

Hominidae; and Species in Relation to Eco-systems—consist largely of papers concerned with particular taxonomic groups or geographic areas (Africa at large and various subareas thereof, including the Cape coast and the Namib Desert). According to the editor, all the papers were refereed prior to publication. An index is not included.

—K.L.

The Human Skeleton. PAT SHIPMAN, ALAN WALKER, and DAVID BICHELL. Harvard University Press, Cambridge, MA, 1985. x, 343 pp., illus. \$27.50.

The authors begin this elementary treatise by noting that bone may be considered either as an organ or as a tissue. They then proceed to outline the basic features of the animal (vertebrate) skeleton and to introduce basic anatomical vocabulary ("anterior"/"posterior," "superior"/"inferior," and so on and terms denoting functions and movements of bone). The remaining chapters in the initial section of the book deal with the microscopic structure of bone, collagen and calcification, bone growth, mechanical properties of bone, and joints and their lubrication. Part 2 of the book deals with skeletal function in eight chapters devoted to the axial skeleton, the upper and the lower limbs, and the skull and to breathing, manipulation, walking, and chewing. Part 3, Interpreting Bones, discusses features that indicate age, sex, race, stature, trauma and disease, and facial structure and diet. The text contains some 150 illustrations, many of them drawings by Bichell. The volume concludes with a glossary ("abduction" to "zygote"), a chapter-by-chapter bibliography including some specialist literature as well as general works, other credits for data cited, and an index. The book is written at a level suitable for students approaching the subject for the first time.

—K.L.

Coevolution of Parasitic Arthropods and Mammals. KE CHUNG KIM, Ed. Wiley-Interscience, New York, 1985. xvi, 800 pp., illus. \$69.95.

Noting that the data on arthropod parasites of mammals that have accumulated in the last 30 years have appeared mainly in medical and veterinary publications, Ke Chung Kim here presents an assemblage of papers intended to make information on the diversity, distribution, and adaptations of such parasites more generally available. Acknowledging the existence of differences in the usage of the term "coevolution," he expresses the hope that its use here will "promote interest and research . . . in the evolution of parasite-host associations, al-

though many phenomena of parasite-host interactions may not be coevolutionary." In the introductory section of the volume Kim sets out some basic anatomical features of arthropods and biological concepts relevant to the theme of the volume, Daniel Janzen offers reflections on "what parasites of animals and plants do not have in common," and Timm and Clauson outline the evolution and distribution of mammals and some of their features as habitats for parasites. Part 2, Insecta, opens with an overview by Kim, which is followed by three papers on lice—on Anoplura (Kim), on Mallophaga (Emerson and Price), and on their distribution on Carnivora (Kim)—and one on fleas (Traub). Part 3, Acari, consists of three papers on mites—mesostigmatate (Radovsky), prostigmatate (Nutting), and astigmatate (Fain and Highland)—and one on ticks (Hoogstraal and Kim). The volume concludes with an epilogue in which Kim summarizes its contents and offers some general reflections on such issues as preadaptations and evolutionary routes, outlining two general models, resource tracking and phylogenetic tracking. Also included are two appendixes listing parasitic arthropods and mammalian hosts and a general index (not including authors cited).—K.L.

Books Received

Atomic Inner-Shell Physics. Bernd Crasemann, Ed. Plenum New York, 1985. xvi, 754 pp., illus. \$97.50.

Australian Frogs of the Family Microhylidae. Richard G. Zweifel. American Museum of Natural History, New York, 1985. 124 pp., illus. Paper, \$9.45. Bulletin of the American Museum of Natural History, vol. 182, article 3.

Azospirillum Ill. Genetics, Physiology, Ecology. Walter Klingmüller, Ed. Springer-Verlag, New York, 1985. xiv, 263 pp., illus. \$29.50. From a workshop, Bayreuth, West Germany, June 1985.

Bacteria and Complement. Michael Loos, Ed. Springer-Verlag, New York, 1985. x, 191 pp., illus. \$49.50. Current Topics in Microbiology and Immunology, vol. 121.

Bacterial Metabolism. Garhard Gottschalk. 2nd ed. Springer-Verlag, New York, 1986. xiv, 359 pp., illus. \$33. Springer Series in Microbiology.

The Chondrocranium of *Cryptoprocta ferox*. Michael Köhncke. Springer-Verlag, New York, 1985. vi, 89 pp., illus. Paper, \$25.40. Advances in Anatomy, Embryology, and Cell Biology, vol. 95.

C₄ Grasses and Cereals. Growth, Development, and Stress Response. C. Allan Jones. Wiley-Interscience, New York, 1985. xii, 419 pp., illus. \$49.95.

Chemical, Biological and Industrial Applications of Infrared Spectroscopy. James R. Durig, Ed. Wiley-Interscience, New York, 1985. xviii, 399 pp., illus. \$49.95.

Chemical Engineering. A Review for the P.E. Exam. William E. Crockett. Wiley-Interscience, New York, 1985. xii, 269 pp., illus. \$31.95.

Chemoarchitecture of the Brain. Rudolck Nieuwenhuys. Springer-Verlag, New York, 1985. x, 246 pp., illus. Paper, \$34.50.

The Chondrocranium of *Cryptoprocta ferox*. Michael Köhncke. Springer-Verlag, New York, 1985. vi, 89 pp., illus. Paper, \$25.40. Advances in Anatomy, Embryology and Cell Biology, vol. 95.

Coherent Radiation Sources. A. W. Saenz and H. Uberall, Eds. Springer-Verlag, New York, 1985. xiv, 235 pp., illus. \$29.50. Topics in Current Physics, vol. 38.

Common Birds of Egypt. Bertel Bruun. Illustrated

by Sherif Baha el Din. American University in Cairo Press, Cairo, 1985 (U.S. distributor, Columbia University Press, New York. Variously paged, illus. Paper, \$12.95).

The Computerized Society. Living and Working in an Electronic Age. Edward Cornish, Ed. World Future Society, Bethesda, MD, 1985. 160 pp., illus. Paper, \$6.95. Reprinted from *The Futurist*.

Cults in America. Programmed for Paradise. Willa Appel. Holt, Rinehart and Winston, New York, 1985. xii, 204 pp. Paper, \$7.95. An Owl Book. Reprint, 1983 edition.

Controversies in Schizophrenia. Changes and Constancies. Murray Alpert, Ed. Guilford, New York, 1985. xii, 432 pp. \$42.50. From a meeting, New York, March 1984.

Data Analysis in Astronomy. V. Di Gesu *et al.*, Eds. Plenum, New York, 1985. xii, 541 pp., illus. \$85. Ettore Majorana International Science Series, vol. 24. From a workshop, Erice, Sicily, Italy, May 1984.

Degradation, Retention and Dispersion of Pollutants in Groundwater. E. Arvin, Ed. Pergamon, New York, 1985. xv, 145 pp., illus. Paper, \$44. Water Science and Technology, vol. 17, no. 9. From a seminar, Copenhagen, Sept. 1984.

Desorption Mass Spectrometry. Are SIMS and FAB the Same? Philip A. Lyon, Ed. American Chemical Society, Washington, DC, 1985. viii, 248 pp., illus. \$44.95. ACS Symposium Series, 291. Based on a symposium, St. Paul, MN, Oct. 1984.

Despotism and Differential Reproduction. A Darwinian View of History. Laura L. Betzig. Aldine, New York, 1986. xii, 171 pp., illus. \$24.95.

Development of Antisocial and Prosocial Behavior. Research, Theories, and Issues. Dan Olweus, Jack Block, and Marian Radke-Yarrow, Eds. Academic Press, Orlando, FL, 1986. xiv, 432 pp., illus. \$59; paper, \$29.95. Developmental Psychology Series.

Dictionary of Quotations in Sociology. Panos D. Bardis. Greenwood, Westport, CT, 1985. xiv, 357 pp. \$45.

A Difficult Balance. Editorial Peer Review in Medicine. Stephen Lock. Nuffield Provincial Hospitals Trust, London, 1985. xviii, 172 pp., illus. £9. The Rock Carling Fellowship, 1985.

Digital Picture Processing. An Introduction. L. P. Yaroslavsky. Springer-Verlag, New York, 1985. xii, 276 pp., illus. \$39. Springer Series in Information Sciences. Updated translation of the Russian edition (Moscow, 1979).

Drug Level Monitoring. Vol. 2. Emil T. Lin and Wolfgang Sadee. Wiley-Interscience, New York, 1986. xiv, 364 pp., illus. \$59.95.

Engineering the New South. Georgia Tech, 1885–1985. Robert C. McMath, Jr., *et al.* University of Georgia Press, Athens, 1985. xiv, 560 pp., illus. \$37.50.

Environmental Applications of Chemometrics. Joseph J. Breen and Philip E. Robinson, Ed. American Chemical Society, Washington, DC, 1985. x, 286 pp., illus. \$54.95. ACS Symposium series, 292. Based on a symposium, Philadelphia, Aug. 1984.

An Essay on the Importance of Being Nonlinear. Bruce J. West. Springer-Verlag, New York, 1985. viii, 204 pp., illus. Paper, \$16.40. Lecture Notes in Biomathematics, vol. 62.

The Fear of Population Decline. Michael S. Teitelbaum and Jay M. Winter. Academic Press, Orlando, FL, 1985. xii, 201 pp., illus. \$34; paper, \$19.95.

Finite Elements in Computational Mechanics. Tarun Kant, Ed. Pergamon, New York, 1985. In two volumes. Vol. 1, xiv pp. + pp. 1–560, illus. Vol. 2, xiv pp. + pp. 561–1007, illus. The set, \$200. From a conference, Bombay, Dec. 1985.

Flow of Real Fluids. G. E. A. Meier and F. Obermeier, Eds. Springer, Verlag, New York, 1985. viii, 348 pp., illus. Paper, \$23.70. Lecture Notes in Physics, vol. 235.

Fluid Mechanics Measurements. Richard J. Goldstein, Ed. Hemisphere, Washington, DC, 1983. xviii, 630 pp., illus. \$55.

Forest Ecosystems. Concepts and Management. Richard H. Waring and William H. Schlesinger. Academic Press, Orlando, FL, 1985. xiv, 340 pp., illus. \$45; paper, \$24.95.

Fundamental and Applied Aspects of Bacterial Spores. G. J. Dring, D. J. Ellar, and G. W. Gould, Eds. Academic Press, Orlando, FL, 1985. xviii, 505 pp., illus. \$49.50. From a symposium, Cambridge, England, Sept. 1982.

Fundamentals of Metallurgical Processes. Lucien Coudurier, Donald W. Hopkins, and Igor Wilkomirsky, 2nd ed. Pergamon, New York, 1985. xii, 404 pp., illus. \$56; paper, \$15.50. International Series on Materials

Science and Technology, vol. 27. Pergamon International Library of Science, Technology, Engineering and Social Studies.

High-Power Laser Radiation in Atmospheric Aerosols. Nonlinear Optics of Aerodispersed Media. V. E. Zuev, A. A. Zemlyanov, Yu. D. Kopytin, and A. V. Kuzikovskii. Reidel, Dordrecht, 1985 (U.S. distributor, Kluwer, Hingham, MA). xiv, 291 pp., illus. \$59. Atmospheric Sciences Library.

High Pressure Effects on Selected Biological Systems. A. J. R. Péqueux and R. Gilles, Eds. Springer-Verlag, New York, 1985. xvi, 145 pp., illus. Paper, \$25. From a conference, Liège, Aug. 1984.

A History of Industrial Power in the United States, 1780-1930. Vol. 2, Steam Power. Louis C. Hunter. Published for the Hagley Museum and Library by the University Press of Virginia, Charlottesville, 1986. xxvi, 732 pp., illus. \$50.

Holography and Deformation Analysis. W. Schumann, J.-P. Zürcher, and D. Cuche. Springer-Verlag, New York, 1985. x, 234 pp., illus. \$44. Springer Series in Optical Sciences, vol. 46.

Hoofbeats and Society. Studies of Human-Horse Interactions. Elizabeth Atwood Lawrence. Indiana University Press, Bloomington, 1985. xviii, 204 pp., illus. \$29.95.

Hormonal Regulation of Development III. Role of Environmental Factors. R. P. Pharis and D. M. Reid, Eds. Springer-Verlag, New York, 1985. xxii, 892 pp., illus. \$139.50. Encyclopedia of Plant Physiology, new series, vol. 11.

