN 38101-0318.

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## WALTHER ONCOLOGY CENTER

### FACULTY AND POSTDOCTORAL POSITIONS MOLECULAR BIOLOGY

THE WALTHER ONCOLOGY CENTER at the INDIANA UNIVERSITY SCHOOL OF MEDICINE, is seeking motivated and productive candidates to pursue original basic research in the areas of:

**Gene transfer:** transfection, retroviral infection, transgenic mice, especially as it relates to growth and differentiation factors and their receptors, and **Signal transduction.**

Faculty (tenure- and non-tenure-track) and post-doctoral positions are available for candidates with PhD, MD and MD/PhD degrees. Primary appointments will be in clinical and/or basic science departments within the Medical School. Laboratory space will be in the new Clinical Research Building.

Interested candidates should send their C.V., publication list, research goals and the names and addresses of at least three references to:

**Hal E. Broxmeyer, PhD**  
Professor of Medicine,  
Microbiology and Immunology  
Scientific Director, The Walther Oncology Center  
Indiana University School of Medicine  
Clinical Building, Rm 379  
541 Clinical Drive  
Indianapolis, Indiana 46223

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UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL  
*Seeks Qualified Candidates for*

## Department Chair Department of Parasitology and Laboratory Practice

The Department of Parasitology and Laboratory Practice is one of eight departments in the School of Public Health in the Division of Health Affairs. The Department is being reorganized to focus its activity away from Laboratory Practice toward medical and molecular parasitology.

**Responsibilities:** provide leadership in achieving research and curricular goals; attract external research funding; recruit faculty and encourage development of interactions with other departments in the School of Public Health and the School of Medicine in matters related to parasitology and infectious diseases; and to administer other matters pertaining to the operation of a strong academic department with a graduate research emphasis.

**Qualifications:** Earned doctorate with a biochemical, molecular or immunological research orientation. Record of professional activities, research, and scholarship which establishes preeminence at the national/international level. Possession of the requisite administrative skills for the development and management of a sound academic program.

**Faculty status, rank and salary:** Tenure track position at the Associate or Full Professor level, rank and salary commensurate with experience and qualifications.

Review of applications will begin on November 1, 1988 and continue until the position is filled. Expected starting date is July 1, 1989.

**Application:** Send resume and names of three references to:



Professor Philip C. Singer, Chair  
Parasitology and Laboratory Practice  
Search Committee  
CB 7400, Room 106, Rosenau Hall  
University of North Carolina  
Chapel Hill, NC 27599-7400

*The University of North Carolina at Chapel Hill is an equal opportunity, affirmative action employer. Minority applicants are encouraged to identify themselves.*

## PROJECT SCIENTIST

Ph.D. in biochemistry, bioengineering, or related discipline with up to five years' experience or M.S. with three to eight years' experience. Experience with oxygen chemistry, mass spectrometry, or stable isotopes required. Responsible for analysis of [18]O-enriched biological samples. Develop analytical methods and collaborative and independent research programs. Good interpersonal, written and oral communication skills.

Qualified applicants should submit their resume, including salary history and salary requirement, in confidence to:

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## POSITIONS OPEN

### TENURE-TRACK POSITION UNIVERSITY OF KENTUCKY MEDICAL CENTER/ L. P. MARKEY CANCER CENTER

The Departments of Surgery and Microbiology and Immunology invite applications for a tenure-track position at the level of assistant/associate professor. Candidates should have a strong background in cell or molecular biology with an interest in the biology of cancer cells. Of particular interest are candidates with expertise in the mechanisms of tumor invasion and metastasis the role of retroviruses in tumor etiology and development, or the role of viral or cellular oncogenes in tumor progression. The applicant will join an active group of cell and molecular biologists located in the recently completed Dorothy Enslow Combs building of the Lucille Parker Markey Cancer Center. Applicants must hold the Ph.D., M.D. or D.V.M. degree and have at least 2 years of postdoctoral experience. Associate professor candidates must have an established research program. An attractive start-up package is available and the 12-month salary is competitive and commensurate with experience.

Applicants should submit an application letter, curriculum vitae, a statement of research interests and have three letters of reference sent by 1 November 1988 to: **Stephen G. Zimmer, Ph.D., Chairman Search Committee, Department of Microbiology and Immunology, L. P. Markey Cancer Center, 800 Rose Street, Lexington, KY 40536-0084.**

### TOXICOLOGIST AND PHARMACOLOGIST

Positions available immediately for a toxicologist and a pharmacologist. A Ph.D. degree in toxicology, pharmacology or related fields with special interest in some aspects of toxicology or pharmacology research. The incumbents will be expected to establish a strong research program based on extramural funding. Salary and level of appointment of these positions will be commensurate with experience.