Hormonally Responsive Tumors. Vincent P. Hollander, Ed. Academic Press, Orlando, FL, 1985. xviii, 558 pp., illus. \$68.

Human Chromosomes. Structure, Behavior, Effects. Eeva Therman. 2nd ed. Springer-Verlag, New York, 1986. xvi, 313 pp., illus. Paper, \$29.80.

The Influence of Antibiotics on the Host-Parasite Relationship II. D. Adam H. Hahn and W. Opferkuch, Eds. Springer-Verlag, New York, 1985. xiv, 298 pp., illus. \$49. From a symposium, Munich, March 1985.

Infrared and Millimeter Waves. Vol. 14, Millimeter Components and Techniques, part 5. Kenneth J. Button, Ed. Academic Press, Orlando, FL, 1985. x, 418 pp., illus. \$99.

Integrated Circuits. Chemical and Physical Processing. Pieter Stroeve, Ed. American Chemical Society, Washington, DC, 1985. x, 348 pp., illus. \$69.95. ACS Symposium Series, 290. Based on a symposium, Davis, CA, March 1984.

Interregional Air Pollution Modelling. The State of the Art. S. Zwerver and J. van Ham, Eds. Plenum, New York, 1985. x, 278 pp., illus. \$49.50. NATO Challenges of Modern Society, vol. 9.

Introducing Artificial Intelligence. G. L. Simons. National Computer Centre, Manchester, England, 1985 (U.S. distributor, Wiley, New York). 281 pp. Paper, \$19.95.

An Introduction to Digital Image Processing. Wayne Niblack. Strandberg, Birkerød, Denmark, 1985. 215 pp., illus. \$35.

An Introduction to the Finite Element Method With Applications to Nonlinear Problems. R. E. White. Wiley-Interscience, New York, 1985. xii, 354 pp., illus. \$39.50.

Microsurgical Models in Rats for Transplantation Research. A. Thiede, E. Deltz, R. Engemann, and H. Hamelmann, Eds. Springer-Verlag, New York, 1985. xx, 392 pp., illus. \$69.50.

The Militarization of Space. U.S. Policy, 1945-1984. Paul B. Stares. Cornell University Press, Ithaca, NY, 1985. 334 pp. \$25. Cornell Studies in Security Affairs.

The Mind. Anthony Smith. Penguin, New York, 1985. xx, 346 pp. Paper, \$5.95. A Pelican Book. Reprint, 1984 edition.

Modulation by Molecular Interactions. Rodney L. Levine and Ann Ginsburg, Eds. Academic Press, Orlando, FL, 1985. xxii, 565 pp., illus. \$89.95. Current Topics in Cellular Regulation, vol. 26. From a symposium, Bethesda, MD, May 1984.

Monoclonal Antibodies and Cancer Therapy. Ralph A. Reisfeld and Stewart Sell, Eds. Liss, New York, 1985. xxii, 609 pp., illus. \$78. UCLA Symposia on Molecular and Cellular Biology, new series. From a symposium, Park City, UT, Jan. 1985.

Monoclonal Antibodies for Cancer Detection and Therapy. R. W. Baldwin and Vera S. Byers, Eds. Academic Press, Orlando, FL, 1985. xxii, 395 pp., illus. \$65; paper, \$34.95.

Monte-Carlo Methods and Applications in Neutronics, Photonics and Statistical Physics. R. Alcouffe *et al.*, Eds. Springer-Verlag, New York, 1985. viii, 483 pp., illus. Paper, \$30. Lecture Notes in Physics, vol.

240. From a meeting, Provence, April 1985.

Natural Inorganic Hydrochemistry in Relation to Groundwater. An Introduction. J. W. Lloyd and J. A. Heathcote. Clarendon (Oxford University Press), New York, 1985. viii, 296 pp., illus. \$45.

Nearby Molecular Clouds. G. Serra, Ed. Springer-Verlag, New York, 1985. x, 242 pp., illus. Paper, \$13.70. Lecture Notes in Physics, vol. 237. From a colloquium, Toulouse, Sept. 1984.

Neuromethods. Series 1, Neurochemistry. Vol. 2, Amines and Their Metabolites. Alan A. Boulton, Glen B. Baker, and Judith M. Baker, Eds. Humana, Clifton, NJ, 1985. xxii, 543 pp., illus. \$64.50.

Neuromethods. Series 1, Neurochemistry. Vol. 3, Amino Acids. Alan A. Boulton, Glen B. Baker, and James D. Wood, Eds. Humana, Clifton, NJ, 1985. xx, 281 pp., illus. \$45.

The New Engineering Research Centers. Purposes, Goals, and Expectations. National Research Council. National Academy Press, Washington, DC, 1986. xiv, 207 pp. Paper, \$25.95.

Recent Advances in Aeroacoustics. Anjaneyulu Krothapalli and Charles A. Smith, Eds. Springer-Verlag, New York, 1986. xii, 511 pp., illus. \$59. From a symposium, Stanford, CA, Aug. 1983.

Reference Data on Atoms, Molecules, and Ions. A. A. Radzig and B. M. Smirnov. Springer-Verlag, New York, 1985. xii, 463 pp., illus. \$99. Springer Series in Chemical Physics, vol. 31.

Stability of the Solar System and Its Minor Natural and Artificial Bodies. Victor G. Szebehely, Ed. Reidel, Dordrecht, 1985 (U.S. distributor, Kluwer, Hingham, MA). xxiv, 424 pp., illus. \$54. NATO Advanced Science Institutes Series C, vol. 154. From an institute, Cortina d'Ampezzo, Italy, Aug. 1984.

Structure and Insight. A Theory of Mathematics Education. Pierre M. Van Hiele. Academic Press, Orlando, FL, 1986. vii, 246 pp., illus. \$47.50; paper, \$21.95. Developmental Psychology Series.

The Substance Abuse Problems. Vol. 2, New Issues for the 1980s. Sidney Cohen. Haworth, New York, 1985. xviii, 323 pp. \$34.95; paper, \$19.95.

Supercomputers in Theoretical and Experimental Science. Jozef T. Devreese and Piet Van Camp, Eds. Plenum, New York, 1985. xii, 225 pp. \$59.50. From a workshop, Antwerp, July 1984.

Surely You're Joking Mr. Feynman. Adventures of a Curious Character. Richard P. Feynman as told to Ralph Leighton. Edward Hutchings, Ed. Bantam, New York, 1986. xii, 317 pp. Paper, \$4.50. Reprint, 1985 ed.

Transform Coding of Images. R. J. Clarke. Academic Press, Orlando, FL, 1985. xvi, 432 pp., illus. \$69.50; paper, \$34.95. Microelectronics and Signal Processing.

Transient Techniques in NMR of Solids. An Introduction to Theory and Practice. B. C. Gerstein and C. R. Dybowski. Academic Press, Orlando, FL, 1985. xii, 295 pp., illus.

Tratado de Entomología. Juan Manuel Nieto Nafria and Milagros Pilar Mier Durante. Ediciones Omega, Barcelona, 1985. xvi, 599 pp., illus. \$29.

The Truth about AIDS. Evolution of an Epidemic. Ann Guidici Fettner and William A. Check. 2nd ed. Holt, Rinehart and Winston, New York, 1985. xiv, 306 pp. Paper, \$8.95. An Owl Book.

Tumor Aneuploidy. Th. Büchner, C. D. Bloomfield, W. Hiddemann, D. K. Hossfeld, and J. Schumann, Eds. Springer, Verlag, New York, 1985. viii, 141 pp., illus. Paper, \$19.50.

Tunable Solid State Lasers for Remote Sensing. R. L. Byer, E. K. Gustafson, and R. Trebino, Eds. Springer-Verlag, New York, 1985. xii, 155 pp., illus. \$32.50. Springer Series in Optical Sciences, vol. 51. From a conference, Stanford, CA, Oct. 1984.

Ultradian Rhythms in Physiology and Behavior. H. Schulz and P. Lavie, Eds. Springer-Verlag, New York, 1985. x, 340 pp., illus. \$34.50. From a symposium. Experimental Brain Research Supplementum.

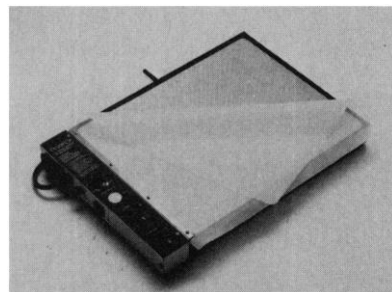
The Verification Challenge. Problems and Promise of Strategic Nuclear Arms Control Verification. Richard A. Scribner, Theodore J. Ralston, and William D. Metz. Birkhäuser, Boston, 1985. xiv, 249 pp., illus. Paper, \$18.75.

The Village and House in the Middle Ages. Jean Chapelot and Robert Fossier. University of California Press, Berkeley, 1986. 352 pp., illus. \$35. Translated from the French edition (1980) by Henry Cleere.

Wastes in the Ocean. Vol. 5, Deep-Sea Waste Disposal. Dana R. Kester *et al.*, Eds. Wiley-Interscience, New York, 1985. xviii, 346 pp., illus. \$79.95. Environmental Science and Technology.

Written Language and Psychological Development. Leonard F. M. Scinto. Academic Press, Orlando, FL, 1986. xiv, 191 pp., illus. \$35; paper, \$19.95.

First In Electrophoresis!



SE 1160 35x44cm Slab Gel Dryer

Hoefler Scientific gel dryers use a patented dry-heat vacuum method of drying. A cast aluminum platen with a heating element underneath distributes heat evenly so there are no hot or cold spots. Molded grooves in the platen and a perforated stainless steel screen allow even distribution of suction below the gel. Together, heating and vacuum below the gel mean you can dry gels without cracking in as little as 30-45 minutes (depending on thickness).

Formerly, Hoefler dryers were distributed through Bio-Rad as its Models 1125 and 224. Hoefler products are no longer available from Bio-Rad. The large and small dryers, and all parts and accessories are available from the distributors listed below.

AUSTRALIA Narellan, NSW
Edwards Instrument (02)605-6777

AUSTRIA Vienna
Bio-Trade (0222) 88 73 13

BELGIUM Brussels
Van der Heyden S.A. 02/21.20.611

CANADA Mississauga, Ont.
Technical Marketing (416) 826-7752

FRANCE Illkirch Cedex
BIOBLOCK 88 67 14 14
& Vanves Cedex 146 44 46 46

GERMANY Heidelberg
Atlanta GmbH 06221/502144

JAPAN Tokyo
Central Scientific (03) 806 4361

THE NETHERLANDS PJ de Meern
Brouwer Scientific 03406/64 299

SOUTH AFRICA Tokai, Cape
Scientific Associates 53 7400

SPAIN Madrid
Iberlabo S.A. 251 14 91

SWITZERLAND Lucerne
Brouwer Engineering 041/44.44.48

TAIWAN Taipei
Mightek Scientific (02) 721-5482/3

UNITED KINGDOM Luton/Beds
Biotech Instruments 0582 502388

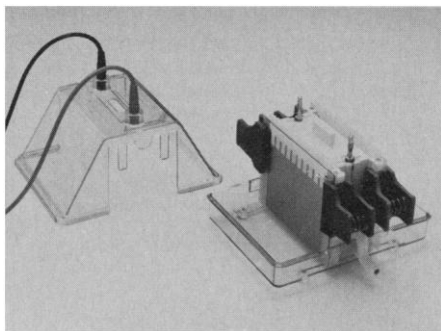
Hoefler Scientific Instruments

P.O. Box 77387, San Francisco, CA 94107
TELEX: 477078

Hoefer has expanded the Mighty Small line

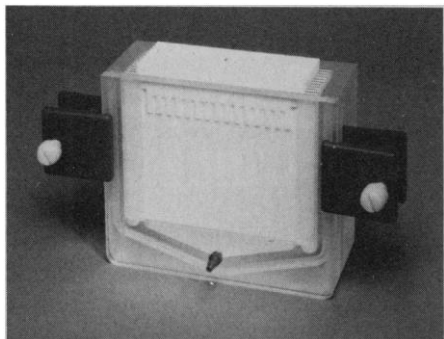
Hoefer's Mighty Small I has become the laboratory standard for doing electrophoresis in the small gel format. Now Hoefer is introducing Mighty Small II, and to complete the system, Mighty Small Transphor, Cast-iron Stand, and Power Supplies.