Send curriculum vitae, a statement of career objective and three letters of reference to:

**Dr. Marcellus Grace**  
Dean and Interim Chairperson  
Division of Basic Pharmaceutical Sciences  
College of Pharmacy  
Xavier University of Louisiana  
7325 Palmetto Street  
New Orleans, LA 70125

*Xavier University is an Equal Opportunity Employer.*

**VERTEBRATE PHYSIOLOGIST**—The Department of Biological Sciences, University of Denver, seeks applicants with postdoctoral experience for a tenure-track position at the assistant professor level. Preference will be given to applicants with research interests in reproductive physiology, neurophysiology, or endocrinology. The applicant will be expected to establish a high quality program of research and teaching at the undergraduate and graduate level. A productive research program, characterized by extramural support and the direction of graduate students at the M.S. and the Ph.D. level, is expected. Teaching responsibilities will include an undergraduate course in mammalian physiology with laboratory, and other courses dependent on research major interests. Forward curriculum vitae, a statement of research plans and three letters of reference to: **Dr. Robert Dores, Department of Biological Sciences, University of Denver, Denver, CO 80208-0178.** Applications must be received by 15 December 1988. *Qualified women and minorities are encouraged to apply. An Equal Opportunity/Affirmative Action Employer.*

## TRAINING PROGRAM

**PRE- AND POSTDOCTORAL TRAINING IN PULMONARY DISEASE:** Positions are available at The Johns Hopkins Medical Institutions for multidisciplinary research training in lung diseases. Areas of interest include the immunology, physiology, cell biology, biochemistry, and toxicology of the lung. For further information please contact: **J. T. Sylvester, M.D., Division of Pulmonary and Critical Care Medicine, 600 North Wolfe Street, Baltimore, MD 21205.** *Minority candidates are encouraged to apply.*

## GRADUATE STUDIES

### NEUROSCIENCES AT BAYLOR COLLEGE OF MEDICINE

Baylor College of Medicine offers an interdepartmental Neuroscience Program for students interested in advanced study leading to the Ph.D. in neuroscience. Applications for 1989-1990 must be completed by 1 June 1989, but earlier submission is encouraged. Information regarding the program, financial support, and application procedures may be obtained from: **Daniel Johnston, Ph.D., Director of Graduate Studies, Program in Neuroscience, Baylor College of Medicine, NB302, One Baylor Plaza, Houston, TX 77030.**

## FELLOWSHIPS

### SMITHSONIAN INSTITUTION FELLOWSHIP PROGRAM

**GRADUATE STUDENT, PRE-, POST-, AND SENIOR POSTDOCTORAL FELLOWSHIPS** in American history and material culture, anthropology, biological sciences, earth sciences, history of art, history of science and technology. Tenable in residence at the Smithsonian and its research facilities. Stipends and tenures vary. Deadline: January 15th annually. Contact: **Smithsonian Institution, Office of Fellowships and Grants, 955 L'Enfant Plaza, Suite 7300, Desk N, Washington, DC 20560. Telephone: 202-287-3271.**

*Awards are based upon merit, without regard to race, color, religion, sex, national origin, age, or condition of handicap of applicant.*

**MARINE SCIENCE.** Two postdoctoral fellowships starting 3 January 1989; 1½-year minimum term. **Marine Botany:** experience with algal or seagrass ecology and physiology using SCUBA. **Benthic Ecology:** experience with metabolism, microbes, or modeling preferred. Salary range: \$20,000 to \$23,000. Submit résumé and two letters of recommendation by 15 November 1989 to: **Dr. Kenneth Dunton (Botany) or Dr. Paul Montagna (Bethos), The University of Texas at Austin, Marine Science Institute, Port Aransas, TX 78373-1267.** *An Equal Opportunity/Affirmative Action Employer.*

### POSTDOCTORAL FELLOWSHIPS IN THE DEPARTMENT OF ANATOMY AND NEUROBIOLOGY UNIVERSITY OF CALIFORNIA, IRVINE

Several positions for research in individual laboratories in the Department are available for candidates who have demonstrated research promise at the predoctoral or postdoctoral level. The emphasis of research in the Department is in the Neurosciences with special expertise in neuromorphology, sensory physiology, and molecular neurobiology. The faculty of the Department and their research interests are:

- Dr. Robert Blanks:** Eye movement control, physiology of upper airway
- Dr. James Fallon:** Chemical neuroanatomy, transmitters and growth factors
- Dr. Christian Gall:** Limbic/olfactory anatomy, neuropeptides, neurochemical plasticity
- Dr. Roland Giolli:** Visuomotor system
- Dr. Stewart Hendry:** Primate visual system
- Dr. Paul Isackson:** Molecular neurobiology
- Dr. Edward Jones:** Sensory-motor anatomy and physiology
- Dr. Leonard Kitzes:** Auditory system anatomy and physiology
- Dr. Charles Ribak:** Epilepsy, neurotransmitters and circuits
- Dr. Richard Robertson:** Thalamocortical development
- Dr. Malcolm Semple:** Auditory processing
- Dr. John Swett:** Spinal cord and peripheral nervous system
- Dr. Yasuhiro Torigoe:** Peripheral nervous system and oculomotor control

Applications or inquiries for additional information should be sent to:

**Dr. Edward G. Jones, Chairman**  
Department of Anatomy and Neurobiology  
University of California  
Med Surge II, Room 364  
Irvine, CA 92717

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## FELLOWSHIPS

**CANCER RESEARCH POSTDOCTORAL FELLOWSHIPS**—Positions available for postdoctoral research training in oncology. Ph.D. or M.D., U.S. citizen or permanent resident. Programs areas: Carcinogenesis, clinical immunology, clinical research, endocrinology, epidemiology, immunology, molecular genetics, and radiobiology. Contact: **Norris Cotton Cancer Center Administration, Dartmouth-Hitchcock Medical Center, Hanover, NH 03756.** *Affirmative Action/Equal Opportunity Employer.*

## SYMPOSIUM

**SYMPOSIUM ON TRANSGENIC TECHNOLOGY IN MEDICINE AND AGRICULTURE**, 12 to 15 December 1988, Masur Auditorium, Warren E. Magnuson Clinical Center, National Institutes of Health, Bethesda, Maryland. Sponsored by the Center for Population Research, National Institute of Child Health and Human Development. The meeting will focus on: gene transfer: approaches, methods, and tools; gene expression in transgenic systems: uses of transgenics in understanding biology; potential uses of transgenic systems in medicine; the production of pharmaceutical transgenic animals in agriculture; and commercial and environmental concerns. Much of the symposium has been scheduled but additional time will be allotted for submitted abstracts. Abstracts will be accepted for the meeting and must be submitted by 8 November 1988. For more information, to obtain a program, or to submit an abstract, contact: **Penny Colbert, CPR, Room 604, EPN, 9000 Rockville Pike, Bethesda, MD 20892, or call: 301-496-1101.**

## MARKETPLACE

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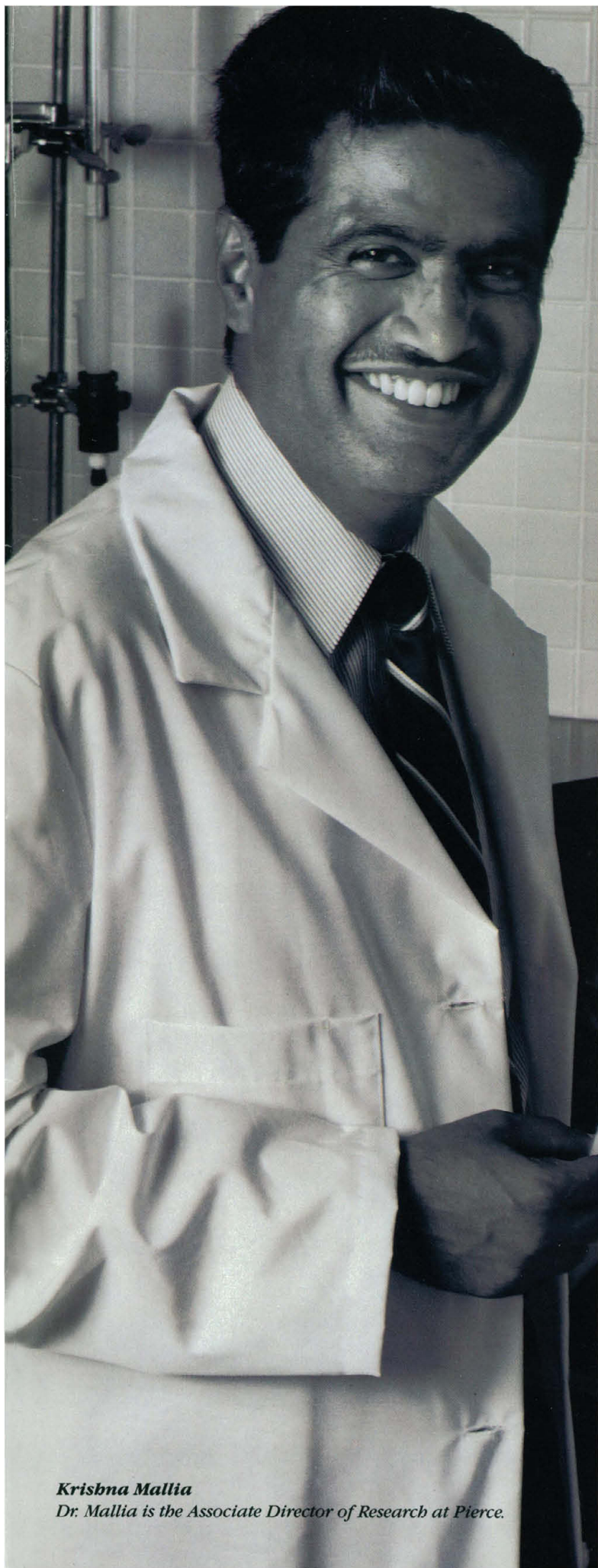
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**Krishna Mallia**  
Dr. Mallia is the Associate Director of Research at Pierce.