- **Mighty Small II** is Cool and Fast: It can run two mini-gels, 8 x 10 cm, in 45 minutes. Two mini-gels are produced in two gel sandwiches, held back to back, in a



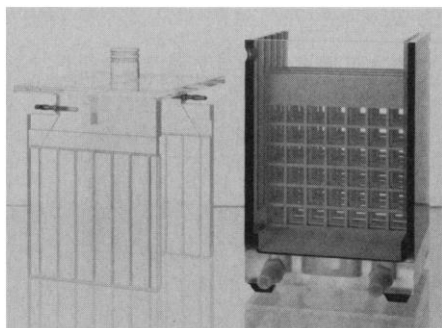
double-sided pod. The pod consists of two discretely separate upper buffer chambers and a serpentine coolant chamber between. *Cooling is the key feature of the Mighty Small design.* The back plate of each gel sandwich is in contact with the upper buffer and is made of sturdy alumina. Alumina is an excellent heat conductor, 40 times faster than a comparable thickness of glass. It rapidly conducts joule heat away from the gel sandwich into the buffer. A serpentine coolant chamber, permanently sealed between the two buffer chambers, assures further heat dissipation. This excellent cooling system means you can get flat, side by side sample lanes with no smile in 45 minutes.

- **The Mighty Small Multiple Gel Caster** enables you to cast 10 gels at a time, 8 x 10 cm, gradient or native. You can pour batches of gels ahead of time,



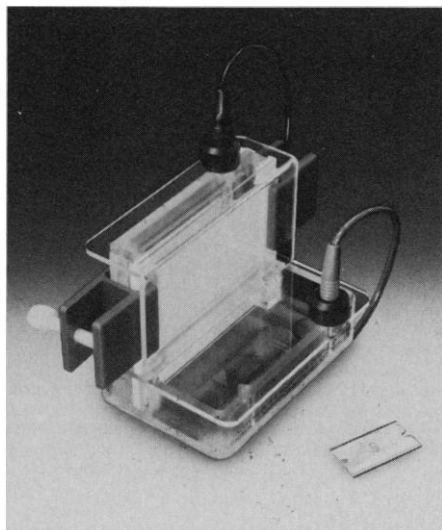
probably a week's supply.

- **The Mighty Small Transphor** can transfer proteins from four small gels (up to 9 x 10 cm) at once, to either nylon membranes or nitrocellulose, *in as little as 30 minutes.* It comes complete with four



glass-filled polycarbonate cassettes. A serpentine cooling channel milled into the base and covered with alumina assures *excellent cooling.* Under standard transfer conditions the temperature variation will be less than 5°C. Platinum wire, 155 cm of it, strung in 14 opposing strands 1½ cm apart establishes a *uniform electrical field.* Because of its small size, it is possible to use a standard electrophoresis power supply—we recommend the Hoefer PS 500X. Mighty Small Transphor requires only a small amount of buffer, about one liter, another important cost-saving factor.

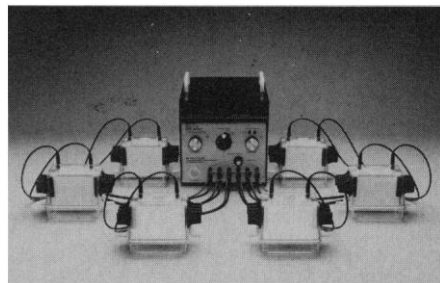
- If you want to run small gels, 100 mm wide x 80 mm high, the **Mighty Small I** does the job fast and right. You can run a 10% gel at 200 constant volts in only 42 minutes. The gel sandwich is the core of the design. Its alumina back interfaces with the buffer pod to insure even heat distribution across the gel surface. The result: flat,



side-by-side bands.

- Hoefer introduces a **new line of transfer membranes** for all blotting techniques: a pure grade of nitrocellulose to insure faithful replicas and minimal background staining, and high binding capacity Nylon 66 membranes. You have a wide choice of shapes and pore sizes.

- **The PS 250 power supply** is a work-horse for the electrophoresis lab. It can produce 0-250V; 0-2.5A, adjustable in



both voltage and current. It has two digital panel meters and a 7 hour timer. You can run six Mighty Small II units at one time and monitor each separately. For transfer work the PS 250 provides ample current for several small or large transfer units. *We recommend running transfers in constant current to eliminate overheating.*

- **The PS 500X** is the standard power supply for small gel electrophoresis. It can produce 0-500V, 0-400mA; adjustable in voltage and current; automatic crossover from current to voltage. You can run two Mighty Small II units at one time or two Mighty Small Transphor units.



The PS 500X is portable (only 8 lbs.) and compact (4" x 8" x 12").

- **Hoefer Scientific Instruments, P.O. Box 77387, San Francisco, CA 94107 USA.** In California: 415-282-2307. Outside California: 800-227-4750. Outside USA: Telex 470778.

For complete catalog, Reader service card no. 120.

Products & Materials

Photomicroscope

The Diastar photomicroscope offers plan-achromatic and fluorite objectives. All glass surfaces feature high efficiency, antireflective coatings. Computer-controlled parfocalizing and parcentration instruments are used in manufacture to tighten tolerances of specifications. The Photostar camera system features microprocessor control and displays film speed, exposure time, camera format, reciprocity setting, exposure time factor, and frame number. The Diastar offers a complete line of accessories including multiple viewing, phase contrast, polarization, and dark-field illumination. Reichert Scientific Instruments. Circle 552.

Automation of Scanning Electron Microscopes

SESAME is a package that automates and integrates the operation of scanning electron microscope stages, wavelength dispersive spectrometers, quantitative analysis of data from wavelength dispersive spectrometers, and energy dispersive spectrometers. It allows unattended operation and standardless analysis. Graphics of x-ray intensities are displayed in real time. Pulse height distribution is displayed for wavelength dispersive detectors. Kevex. Circle 553.

Semen Analyzer

The CellSoft system is a fully automated analyzer for human and veterinary applications. It calculates cell count, concentration, motility, velocity, and trajectory rapidly. Automated measurements of morphology and lateral head displacement are also easily made. An IBM PC stores images taped through a microscope. Images are analyzed to provide data. Sperm count, concentration, and motility may be graphed. Morphologic definition may be established by the user or determined mathematically by the computer. Classification and computations then follow based on observation. Analysis of lateral head displacement yields data relevant to fertility. Cryo Resources. Circle 536.

Newly offered instrumentation, apparatus, and laboratory materials of interest to researchers in all disciplines in academic, industrial, and government organizations are featured in this space. Emphasis is given to purpose, chief characteristics, and availability of products and materials. Endorsement by *Science* or AAAS is not implied. Additional information may be obtained from the manufacturers or suppliers named by circling the appropriate number on the Readers' Service Card and placing it in a mailbox. Postage is free.

Laboratory Work Station

The Biomek 1000 automated work station uses robotics to perform routine laboratory tasks. The system automates sample preparation, liquid dilution and dispensing, plate washing, and photometry. It is small enough to be used inside a sterile laminar flow hood. It is suited for use in ELISA, in hybridoma screening and selection, and in other assay protocols. A proprietary, array-based language permits the user to program the Biomek 1000 or to use available programs. The work station will function with such standard labware as multiwell plates, cryovials, microcentrifuge tubes, and a variety of sizes of test tubes. The modular reservoir will accommodate 37-, 75-, and 150-ml sample volumes based on requirements of individual assays. The work station includes an IBM PC. Beckman Instruments, Spinco Division. Circle 537.

Nucleic Acid Detection

BluGENE is a nonradioactive nucleic acid detector that detects single-copy genes of genomic DNA in Southern blots in less than 1 hour. The system uses a streptavidin-alkaline phosphatase conjugate to detect as little as 0.25 pg of DNA. Preparation time is less than that required for biotin probes. Signal development is complete in 3 hours with single-copy genes visible in less than 1 hour. The risks associated with handling and disposal of radioactive materials are eliminated. The streptavidin-alkaline phosphatase probes remain stable for 1 year after preparation. The ability to detect even small quantities of genomic DNA offers advantages in sample conservation as well. Bethesda Research Laboratories. Circle 538.

Radioligand Binding Analysis Software

Four programs are available for IBM PC (with DOS 2.0 and later versions and a graphics card). KINETIC calculates association and dissociation rate constants for radioligands using a weighted nonlinear, iterative curve-fitting technique. EBDA and LIGAND are for analyzing equilibrium studies. EBDA performs the preliminary analysis of both saturation and competition studies, including the conversion of disintegrations per minute to concentration values, graphic transformation of data to provide the initial estimates required for LIGAND, and a number of other data analysis functions. LIGAND then uses disk files created by EBDA to obtain final estimates by using

weighted, nonlinear curve-fitting techniques. LOWRY calculates protein concentrations measured by a standard technique. A hyperbolic equation is used to fit the standard curve and to calculate concentrations of unknowns. Elsevier-BIOSOFT. Circle 540.

Atomic Absorption Spectrometers

The Spectraa-10 (single beam) and Spectraa-20 (double beam) offer features of the Spectraa-30/40 series at lower cost. They retain centralized control of an automatic sample changer for flame and hydride atomization and the GTA-96 graphite furnace. Both models feature a single keyboard from which the operator interfaces all components. Eight soft keys access measurement and system-control functions. Prompts and error checks guide the operator as methods are programmed and components are set up. Methods may be stored for recall. Extensive graphics, report formatting, and the PROMT integration technique are included. A communications interface is also available. Varian Associates, Instrument Group. Circle 541.

Literature

Organofluorine Compounds lists over 400 substances. It includes fluorinated aromatics and aliphatics, perfluorinated compounds, and fluorinated organics with a variety of functional groups. Alfa Products, Morton Thiokol. Circle 543.

Physiology Research lists polygraphs and apparatus for biotelemetry of pressure, acceleration, other physical phenomena, and bioelectric potentials. There is also software for real-time graphics, analysis, and data management. Coulbourn Instruments. Circle 549.

Chemicals features reagents, ultrapure metals and salts, electronic chemicals, and more. GFS Chemicals. Circle 550.

Chromatography, Electrophoresis, Immunochemistry, Molecular Biology, Liquid Handling and HPLC includes resins, chemicals, apparatus, components, and disposables. Bio-Rad Laboratories. Circle 551.

Homogenizers are described for research requiring emulsions or dispersions with average particle sizes of 2 μm or less. APV Gaulin. Circle 554.

Chemistry for the 21st Century is a software package for teaching basic chemistry designed for Apple II and IIe computers. Computer Assisted Science Labs. Circle 555.

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.

LINE CLASSIFIED ADVERTISING DEADLINES:
30 May issue (mailed 23 May): **9 May**
6 June issue (mailed 30 May): **16 May**
13 June issue (mailed 6 June): **23 May**
20 June issue (mailed 13 June): **30 May**

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 DISPLAY (POSITIONS OPEN, COURSES, FELLOWSHIPS, MARKETPLACE, and so forth): \$13.00 per millimeter; \$325 minimum, per week (minimum charge covers 25 millimeters on a single column; 25 millimeters equals 10 lines of 50 spaces per line). No charge for use of box number. No agency commission for ads less than 103 millimeters (4 inches). No cash discount. Prepayment required for all foreign ads. Purchase orders and billing address required for all other advertising.

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

SCIENCE 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

Aquatic Ecologist, Ph.D., experienced, honors, tenured, publications, strong administrative skills, national and international contacts, seeks high level academic position where air is breathable. Box 82, **SCIENCE**. X

Biochemist/Microcomputer Specialist, Dutch, Ph.D., plus 2 years of United States postdoctoral experience seeks position in biochemical computing. Preferably problem analysis and programming, but willing to do laboratory work. United States or Europe, will consider short term appointments. Reply: Maan, Box 125, Lake Villa, IL 60046. Box 87, **SCIENCE**. 5/9, 16

Biologist, Ph.D. Research experience in medical entomology and insect cell-mediated immunity. Full-time teaching experience (assistant professor) teaching biology to medical students. Experienced in electron microscopy (TEM, SEM, energy dispersive x-ray microanalysis) including establishment and management of research/clinical E.M. unit. Seeking responsible post in teaching/industry. Box 86, **SCIENCE**. X

Immunologist, Ph.D. Innovative and successful researcher with experience in areas of hybridoma and monoclonal antibody technology in cancer, cellular immunology in infectious disease, and lymphokines. Seeking position in biotechnology in areas of therapeutics and/or diagnostics. Box 88, **SCIENCE**. 5/9, 16, 23

Microbial Physiologist/Protein Biochemist, Ph.D. with postdoctoral experience. Background in microbial fermentations including strain development, product optimization, and product purification. Seeks research position in northeast. Résumé and publications available upon request. Box 89, **SCIENCE**. X

POSITIONS WANTED

Clinical Nutritionist, Ph.D. 1971 seeks challenging position. Research experience in randomized clinical trials, interdisciplinary studies and new product development/evaluation involving obesity, anorexia nervosa, disease related cachexia, trauma, endurance exercise, and hospital malnutrition. Research, teaching, and management experience in industry (pharmaceutical), hospital, government, and academic settings. Reply to Box 91, **SCIENCE**. X

Collagen/Connective Tissue Biochemist, Ph.D. Extensive experience in collagen types, proteoglycans, and other extracellular matrix macromolecules. Preparative, analytical, and HPLC methods. Publications. Box 85, **SCIENCE**. X

M.D. Recent Graduate, 3 years of postdoctoral research experience in molecular biology and cell biology in U.S., familiar with many recombinant DNA techniques. Publications. Seeking 2- to 3-year postdoctoral position in a result-oriented institute in one of the following areas: mammalian cell gene transfer; gene therapy; human genome sequencing; embryogenesis; retrovirus; oncogene; growth factor; aging process. Box 84, **SCIENCE**. 5/9, 16

Immunologist/Virologist, Ph.D. Experience in serology, virology, and cell culture; several publications; seeks research position. I.M., 1815-35 Charles Street West, Toronto, Ontario, Canada M4Y 1R6. X

Molecular Biologist/Immunologist/Protein Chemist, Ph.D. Creative, dedicated scientist with publications. Research in gene cloning/characterization, DNA constructions. Strong background in cellular/molecular immunology/lymphokine biology. Experienced in protein biochemistry/enzymology/protein purification (conventional/HPLC). Seek industrial/academic research position. Box 80, **SCIENCE**. X

Neurobiologist, Ph.D. Extensive research in cellular neurobiology and neuroanatomy. Experienced in immunocytochemistry, RIA, receptor binding, nerve tissue, and cell culture. Teaching in gross anatomy, neuroscience, and developmental biology. Seeking academic or challenging industrial position. New York/New Jersey/Pennsylvania area preferred. Box 81, **SCIENCE**. 5/9, 16

POSITIONS OPEN

ASSISTANT PHYSICIST—Conducts research in field of accelerator physics. Experimental and theoretical research on the generation of XUV coherent radiation by relativistic electron beams, and on the development of free electron lasers on storage ring accelerator. Research and development of the electron beam steering system. Research on the free electron laser experiment. Must operate electron beam position monitor, electron beam profile monitor, electron beam position feedback system. Must submit articles for publication in major scientific publications. Requires Ph.D. in accelerator physics/free electron laser physics, plus 1 year of experience in job offered or 1 year of experience in research in field of free electron laser and accelerator physics. Must have published articles in the field of free electron laser physics and accelerator physics. Forty hours per week, 8:30 a.m. to 5 p.m., salary \$37,000 per year. D.O.T. Code 023061010, J.O.B. number 0605692. Send résumé to: **New York State Job Service, 55 Medford Avenue, Patchogue, NY 11772**.

ASSISTANT PROFESSOR OF PHYSIOLOGY AND BIOPHYSICS

Applications are invited from qualified men and women for the position of assistant professor in the Department of Physiology and Biophysics at Harvard Medical School. Responsibilities include basic research and teaching. Of particular interest is research in the field of cellular physiology, including control of biosynthetic processes, hormones, regulation of cell functions, cell-cell interactions, and related subjects. Send curriculum vitae to: **Search Committee, Department of Physiology and Biophysics, Harvard Medical School, 25 Shattuck Street, Boston, MA 02115**. *Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR. The Environmental Health Center at the University of Kansas Medical Center invites applications for a tenure-track position in the center. The individual selected will be expected to develop a strong research program, including collaboration with others in the center. This person will have an academic appointment in pharmacology, toxicology, and therapeutics; preventive medicine; biochemistry; pathology; physiology; microbiology or anatomy, dependent upon the interests of the individual and agreement with the selected department. Applicants should submit curriculum vitae and names of three references. Applications are desired before 1 June, but will be accepted until the position is filled. Send applications to: **Curtis D. Klaassen, Ph.D., Department of Pharmacology, Toxicology and Therapeutics, University of Kansas Medical Center (KUMC), Kansas City, Kansas 66103**.

KUMC is an Affirmative Action/Equal Opportunity Employer.



Wayne State University

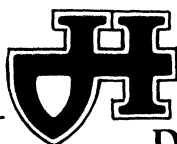
ASSISTANT/ASSOCIATE PROFESSOR OF ANATOMY AND CELL BIOLOGY

The Department of Anatomy and Cell Biology at Wayne State University invites applications for a tenure-track position at the assistant/associate professor level. The department is seeking an individual whose research will complement the interests of the present faculty. The two major areas of research are developmental neurosciences and vision research. Applications are invited from candidates utilizing genetic, molecular, or cellular methodologies. The successful candidate will be expected to participate actively in the teaching program and to establish a funded, independent research program. Excellent start-up funds and laboratory space are available. Intra- and interdepartmental collaboration is fostered by a Core Vision Grant to the department and a Neurosciences Program Project. Applicants should have a Ph.D. or an M.D. degree and several years of postdoctoral training. Please submit a covering letter with curriculum vitae and the names of three references to: **Dr. Harry Maisel, Chairman, Department of Anatomy and Cell Biology, Wayne State University School of Medicine, 540 East Canfield, Detroit, MI 48201**.

Affirmative Action/Equal Opportunity Employer.

ASSISTANT/ASSOCIATE RESEARCH MOLECULAR GENETICIST. Applications are invited for a position doing work in molecular genetics related to aging in an integrated research unit of a recently established institute affiliated with all departments of the University of California, San Diego (UCSD). Applicants should be able to develop a program for using molecular genetic techniques to test some of the current theories for, and insertion into, appropriate vectors and cultured cells. Correlates will be made with possible genetic factors responsible for accelerated syndromes of human aging, as well as possible genes responsible for longevous families. Experience in both molecular biology and human genetics would therefore be advantageous. Opportunities for basic science teaching and for clinical genetic activities are also available. Advanced degree in biological sciences required. Salary related to established schedule of UCSD research series. Please send inquiries, résumés, and letters of recommendation by 31 May 1986 to: **Dr. J. E. Seegmiller, Director, Institute for Research on Aging (M-0131), University of California, San Diego, La Jolla, CA 92093**. *The University of California, San Diego is an Equal Opportunity/Affirmative Action Employer.*

BOTANIST/ECOLOGIST. Earlham College is offering a teaching internship at the **assistant professor** level during the fall quarter of 1986. The position includes a plant kingdom course and team teaching introductory ecology. Application review will begin 16 May. Ph.D. candidates or recent Ph.D.'s interested in working in an institution concerned with teaching excellence should submit résumé, transcripts, and three letters of recommendation to: **William Buskirk, Earlham College, Richmond, IN 47374**. *Earlham College is an Affirmative Action/Equal Opportunity Employer encouraging applications from women and minorities.*



DIRECTOR OF THE BIOCHEMISTRY AND MOLECULAR BIOLOGY LABORATORY

Harvard University is seeking an individual who understands the complexities of both the managerial environment and that of the independent working scientist, and who can perform well in a research and teaching organization where competition for resources is high and the efficient use of personnel, equipment, and facilities is imperative.

Reporting to the Department Chairman and the Dean of the Faculty of Arts and Sciences, this individual supervises all administrative services (accounting, personnel, purchasing, facilities); is involved in formulating and implementing faculty policies and procedures within the framework of the Department's academic/scientific mission and that of the University; plans, prepares and manages budgets and actively participates in securing teaching and research funds; and plans and programs renovations, alterations, and improvements to the Laboratory.

A Ph.D. in Sciences or Engineering, or equivalent experience in scientific or technical management required. Ability to communicate effectively with different groups of people necessary. Familiarity with current Federal regulatory policies and research support mechanisms highly desired.

Please forward resume to: Professor Thomas Maniatis, Biochemistry Department, Harvard University, 7 Divinity Avenue, Cambridge, MA 02138.

An Affirmative Action/Equal Opportunity Employer

HARVARD UNIVERSITY

Molecular Virology

Squibb is recognized as an international leader in the research and development of pharmaceutical products. Due to our continued growth, we are currently seeking a molecular virologist to join our research efforts in the Department of Microbial Biochemistry and Genetics. The position requires a Ph.D. or M.D. and one to three years of related postdoctoral experience.

The successful candidate will have demonstrated a strong background in molecular biology with emphasis on regulation of virus replication. You will be expected to initiate research in herpes virus replication as part of a developing antiviral program.

This position is located at The Squibb Institute for Medical Research in Princeton, NJ; a pleasant, semi-rural setting convenient to both Philadelphia and New York City. In addition to an excellent salary and comprehensive benefits package, we offer the opportunity for exceptional scientists to pursue stimulating careers.

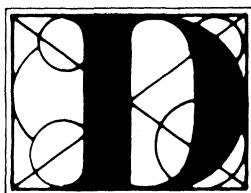
For confidential consideration, please submit your resume to: The Squibb Institute for Medical Research, Human Resources Department MV, P.O. Box 4000, Princeton, NJ 08543-4000. An equal opportunity employer.



SQUIBB

Where science comes to life.

Ph.D. Scientists Vaccine Development



What will you
Discover
when you join Lederle?

Lederle Laboratories, the leading manufacturer of biologicals, has openings for Ph.D. Scientists in Vaccine Development. Areas include Research, Development and Quality Control. Openings exist at several levels.

The successful candidates will have a Ph.D. in Microbiology, Molecular Biology, or a related field and post-doctoral experience. Additional experience will vary with the position.

Lederle offers excellent benefits, career challenge and a convenient Rockland County location, 30 miles northwest of New York City. Please reply, in confidence, indicating salary requirements to: Mrs. Nancy Levine, Professional Employment Coordinator, Lederle Laboratories, Pearl River, New York 10965. An Equal Opportunity Employer m/f.



**Dedicated People
Dedicated to People
Since 1906**

SCIENCE, ARMS CONTROL, AND NATIONAL SECURITY FELLOWSHIPS AAAS Invites Applications

The American Association for the Advancement of Science invites applications for two Science, Arms Control, and National Security Fellowships. Fellows will select a term of either 8 months or 1 year to begin on January 1, 1987.

The Fellowship program will provide a unique opportunity for outstanding postdoctoral to mid-career scientists and engineers to participate directly in the policy-making process in the area of arms control and national security. Fellows will work in appropriate executive branch agencies of the federal government, congressional committees or support agencies, or nonprofit institutions in Washington, DC.

The AAAS will guide the placement process, provide an informative orientation program, and coordinate frequent seminars on a variety of topics related to arms control and national security.

The 1987 Science, Arms Control, and National Security Fellows will receive a stipend of up to \$30,000 (\$20,000 for an 8 month term) and a nominal relocation and travel allowance. Applications are invited from candidates in any area of the physical, biological, or behavioral sciences; science-related professions; or engineering. Minority and handicapped candidates are especially encouraged to apply.

For application requirements and additional information, contact:

Dr. W. Thomas Wander, Senior Program Associate
Science, Arms Control, and National Security Fellowships
American Association for the Advancement of Science
1333 H Street, NW, Washington, DC 20005

**THE DEADLINE FOR THE RECEIPT OF ALL APPLICATION MATERIALS IS
JUNE 30, 1986.**

Plant Pathologist

IGEN, Inc., a rapidly growing biotechnology company, is seeking a Ph.D. level senior research scientist with an exceptional record of achievement to head the Plant Health section. Successful candidate will have a research pathologist background in fungal diseases, chemical and biological herbicides, and growth and isolation of fungi and other plant pathogens. Individual will be responsible for directing and conducting research and immunoassay product development. This position offers an excellent opportunity for professional recognition and career growth. For consideration, send your resume and a cover letter stating your qualifications to the **Personnel Director, Plant Health, IGEN, Inc., 1530 East Jefferson Street, Rockville, Maryland 20852.**

IGEN

BUILDING A NEW LAB?