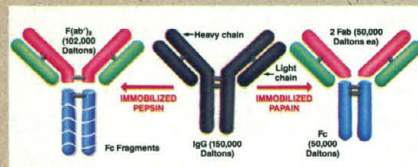
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# How To Choose The Right Low Pressure LC System Even If It Isn't Ours

To simplify choosing the right peristaltic pump, detector and fraction collector for your LC System, review these guidelines and send for our free Low Pressure System Selection Worksheet:

## 1 Identify your separation goals.

Know the characteristics of your sample. What mass will you load on your column? What flow rate will you need to achieve optimal speed and resolution? At which wavelengths does your sample exhibit maximum absorbance? What size fractions will you collect? Are you interested in collecting peaks?

## 2 Examine the components' specs.

After you've identified the key operating parameters, take a look at the pump, detector and fraction collector specifications to be sure they meet your needs. To illustrate, let's look at specifications for components in the Gilson Low Pressure System.

The most important criteria used to select a peristaltic pump are smooth, stable flow and usable flow rate range. The Gilson system uses the new Minipuls 3 Pump. Stepper-motor drive and proven pump head design ensure smooth flow from 1  $\mu$ l to 50 ml/min. A high flow head allows flow rates from 50 ml to 220 ml/min. Interchangeable pump heads with 1-, 2-, 4-, or 8 channels are available.

Wavelength specificity and ease-of-use are key considerations when choosing a detector. The Gilson 112 UV/VIS fixed-wavelength detector allows selection of wavelengths from 214 nm to 640 nm. A choice of five flow cells accommodates a wide range of flow rates and sample concentrations. A large digital readout and convenient autozero and event mark functions keep detector operation easy.

Select a fraction collector according to your collection mode, fraction volume, and multiple column collection needs.

Gilson's FC 203 fraction collector allows drop, time, or peak collection modes with up to ten collection windows in each mode. The widest range of racks available—capable of handling as many as 128 fractions—makes the FC 203 suitable for almost any application.

## 3 Check for compatibility of components with each other and with your future needs.

At this point, you've identified components to meet basic needs, but also look at the components as a system. Were they designed to work together? Or will you need to buy complicated adapters and special plumbing? Working with a single

supplier avoids the service and support problems often associated with a system assembled piece-by-piece.

You should also assess your future needs. An LC system may work fine for your current application. But will you need to change detection wavelengths or collection volumes later? Is an upgrade to HPLC a possibility? If so, consider modular equipment that adapts to your changing needs easily and inexpensively.

## 4 Look at each supplier's record of reliability, service and support.

After identifying suitable components, you narrow your choice by looking at each supplier's track record for reliable equipment and efficient service.

To evaluate the Gilson Low Pressure System, consider our reputation for fraction collectors and detectors. Gilson has a proven track record that began more than 35 years ago. More than 1000 FC 203s—introduced just 16 months ago—continue to display dependable, trouble-free operation.

The Minipuls 2, the reliable predecessor to our new Minipuls 3, has earned spaces on more than 24,000 lab benches worldwide, making it the best-selling peristaltic pump.

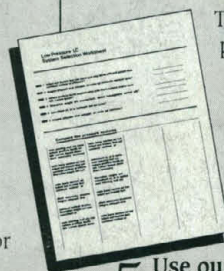
## 5 Use our free Low Pressure LC System Selection Worksheet to gather and compare your options.

For the final step in choosing your system, compare the information you've gathered. To help, we've put together a selection worksheet to simplify the process.

This free worksheet lists major criteria to use in your comparisons. We've filled in information about the Gilson Low Pressure System and have left space for you to fill in specs from other suppliers.

Why do we encourage this comparison? Because it's the best way to buy a system matched to your needs. Plus, we're confident that in most cases your low pressure system will be a Gilson Low Pressure System.

So, for your free Low Pressure System Selection Worksheet, simply circle the magazine's reader service number or call us toll free at 800-445-7667. We'll see that you get your worksheet fast.



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