LET THE SCIENCE FREE PRODUCT INFORMATION SERVICE PUT YOU IN TOUCH WITH THE VENDORS WHOSE PRODUCTS YOU WILL NEED.

SIMPLY WRITE US A LETTER STATING THE SPECIFICS ABOUT YOUR PROPOSED LAB AND WE WILL DO THE REST.

WRITE TO:

SCIENCE MAGAZINE
NEW LAB SERVICE DEPT.
1515 BROADWAY
NEW YORK, N.Y. 10036

OPPORTUNITIES IN PHARMACOLOGY

Senior Scientist

Adria Laboratories, a rapidly expanding U.S. division of a world-wide pharmaceutical leader, seeks a Pharmacologist to evaluate pharmacological aspects of new drug candidates, determine the mechanism of actions of new drug candidates, write pharmacology sections for FDA submission and operate a computerized CV laboratory; recruitment and supervision of personnel will also be required.

As our ideal candidate, your background should include expertise in cardiovascular pharmacology with some experience in gastrointestinal and CNS pharmacology. The position requires a PhD plus post doctoral training with at least 2-3 years experience in industry or academia. Ability to carry out independent research should be reflected in publications. Strong communication and interpersonal skills are also required.

Associate Pharmacologist

This individual will assist in studies to determine the metabolism and pharmacokinetics of experimental drugs. Candidates must have a BS/MS in biology, biochemistry or a closely related area and at least 1 year experience in a laboratory setting. Position requires a basic understanding of chemistry and a good working knowledge of HPLC and other chromatographic techniques used in the separation and purification of metabolites. Additional experience with computer analysis and radiotracer methodology is highly desirable.

Our progressive organization offers a highly competitive salary/benefits package and a dynamic professional environment that's geared for growth. For consideration, please direct your resume with salary requirements to: **Professional Employment, ADRIA LABORATORIES, P.O. Box 16529, Columbus, OH 43216.**

We Actively Seek And Encourage Minorities And Females To Apply.

Physician/Scientist The Squibb Institute For Medical Research

Princeton, New Jersey

We have a challenging opportunity available for a Clinical Pharmacologist to participate in our new drug development programs for cardiovascular agents. The facilities of a 24-bed clinical pharmacology unit are available at a local medical center for the conduct of human investigation. This position also carries with it the opportunity to work closely with preclinical scientists at all levels.

Candidates should have an M.D. Degree with 2 years or more of research experience and a strong record of achievement, including publications in refereed journals. Response is also invited from Ph.D.s in pharmacology or physiology with 2 years or more experience in clinical investigation of cardiovascular drugs.

Primary responsibilities involve the design and conduct of Phase I and early Phase II clinical studies. Interest and experience in clinical pharmacokinetics and pharmacodynamics are desirable. Good oral and written communication skills are also required.

This position offers excellent salary, benefits, and opportunity for advancement. Please submit CV. to **Squibb Corporation, Human Resources Department #328, P.O. Box 4000, Princeton, NJ 08543-4000.** An equal opportunity employer.



SQUIBB

Where science comes to life.

Research Scientist Animal Health Research



An equal opportunity employer

Pfizer Inc., a worldwide leader in the animal health, pharmaceutical and healthcare industries, has an excellent career opportunity for a creative research scientist at its modern Animal Health Research facility in Terre Haute, Indiana. As an integral member of the Development Research team, you will design, conduct, analyze and report on *in vitro* and *in vivo* experiments testing antiparasitic and/or antimicrobial product candidates. In addition, you will supervise the Development Research laboratory and coordinate its activities with other Animal Health Research personnel.

The successful candidate will have a PhD degree from an accredited university with emphasis in veterinary parasitology and experience in coccidiosis research. Experience and/or training in microbiology and food animal production desirable.

Pfizer offers an exceptional opportunity for professional recognition and career growth with competitive compensation and excellent benefits package. Interested qualified applicants should submit a current resume to: Christina Batjer, Sr. Personnel Supervisor, Pfizer Inc., P.O. Box 88, Terre Haute, Indiana 47808.

NATIONAL INSTITUTES OF HEALTH, FELLOWSHIP IN BRAIN LIPID METABOLISM.

The Laboratory of Neurosciences, National Institute on Aging, National Institutes of Health, invites applications for a Staff Fellowship position to study brain lipid metabolism in relation to development and aging. Research opportunities include the 1) examination of incorporation of precursors of brain lipids in animals *in vivo*, using quantitative pharmacokinetic and autoradiographic techniques, 2) applying methods for subcellular and chemical fractionation of brain lipids, 3) examining intermediary brain lipid metabolism, 4) examining lipid composition of the human brain in relation to aging and Alzheimer's disease. The position is that of a Staff Fellow, Senior Staff Fellow or Medical Staff Fellow, with salary commensurate with qualifications. Appointments vary in duration from 2 to 7 years and are tenure-tract. The position is located in Bethesda, Maryland, and is available October 1, 1986.

Applications are invited from qualified individuals having a Ph.D., M.D., or combined degrees, and pertinent research experience. NIH is an equal opportunity employer, and applications from women and minorities are invited. Interested candidates should submit their Curriculum Vitae to:

**Dr. Stanley I. Rapoport, M.D., Chief
Laboratory of Neurosciences
National Institute on Aging
Building 10, Room 6C103
National Institutes of Health
Bethesda, Maryland 20892.**

NIH IS AN EQUAL OPPORTUNITY EMPLOYER



The University of Zurich and the Swiss Federal Institute of Technology invite applications for a non-tenured position of

ASSISTANT PROFESSOR OF CRYSTALLOGRAPHY

Duties of the new professor include basic crystallography for students in natural sciences and materials sciences as well as advanced courses for crystallography students. Special expertise in theoretical crystallography is desired.

The successful applicant will have an advanced university degree and internationally recognized contributions in physical crystallography. Ability to teach at all university levels and a will for cooperation with colleagues in chemical crystallography and mineralogy are expected.

Applications with curriculum vitae and list of publications should be submitted before **May 31, 1986**, to: **Dekanat der Philosophischen Fakultät II, Universität Zürich, Rämistrasse 71, CH-8006 Zürich.**

GASTROINTESTINAL AND SMOOTH MUSCLE SCIENTISTS

G.D. Searle Research and Development Division has two excellent career opportunities in their Gastrointestinal Diseases Group:

Research Scientist - Gastrointestinal

This is a senior level position that requires the successful candidate to have a Ph.D. in Pharmacology/Physiology, 2 years postdoctoral training and 3-5 years industrial experience. Primary responsibilities include designing and conducting studies using established and new animal models to identify potentially useful agents for treating ulcer disease. Superior writing and verbal communication skills, as well as prior supervisory responsibilities, are needed.

Research Investigator - Smooth Muscle

The successful candidate will have a Ph.D. in Pharmacology/Physiology with emphasis on smooth muscle. Completion of a 2-year postdoctoral training program preferred. Primary responsibilities include designing and conducting both *in vitro* and *in vivo* studies to determine the effect of agents on smooth muscle.

Searle R&D is located in north suburban Chicago. We offer excellent compensation, comprehensive benefits and relocation assistance. For prompt confidential consideration, send your detailed resume to:

Sheila Copeland #7CB-9
Sr. Employment Counselor
Searle R&D Division
4901 Searle Parkway
Skokie, IL 60077

Equal Opportunity Employer M/F/H

SEARLE

POSITIONS OPEN

ASSISTANT/ASSOCIATE PROFESSOR—ANIMAL CYTOGENETICS. Tenure-track position for an animal cytogeneticist with knowledge of quantitative genetics. Should have experience and demonstrated interest in the cytogenetics of domestic farm animals and be able to apply one or more of the following techniques to the study of animal cytogenetics: hybridoma production, monoclonal antibodies, recombinant DNA, cell and tissue culture. Postdoctoral experience is highly desirable. The successful applicant will participate in a developing departmental biotechnology program by establishing a strong research program, funded in part by external grants. Teaching responsibilities will include graduate and undergraduate level courses in cytogenetics and quantitative genetics, plus participation in the teaching of modular courses in research techniques. Interested applicants should submit, by 30 May 1986, curriculum vitae and four references to: **Dr. Donald L. Black, Head, Department of Veterinary and Animal Sciences, 313 Paige Laboratory, University of Massachusetts, Amherst, MA 01003. An Affirmative Action/Equal Opportunity Employer.**

McGILL UNIVERSITY ASSISTANT PROFESSOR— BIOCHEMISTRY DEPARTMENT

The Department of Biochemistry, Faculty of Medicine, is seeking candidates with at least 2 years of postdoctoral experience for a **tenure-track position** at the rank of **assistant professor** commencing September 1986 with a later appointment possible. The incumbent's responsibilities will include teaching, supervision of students, and maintaining an active, independent research program. Curriculum vitae, the names of three referees, and a statement of research interests should be sent to: **Dr. Meighen, Department of Biochemistry, McGill University, 3655 Drummond Street Montreal, Quebec, Canada H3G 1Y6.**

In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada, however, others are encouraged to apply.

ASSISTANT PROFESSORS MICROBIOLOGY AND IMMUNOLOGY UNIVERSITY OF ILLINOIS COLLEGE OF MEDICINE AT CHICAGO

The Department of Microbiology and Immunology, as part of a process of growth and an increase in activity, is seeking to fill three positions at the level of assistant professor (tenure-track; associate professor candidates will also be considered). Each will be expected to develop a strong, independent research program with external funding. Adequate space and start-up funds are available. Participation in teaching and graduate student training is expected.

Applicants should provide the appropriate search committee with curriculum vitae, at least three letters of recommendation, and a brief statement of future research interests and plans. The first series of candidates will be considered after 15 February 1986 and applications will be accepted until the positions are filled. Starting dates can be September 1986 or thereafter. Send applications to: **Drs. Katherine Knight and Margalit Mokyr, Co-Chairs, Immunology Search Committee, University of Illinois at Chicago, Department of Micro/Immunology E-703 MSA, 835 South Wolcott, Chicago, IL 60612. The University of Illinois is an Affirmative Action/Equal Opportunity Employer.**

DEPARTMENT OF MICROBIOLOGY CORNELL UNIVERSITY MEDICAL COLLEGE ASSISTANT PROFESSOR

The Department of Microbiology, Cornell University Medical College, has a 12-month, tenure-track position available at the **assistant professor** level. Applicants (with either Ph.D. and/or M.D. degrees) should have postdoctoral experience. An interest and research experience in investigating molecular mechanisms of microbial pathogenesis are desired. Excellent start-up funds and space available. Applicants should send curriculum vitae, names and telephone numbers of references, and a brief description of research objectives to: **Dr. Kenneth I. Berns, Chairman, Department of Microbiology, Cornell University Medical College, 1300 York Avenue, New York, NY 10021.**

Equal Opportunity/Affirmative Action Employer

POSITIONS OPEN

ASSISTANT PROFESSOR OF PHYSIOLOGY. Applicants for this tenure-track position should have a highly productive research program, preferably but not necessarily in the area of lipoproteins, receptor function or metabolism, and should be an experienced teacher. Send curriculum vitae and three names of references to: **John J. Spitzer, M.D., Professor and Head, Department of Physiology, Louisiana State University (LSU) Medical Center, 1901 Perdido Street, New Orleans, LA 70112. LSUMC is an Equal Opportunity/Affirmative Action Employer.**

ASSOCIATE/ASSISTANT SCIENTISTS. Crop Genetics International (CGI) has positions open for scientists skilled in recombinant DNA technologies and experience with non-traditional bacteria. CGI is an innovative agricultural biotechnology company located in the Washington, D.C., area adjacent to the U.S. Department of Agriculture (USDA) Beltsville Laboratories. Successful candidates will join the microbiology group and be involved in genetically modifying agriculturally important bacteria for crop protection. Individuals with B.S./M.S. and postgraduate experience in recombinant DNA methodologies and nontraditional bacteria are encouraged to apply for these positions. Application deadline is 23 May.

Please send your résumé in confidence to:

**Dr. D. Edmiston
Crop Genetics International
7170 Standard Drive
Hanover, MD 21076
Equal Opportunity Employer**

BIOCHEMIST/PHYSIOLOGIST/ PHARMACOLOGIST

The Division of Gastroenterology at Henry Ford Hospital, Detroit, Michigan, seeks a qualified Ph.D. with 2 to 4 years of postdoctoral training and experience in the field of epithelial transport. The successful applicant will participate in ongoing research on the effects of bile acids and lipids on intestinal transport and develop an independent research program supported by intramural and extramural funds. Academic appointment at the University of Michigan, depending on qualifications. Please send curriculum vitae, outline of research interests, and the name of three references to: **Dr. Joseph D. Shore, Director of Research, Henry Ford Hospital, 2799 West Grand Boulevard, Detroit, Michigan 48202. Attention: Dr. Helmut V. Ammon, Chief, Division of Gastroenterology, Department of Internal Medicine.**

BIOLOGICAL OCEANOGRAPHER: Department of Oceanography seeks zooplankton ecologist, preferably with specialization in microzooplankton. Appointment will be made at assistant professor level (9 months state funding, tenure-track) and may be taken up between August and December 1986. Applicants send curriculum vitae, names, and addresses of three referees to: **Dr. Richard Iverson, Department of Oceanography, Florida State University, Tallahassee, FL 32306, before 1 June 1986.**



THE UNIVERSITY OF MANITOBA FACULTY OF MEDICINE

CARDIOVASCULAR MOLECULAR BIOLOGISTS AND ELECTROPHYSIOLOGISTS. The Department of Physiology, University of Manitoba, invites applications for two positions from young investigators in the field of experimental cardiology to be appointed at the level of assistant professor. The successful candidates will be expected to compete for local and national scholarship awards and develop their independent research programs, as well as collaborate with other members of the department. Applicants with backgrounds in molecular biology and electrophysiology are encouraged to submit their curriculum vitae, an outline of their research interests, as well as to arrange for three letters of reference to be sent to **Dr. Henry G. Friesen, Professor and Head, Department of Physiology, Faculty of Medicine, University of Manitoba, Winnipeg, Manitoba, Canada R3E 0W3. Deadline for application is 1 June 1986. The University of Manitoba is an Equal Opportunity/Affirmative Action Employer, but in accordance with Canadian immigration, priority will be given to Canadian citizens and permanent residents of Canada.**

POSITIONS OPEN

CEREBROVASCULAR

Applications are invited for a position in neuroscience at the University of Manitoba, Faculty of Medicine. Preference will be given to individuals with experience and a continuing interest in cerebral blood flow and metabolism, with some expertise in nuclear magnetic resonance. The successful candidate will be expected to develop an independent laboratory in an environment with ample opportunity to collaborate with other researchers in clinical, as well as basic science, departments. Candidates should have a Ph.D. or equivalent, have two or more years of postdoctoral training, and be eligible to compete for local and national scholarship awards. Send curriculum vitae, outline of future research plans, and arrange for three letters of reference to be forwarded to: **Dr. H. G. Friesen, Professor and Head, Department of Physiology, University of Manitoba, Winnipeg, Manitoba, Canada R3E 0W3. Deadline for receipt of applications is 1 July 1986. In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada.**

The University of Minnesota Medical School invites nominations and applications for the **WILLIAM F. DIETRICH LAND GRANT CHAIR IN FUNDAMENTAL CELL/MOLECULAR BIOLOGY**. It is intended that the recipient of the chair shall hold a tenured-faculty appointment at the rank of professor in a basic science department of the Medical School; joint appointments in additional departments will also be considered. Therefore, we seek a candidate with a Ph.D., M.D., M.D.-Ph.D., or equivalent foreign degree or degrees. The individual must have outstanding academic credentials, evidence of major contributions to an area of research, a national and international reputation for excellence, and demonstrated effectiveness in teaching. The person will establish a research program and serve as a magnet to attract other staff, fellows, students, and visiting scientists for collaborative investigations. The Dietrich Chair will provide considerable freedom and resources to develop an area of research excellence in which the candidate has an established interest and demonstrated ability. *The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.* Nominations and applications are to be sent by 1 September 1986 to:

**James G. White, M.D.
Regents' Professor
Laboratory Medicine and Pathology, Pediatrics
Associate Dean for Research
University of Minnesota Medical School
Mayo Box 293
420 Delaware Street SE
Minneapolis, Minnesota 55455**

CHAIR MEDICAL SCHOOL CELL BIOLOGY ANATOMY DEPARTMENT

The University of Massachusetts Medical School is seeking a distinguished scientist and academic leader for the position of **PROFESSOR** and **CHAIR** of a Cell Biology/Anatomy Department with current research emphasis in cell biology and neurobiology. The successful candidate must demonstrate outstanding research and leadership ability, and will have the opportunity to develop a department which has significant growth potential. The institution is particularly interested in further developing strength in the areas of cell biology, developmental biology, or the neurosciences. The department is well-equipped for modern ultrastructural studies and has access to outstanding institutional core facilities such as those for tissue culture, fluorescence-activated cell sorting, DNA synthesis, protein sequencing, and peptide synthesis. Other basic science departments in the institution provide a stimulating environment conducive to contemporary scholarship in the biomedical sciences. The department chair will be responsible for promoting excellence in research and teaching, and for administering the financial resources in the department. Candidates may be nominated or may apply by sending a letter of interest, curriculum vitae, and names of three individuals to be contacted as references. Please address correspondence to: **Dr. Michael P. Czech, Search Committee, Department of Biochemistry, University of Massachusetts Medical School, Worcester, MA 01605.**

An Equal Opportunity/Affirmative Action Employer

HUMAN GENETICS

The Human Genetics Department at Collaborative Research, Inc. has opportunities available for PhD, Masters and Bachelors degree candidates to join a research team dedicated to the application of modern molecular methods to the genetics of humans and the development of innovative medical diagnostics. Positions are available at all levels unless otherwise noted.

Molecular Genetics

Successful candidates will possess experience in genetic linkage mapping, standard recombinant DNA methodologies such as library construction and screening, or diagnosis of inherited traits using RFLPs. Background in human or phage genetics, vector construction or computer assisted data analysis is helpful.

Molecular Biology

Candidates are desired with strong molecular biology backgrounds and interest in improving existing technology or developing alternative methods. Candidates should have facility with recombinant DNA methodologies such as library construction, gene cloning, Southern blot technology, vector construction, subcloning, restriction mapping and DNA sequencing.

Cell Biology

Candidates should possess a degree in the Life Sciences with strong mammalian cell culture experience and interest in recombinant DNA technology. Demonstrated expertise in development and characterization of somatic cell hybrids, establishment of cell lines from primary cultures, and knowledge of cytogenetics of human cells required.

Computer Applications

An opportunity exists for a PhD to develop computer assisted methods for genetic linkage analysis in humans. Will work with other scientists to design and implement software for a variety of applications to problems of statistical analysis in human genetics research and in diagnostic laboratory applications. Background in genetics and/or molecular biology and continuing interest in experimental science is essential. A degree in mathematics, genetics, computer programming or life sciences and prior scientific programming experience is required.

YEAST GENETICS

Our Yeast Genetics Department has a PhD opportunity available to assist in the planning and development of yeast strains secreting mammalian proteins. A degree in molecular genetics or biochemistry with experience in recombinant DNA techniques is necessary. Yeast molecular genetics experience is essential. BS/MS opportunities are also available.

CRI, a leader in molecular biology, is located just 10 miles west of Boston. We provide a comprehensive salary and benefits program. For consideration, please submit resumes and the names of 3 references to the Human Resources Department.

COLLABORATIVE RESEARCH, INC.

128 Spring Street
Lexington MA 02173
an equal opportunity employer

ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA

DIRECTOR

Patrick Center for Environmental Research

The Academy's Division of Environmental Research seeks qualified candidates to fill the position of Director of the Patrick Center. The Patrick Center, located at the Academy's headquarters in Philadelphia, is one of three laboratories within the Division conducting both basic and applied aquatic research. Candidates must possess an earned doctorate in the aquatic sciences, a strong record of scholarship and research, and demonstrated leadership abilities in a research-oriented group to function effectively in a complex institution. The successful candidate must have the leadership qualities to direct innovative program development for both applied and basic research with a diverse staff.

The Director must have a demonstrated ability to think in terms of multi-investigator, interdisciplinary program activities; the ability to develop funding opportunities in both public and private sectors; as well as interest in balancing fundamental research and in solving basic questions in applied research. The candidate must qualify for appointment to the curatorial research staff with a strong research program.

Compensation will be commensurate with qualifications and experience. Send (i) curriculum vitae, (ii) statement of professional goals and (iii) the names and addresses of at least 4 references to: **Dr. Louis E. Sage, Vice President, Environmental Research, Academy of Natural Sciences of Philadelphia, 19th Street and the Parkway, Philadelphia, Pa. 19103.**

An Equal Opportunity Employer



DOW CHEMICAL U.S.A.

BIOCHEMICAL TOXICOLOGIST

Dow Chemical Agricultural Products Research has a career opportunity for an entry level biochemical toxicologist in their Insecticide Discovery Group.

The position requires a Ph.D. in Entomology, Toxicology or related discipline with up to 3 years of postdoctoral experience. The job involves working with entomologists, chemists and biochemists in the discovery and development of innovative chemical approaches to crop protection. Research experience in one or more areas of xenobiotic delivery, pharmacokinetics and metabolism is required.

Dow Chemical offers very competitive salaries, excellent benefits and opportunities for advancement in a pleasant campus-like setting with state of the art research facilities. Qualified candidates should send their Curriculum Vitae, undergraduate and graduate transcripts, names of three references and a cover letter describing their research interests to:

**Manager
Employee Relations Department
Dow Chemical U.S.A.
P.O. Box 9002
Walnut Creek, CA 94598-0902**

Dow Chemical is an affirmative action employer.

POSITIONS OPEN

CHAIRMAN DEPARTMENT OF MICROBIOLOGY LOYOLA UNIVERSITY— STRITCH SCHOOL OF MEDICINE

The Stritch School of Medicine, Loyola University of Chicago, invites applications and nominations for the position of chairman of the Department of Microbiology. The candidate should possess a Ph.D. or equivalent degree in microbiology, have an established and active research program, have a commitment to medical and graduate education, and have had previous administrative experience. Currently, the faculty of the department are pursuing research in: molecular biology; cellular immunology; prokaryotic and eukaryotic genetics; virology; immunochemistry; microbial physiology; pathogenic mechanisms; and mycology. Applicants should send their curriculum vitae and the names of three references by 15 July 1986 to: **Dr. John X. Thomas, Jr., Chairman, Search Committee for Microbiology, Stritch School of Medicine, Loyola University of Chicago, 2160 South First Avenue, Maywood, IL 60153.** Loyola University of Chicago, Stritch School of Medicine is an Affirmative Action/Equal Opportunity Employer.

CHAIRPERSON — MARINE AFFAIRS

The Rosenstiel School of Medicine and Atmospheric Science (RSMAS), University of Miami, is seeking to fill a full-time, tenure-track position as chairman for the Division of Marine Affairs. The candidate must have a record of scholarly/professional accomplishments in resource economics or policy analysis and have a superior funding record. The candidate must also be able to generate innovative research projects. The Division of Marine Affairs will interact with the other divisions at the Rosenstiel School and also the Law School and School of Business Administration of the University of Miami. RSMAS is a graduate school and oceanographic research institution. Send curriculum vitae, statement of research interest, and the names of three references by 9 June 1986 to: **Dr. William Fox, Search Committee Chairman, Division of Marine Affairs, RSMAS, University of Miami, Rickenbacker Causeway, Miami, Florida 33149.**

An Equal Opportunity/Affirmative Action Employer.

CHIEF, MOLECULAR-BIOLOGY SECTION: Loyola University, a major academic medical center in a western suburb of Chicago, seeks candidates for an immediate opening in the Department of Pathology. This new position requires the establishment of a research and diagnostic service laboratory utilizing techniques in molecular genetics. The successful candidate will have extensive experience in these techniques, demonstrated research productivity, and the ability and interest to collaborate with other staff in the Department of Pathology. Academic appointment and salary commensurate with experience. Interested candidates should send curriculum vitae, full bibliography, and names of three references to: **Dr. Chester J. Herman, Professor and Chairman, Department of Pathology, Loyola University Medical Center, 2160 South First Avenue, Maywood, Illinois 60153.** Loyola University is an Equal Opportunity Employer.

EXECUTIVE VICE PRESIDENT HEALTH SCIENCES CENTER

Texas Tech University Health Sciences Center at Lubbock, Texas, with regional academic centers in Amarillo, El Paso, and Odessa, seeks applications and nominations for an academic and operating officer who reports to the president. Minimum qualifications include M.D. degree, experience in health professional education programs at a major university, both in academic and administrative positions, and demonstrated effectiveness in working in academic medical center environments. Candidates must possess exceptional leadership and managerial skills, and working knowledge and understanding of financial operations of a university. Submit nominations by 1 June 1986 or curriculum vitae by 30 June 1986 to: **Dr. Gerald Laros, Chairman, Search Committee for the Executive Vice President, Texas Tech University Health Sciences Center, 3601 4th Street, Lubbock, Texas 79430.** An Equal Opportunity/Affirmative Action Institution.

POSITIONS OPEN

CLINICAL COORDINATOR - So. CA

Nationally recognized leader in health care field seeks individual with PhD in the Biological or Clinical Sciences or a Pharm.D. with strong background in Biochemistry/Nutrition, with knowledge of amino acid or lipid metabolism, or with clinical experience in parenteral fluid therapy. Responsibilities include design, preparation and implementation of clinical research protocol to evaluate safety and efficacy of new drugs/nutritional products. Will monitor clinical studies, analyze and interpret results, and prepare medical reports. Technical writing required. Excellent compensation package and growth opportunities. For consideration send resume to: **Robert Brodie, Director of Employment, KENDALL MCGAW LABORATORIES, INC. 2525 McGaw Avenue, Irvine, CA 92714.** Equal opportunity employer m/f.

CRYOBIOLOGIST, POSTDOCTORAL, OR EXPERIENCED PREDOCTORAL, to supervise development of human gamete/embryo cryobiology unit in a large genetics/IVF/fertility center with university affiliation. Excellent salary/benefits, suburban Washington, DC location. Inquiries/curriculum vitae/résumé to: **Maria Bustillo, M.D./Joseph D. Schulman, M.D., 3020 Javier Road, Fairfax, VA 22031; telephone: 703-698-7355.**

CYTOGENETICIST. Excellent opportunity for Ph.D. or M.S., with training and demonstrated skills in coordinating a large and expanding clinical cytogenetics laboratory. Those with research interests in cytogenetics may also apply. Contact: **Dr. S. Bruce Dowton, Division of Medical Genetics, Washington University School of Medicine, 400 South Kingshighway, St. Louis, Missouri 63110.**

DIAGNOSTIC MOLECULAR GENETICS: The Department of Laboratory Medicine, Mayo Clinic, Rochester, Minnesota, is seeking an individual to develop a DNA Diagnostic Laboratory, which would use cloned probes in the diagnosis and screening of human genetic diseases and their carrier states and in extending those procedures to the study of infectious diseases and human malignancy as their clinical utility becomes established. While provision of a clinical assay/consultation service is of first priority, the position should provide an exceptional opportunity to pursue research relating to the development of novel DNA-based tests and/or the improvement of existing methodology. The individual chosen for this position must be able to interact productively with colleagues in the established disciplines of the Department of Laboratory Medicine, the clinicians at the Mayo Clinic, and the research staff, especially those in the Department of Biochemistry and Molecular Biology. The ideal candidate will have at least 3 years of research experience in molecular genetics, a demonstrated research interest in DNA-based diagnosis, experience in some form of clinical laboratory diagnosis, and a strong background in medical genetics. This position, which is available immediately, is an institutionally funded position with ample opportunities for growth. Interested individuals should have curriculum vitae, a letter summarizing interests, thoughts, and plans for such a laboratory, and letters of recommendation transmitted to: **Michael B. O'Sullivan, M.D., Chairman, Department of Laboratory Medicine, Mayo Clinic, Rochester, Minnesota 55905.** Mayo Foundation is an Affirmative Action/Equal Opportunity Employer.

The University of Michigan Medical School, Department of Pediatrics, has **FOUR OPEN FACULTY POSITIONS** at the instructor through professor level. Individuals should be Board-qualified/certified, patient care, teaching, and research-oriented in fields of cardiology, neurology, or general pediatrics. Direct inquiries to: **Robert P. Kelch, M.D., Department of Pediatrics, D1109 MPB, Ann Arbor, MI 48109-0718.** The University of Michigan is a Nondiscriminatory/Affirmative Action Employer.

TWO TENURE-TRACK FACULTY POSITIONS available immediately: Developmental geneticist, particularly the molecular genetics of the mouse; and retroviral geneticist, particularly as applied to somatic and embryonic development genes. Please submit a current curriculum vitae and list of references to: **Dr. C. Thomas Caskey, Director, Institute for Molecular Genetics, Baylor College of Medicine, One Baylor Plaza, Houston, Texas 77030.**

POSITIONS OPEN

DIRECTOR, OFFICE OF CLIMATIC AND ATMOSPHERIC RESEARCH (OCAR). The Environmental Research Laboratories National Oceanic and Atmospheric Administration (NOAA), U.S. Department of Commerce in Rockville, Maryland is seeking applicants for a scientific manager to serve as director, OCAR to develop, direct, manage, and coordinate unique national and international climate and atmospheric research activities crossing existing scientific and organizational boundaries. Responsibilities include coordination and implementation of NOAA and U.S. participation in the Global Atmospheric Research Program and the World Climate Research Program; fostering and managing technological transfer for operational use of observing instrumentation; and coordinating all of NOAA's climate research activity. **QUALIFICATIONS:** Ph.D. or equivalent experience in environmental science; thorough understanding of atmospheric predictability; considerable professional experience in high technology related to atmosphere and oceans; high degree of analytical ability and ability to develop new and creative approaches; executive competence in broad areas of administration such as program planning and evaluation, multi-group coordination, resource acquisition and administration, organizational representation, and human resource utilization including EEO. **TO APPLY:** Please contact: **Louise Parrish, NOAA, NCASC Personnel (RAS/DC2), 11420 Rockville Pike, Rockville, MD 20852; telephone: 301-443-6667** for application forms. Reference vacancy number NS86-07LP closing 6 June 1986. Applicants must have SF-171 and completed package to above by closing date. An Equal Opportunity Employer.

DIRECTOR, COAL RESEARCH SECTION, College of Earth and Mineral Sciences, The Pennsylvania State University. Applications and nominations are invited for the position of director of the coal research section. Candidates must possess an earned doctorate. Scholarly and professional qualifications appropriate for professional appointment and the administrative experience and interpersonal skills required to provide organizational leadership.

The mission of the Coal Research Section is to conduct interdisciplinary research in collaboration with faculty members in the six departments of the college (geosciences, geography, mineral economics, meteorology, materials science and engineering, and mineral engineering) involved with coal research activities. The successful candidate will be expected to stimulate new coal research, assemble interdisciplinary research faculty teams to respond to requests for sponsored research proposals and obtain, administer, and service coal research grants sponsored by agencies of the Commonwealth of Pennsylvania, federal government, and industry.

Applications and nominations accompanied by résumé and supporting materials should be sent to: **Dr. Peter T. Luckie, Chairman, Coal Research Section Director Search Committee, 109 Steidle Building, University Park, PA 16802.**

The search committee will begin to review résumés on 15 May 1986 and will continue to receive them until a candidate is selected. An Equal Opportunity/Affirmative Action Employer.

FACULTY POSITIONS IN BIOMEDICAL ENGINEERING, BOSTON UNIVERSITY COLLEGE OF ENGINEERING, at the assistant/associate/full professor levels in expanding Department of Biomedical Engineering for September 1986 or January 1987. Applicants should have an earned doctorate, be committed to quality teaching at both undergraduate and graduate levels, and have the desire to develop strong research programs. Collaboration with the Boston University School of Medicine or other engineering departments may be facilitated through a joint faculty appointment. Candidates with backgrounds in image processing, computer science, chemical engineering, mechanical design, electronics, computer engineering, biomechanics and materials, or robotics are especially welcome. Opportunities for part-time (adjunct) faculty positions and for collaborative arrangements with nearby institutions involved in biomedical research and development are also available. Candidates should send résumé, list of publications, names and addresses of five references, and a brief statement of teaching and research interests to: **Dr. Eugene Smithberg, Chairman Engineering Search Committee, College of Engineering, 110 Cummington Street, Boston, MA 02215.** Boston University is an Equal Opportunity/Affirmative Action Employer.

Research Scientists

SYNERGEN, a leading biotechnology company, has openings for the following scientists:

Molecular Biologists with special interests in the problems of gene expression in microorganisms. We are particularly interested in constructing expression systems to make biologically active eukaryotic proteins in microorganisms.

Protein Biochemists with experience in protein purification and characterization who are interested in applying these skills to isolating small quantities of, and determining the structure of, physiologically interesting proteins from tissues, or to the development of large-scale isolation procedures for proteins from recombinant organisms.

Molecular/Cell Biologists to study eukaryotic gene expression, to design systems for expressing recombinant proteins in animal cells.

Fermentation Scientists with expertise in fermentation development and process scaleup for recombinant protein production.

SYNERGEN, located in Boulder, Colorado, offers the opportunity to pursue scientific careers in a stimulating intellectual and physical environment. We seek recent Ph.D.'s with post-doctoral experience and more senior people interested in becoming part of a rapidly expanding company. We offer competitive salaries, generous benefits, and the financial stability required for future development. Please send a CV, bibliography and references to:



SYNERGEN
Recruitment Director
1885 33rd Street
Boulder, Colorado 80301

CHIEF, ILLINOIS NATURAL HISTORY SURVEY

The Illinois Natural History Survey, a Division of the Illinois Department of Energy and Natural Resources, is seeking candidates for the position of Chief, available 1 October 1986. The Survey, headquartered on the campus of the University of Illinois at Urbana-Champaign, was established in 1858 and is the largest and oldest organization of its kind in the world.

Survey scientists investigate the life histories of organisms and study the biological processes of ecological systems to determine the most effective means of protecting and intelligently using natural resources for maximum benefit. The Survey's internationally recognized programs of basic and applied research are conducted within five sections: Aquatic Biology, Botany and Plant Pathology, Economic Entomology, Faunistic Surveys and Insect Identification, and Wildlife Research.

The Chief of the Illinois Natural History Survey reports to the Board of Natural Resources and Conservation, directs a staff of 230 persons, administers an annual budget in excess of \$6,000,000, and is responsible for the scientific leadership and administration of the organization. The Chief prepares and defends the budget, interacts with representatives of state and federal agencies and the general public, and aids Survey scientists in obtaining necessary funding.

Applicants must possess an earned doctorate in the biological sciences, have established a national and international reputation in a discipline of biology represented in the programs of the Illinois Natural History Survey, and have administrative experience and proven capabilities in leadership and guidance of others engaged in research. They must be articulate and persuasive in both oral and written communication, willing to delegate authority, and able to listen and counsel effectively. Applicants must be familiar with procedures for obtaining grants and contracts from federal, state, regional, and private sources. Minimum salary is \$65,000.

To ensure consideration for the position of Chief, send a statement of interest, a resume, and the names, addresses, and phone numbers of at least three references by 1 July 1986 to: **Dr. Lawrence M. Page, Search Committee Chairman, Illinois Natural History Survey, 607 East Peabody Drive, Champaign, IL 61820. Phone (217) 333-6847. The Illinois Natural History Survey is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL CANDIDATE LIFE SCIENCES DIVISION

THE LIFE SCIENCES DIVISION AT THE LOS ALAMOS NATIONAL LABORATORY is seeking a Postdoctoral candidate for our cellular and molecular studies of carcinogenesis which emphasize mechanisms involved in immortalization, loss of karyotype stability and changes in growth factor requirements. The program also includes in vivo validation of the cell culture models using retrievable sponge implants in nude mice. Usage of the National Flow Cytometry Resource will be an important aid to the research.

Positions are competitive and the successful candidate must have an excellent undergraduate and graduate academic achievement record as well as superlative references. The selected applicant will receive a salary of \$29,520 to \$31,080 per year, a comprehensive benefits package, and relocation expenses.

The Los Alamos National Laboratory is located in the beautiful mountains of northern New Mexico, which provides exceptional recreational activities including skiing, whitewater rafting, backpacking, and mountain climbing.

Interested candidates should send a copy of their resume to Dr. Paul Kraemer, LS-4, Mail Stop M888, Los Alamos National Laboratory, Los Alamos, New Mexico 87545. For further information contact Dr. Kraemer at (505) 667-2794.

TO FORMALLY APPLY, please send resume or employment application, three letters of reference, and graduate and undergraduate transcripts to:

Carol M. Rich
Personnel Administration
Division POSTDOC-K
Los Alamos National Laboratory
Los Alamos, New Mexico 87545
University of California



Los Alamos is an Affirmative Action/Equal Opportunity Employer

POSITIONS OPEN

UNIVERSITY OF ROCHESTER FACULTY POSITIONS: MOLECULAR AND PATHOGENIC MICROBIOLOGY

Applications are invited for four, senior or junior, tenure-track, faculty positions in the Department of Microbiology and Immunology at the School of Medicine and Dentistry. These positions are part of a major developmental effort in microbiology and immunology by the University of Rochester, which includes new space, added budget for equipment, and expansion to the graduate program. Areas of interest include pathogenic microbiology and parasitology, with emphasis on the application of modern molecular technology. Other research specialties will be considered. A strong record of funding or potential for funding is required. The School of Medicine and Dentistry enjoys a long tradition of interactions among basic science departments and clinical units, and the Department of Microbiology and Immunology takes part in cooperative programs with other colleges in the university. Faculty in the department teach in the graduate program, and may also be involved in the medical curriculum, in postgraduate dental education, or in an undergraduate track leading to a B.S. in biological sciences with about 20 majors per year. Salaries are competitive based on qualifications. Applicants should submit a complete curriculum vitae, including names of three referees and sample publications, to: **The Microbiology Search Committee, Department of Microbiology and Immunology, University of Rochester School of Medicine and Dentistry, Rochester, NY 14642**, to arrive before 1 August 1986. *The University of Rochester is an Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITION IN WOOD SCIENCE AND TECHNOLOGY. University of Massachusetts at Amherst. Assistant professor, tenure track, academic year, start 1 September 1986. Qualifications required: Ph.D. degree with at least one degree in wood science or forest products. Responsibilities include teaching undergraduate courses in chemical processing of wood and wood composites and adhesives technology or wood finishing and preservation, graduate and undergraduate student advising, limited extension activities, development of an active research program in an appropriate area of expertise. Submit résumé, transcripts, and the names of three references by 30 June 1986 to: **Dr. William W. Rice, Chairman, Wood Science and Technology Search Committee, Department of Forestry and Wildlife Management, University of Massachusetts, Amherst, MA 01003**; telephone: 413-545-2665. *An Affirmative Action/Equal Opportunity Employer.*

GROUND-WATER HYDROLOGY

A 2-year, postdoctoral position in ground-water-stream water interactions is available at the Savannah River Ecology Laboratory on the U.S. Department of Energy's Savannah River Plant. The successful applicant will participate in research on floodplain-stream interactions using radioisotopes to identify ground-water movement. Applicants must be U.S. citizens and should submit curriculum vitae, statement of research interests, copies of relevant publications, and three letters of recommendation to: **John E. Pinder, III, Savannah River Ecology Laboratory, Drawer E, Aiken, South Carolina 29801**. Applications should be received by 23 May so that the position can be filled by 1 August. *An Equal Opportunity/Affirmative Action Institution.*

GROUP LEADER IN PRODUCT DEVELOPMENT, BIOPROCESS ENGINEER.

A blue-chip biotechnology firm in the Philadelphia area seeks a highly qualified Ph.D. biochemical or chemical engineer with 4 to 6 years of hands-on industrial experience to head its new Product Development Group. Responsibilities include process development for new strains of insect and plant disease pathogens, production of field-test quantities, scale-up and downstream recovery, developmental projects relating to pesticide products, supervision of bioengineering staff. Preference will be given to applicants with experience in design, construction, operation of fermentation pilot plant(s), microbiology and strain improvement techniques, and previous supervisory responsibilities. Salary commensurate with qualifications and experience. Send curriculum vitae and three reference names or letters to: **Cambridge Laboratory Consultants, 53 Beaver Road, Weston, MA 02193**.

POSITIONS OPEN

FACULTY POSITIONS IN MOLECULAR GENETICS

The Department of Biochemistry of The University of Texas Health Center at Tyler is seeking individuals to fill faculty positions in the area of molecular genetics. Individuals with research expertise in the area of mammalian gene expression and regulation will be given primary consideration, but all applicants in related areas will be seriously considered. We seek investigators with promise of, or with a proven record of, productivity and extramural funding. Salary is completely funded by The University of Texas and will be commensurate with the level of the individual appointment. The investigators will be expected to build strong, sponsored research programs on a full-time basis, with no teaching responsibilities. We are especially interested in individuals around whom a strong molecular biology program could be developed. Rank will be dependent on research experience and peer recognition.

Please send curriculum vitae, a statement of research goals, and names, addresses, and telephone numbers of at least three references to: **Dr. Richard G. Painter, Department of Biochemistry, University of Texas Health Center at Tyler, P.O. Box 2003, Tyler, Texas 75710**.

The University of Texas Health Center at Tyler has a strong commitment to Affirmative Action Employment practices.

FISHERY POSITION UNIVERSITY OF WASHINGTON

The Center for Quantitative Science in the School of Fisheries at the University of Washington invites applications for a tenure-track faculty position at the **assistant/associate professor** level, beginning fall 1986. The applicant should have a strong mathematics/statistics background and demonstrated research ability in fish population dynamics/fishery statistics (estimation of animal abundance). Duties will include research and teaching; we seek excellence in teaching population dynamics/parameter estimation at the graduate level. Candidate will have doctorate or equivalent and experience in natural resource management. Salary commensurate with experience. Send curriculum vitae, reprints of three papers, and names of three references by 15 June 1986 to: **Professor L. Conquest, Center for Quantitative Science, University of Washington, 3737 15 NE, HR-20, Seattle, WA 98195**. Telephone: 206-543-1708. *Equal Opportunity/Affirmative Action Employer.*

IMMUNOLOGY PROGRAM: Department of Medicine, University of New Mexico (UNM), on 1 July 1986 postdoctoral position. M.D. or Ph.D. with interest and background in immunology. Emphasis on human autoimmunity and human cancer immunology, including activated killer cells and regulation. U.S. citizens or permanent U.S. residents APPLY TO:

Postgraduate Research Committee

Arthur D. Bankhurst, M.D.

UNM School of Medicine

Albuquerque, NM 87131

Affirmative Action/Equal Opportunity Employer.

LABORATORY DIRECTOR MOLECULAR GENETICS

BioGrowth, a recently organized and funded biotechnology company needs a dynamic laboratory director to build and direct a molecular genetics team. The successful applicant will be involved in cloning and developing expression systems for a wide range of proteins. Additionally, this person will have the opportunity to recruit and build a strong team of professionals that will be an important factor in the success of this new company.

An in-depth technical knowledge of state-of-the-art cloning and expression system development is required. The qualified candidate will have a Ph.D. from a leading university, and applicable postdoctoral experience, as well as demonstrated managerial accomplishment. Industrial management and/or start-up experience is a plus.

We offer excellent salary and benefits. For confidential consideration, send your résumé, salary requirements, a letter describing your qualifications, and the names of three references to: **Vice President and Technical Director, BioGrowth Inc., 505 Ortega Street, San Francisco, CA 94122**.

POSITIONS OPEN

GRADUATE—POSTGRADUATE STUDIES IN ORAL NEUROHISTOLOGY THE UNIVERSITY OF ALBERTA, CANADA

Applicants are invited for predoctoral and postdoctoral positions to work with **Dr. R. Holland** on the structure and plasticity of orofacial innervation. The area of interest covers the basic structures and interrelationships of neural tissues and the changes they undergo after various forms of damage. Both light and electron microscopical methods of examination of pulpal nerves, peripheral trunks, ganglia, and brainstem are used. Applicants will be considered and accepted subject to approval and salary funding from the Alberta Heritage Foundation for Medical Research at the studentship (\$11,970 Canadian per year) or fellowship level (\$21,800 to \$34,650 Canadian per year). Enquiries and applications should be directed to: **Dr. R. Holland, Faculty of Dentistry, University of Alberta, Edmonton, Alberta, Canada T6G 2N8**.

HEALTH PHYSICIST FACULTY POSITION.

Faculty position anticipated beginning summer 1986 (rank and salary open). A major duty is the supervision of the University's Radiation Safety Program through its Radiation Safety Office (staff of six including two M.S.-level health physicists) and integration of its activities into the graduate level academic program of the department. Other functions include teaching graduate-level courses in basic radiation physics and/or applied health physics; and developing health physics research. Doctoral degree or equivalent and several years of experience in operational health physics and/or teaching are minimum requirements. Health Physics Board-certification and career emphasis on occupational and environmental aspects of radiation protection are essential. Send curriculum vitae to: **Dr. Niel Wald, Department of Radiation Health, Graduate School of Public Health, University of Pittsburgh, Pittsburgh, PA 15261**. *The University of Pittsburgh is an Equal Opportunity/Affirmative Action Employer.*

CORNELL UNIVERSITY DIVISION OF BIOLOGICAL SCIENCES HISTOLOGIST/CELL BIOLOGIST

The Section of Physiology is seeking a highly qualified assistant professor (tenure-track) to teach an upper level lecture-laboratory course in **Histology**, emphasizing the relation between structure and function. The applicant should also provide evidence of potential for developing a strong research program on some aspect of animal cell biology, using modern experimental approaches. Research interest in cellular processes associated with secretion, receptor localization and regulation, membrane synthesis and processing, or morphological aspects of gene expression would complement ongoing research activities in the Division of Biological Sciences, but other areas of research specialization will be considered as well. Qualifications include the Ph.D. and postdoctoral experience. Submit curriculum vitae, list of publications, statement of teaching, and research interests by 6 June 1986, and have three confidential letters of recommendation sent by the above deadline, to: **Dr. Klaus W. Beyenbach, Chair, Search Committee, Section of Physiology, VRT 826, Cornell University, Ithaca, NY 14853**. *Cornell University is an Affirmative Action/Equal Opportunity Employer.*

An **INSTRUCTOR** position in diagnostic immunology is currently available in the Department of Pathology and Laboratory Medicine of Emory University. Duties will include research, teaching, and participation in the direction of the Diagnostic Immunology Laboratory of Emory University Hospital, a tertiary care facility. Applicants should have a Ph.D. degree in immunology, at least 3 years of hospital experience in diagnostic immunology, potential for independent research, expertise with computers and be eligible for certification by ABMLI. Salary negotiable. *Emory University is an Equal Opportunity Affirmative Action Employer.* Inquiries referencing position number M-B-27-86 may be directed to:

Kenneth W. Sell, M.D., Ph.D.

Chairman and Professor

Department of Pathology and Laboratory Medicine

Room 703 Woodruff Memorial Building

Emory University

Atlanta, Georgia 30322

POSITIONS OPEN

IMMUNOLOGIST/CELL BIOLOGIST. Ph.D. Tenure-track, assistant professor, to teach freshman-level cell biology and non-majors biology, senior-level immunology. Curriculum vitae and transcripts to: **Dr. Ed Leuck, Department of Biology, Centenary College, Shreveport, LA 71104**, by 23 May 1986.

MEDICAL PHYSICIST. Assistant professor level, position available May 1986; supported by hard money; Ph.D. preferred, graduate degree in physics required. Duties include clinical support, teaching, and research. Successful applicant will join a group of five physicists and three biologists. Send curriculum vitae and names of three references to: **Raymond K. Wu, Ph.D., Department of Radiation Oncology and Biophysics, Eastern Virginia Medical School, 600 Gresham Drive, Norfolk, VA 23507**.

MOLECULAR GENETICIST—The Department of Poultry Science at Virginia Tech invites applicants for an **assistant/associate professor** tenure-track academic year position available 15 September 1986. Applicants should have a Ph.D. degree in the biological sciences, with experience in molecular genetics and recombinant DNA technology. The successful applicant will be expected to develop a fundamental program in molecular genetics with emphasis in domestic avian species. Send inquiries or submit résumé, official transcripts, publication record, and names of three references to: **Dr. John H. Wolford, Poultry Science Department, Virginia Tech, Blacksburg, VA 24061**. Applicant deadline is 31 May 1986 (or until suitable candidate is identified). *Virginia Tech is an Equal Opportunity/Affirmative Action Employer.*

NEUROBIOLOGY FACULTY

Openings (two) for tenure-track assistant/associate professors in the Department of Anatomy and Program in Neuronal Growth and Development, Colorado State University. Candidates should have an active research program with priority given to cellular/molecular approaches. Priority also given to investigators who emphasize structure-function correlations, using modern anatomical methodologies (for example immunocytochemistry, EM, image analysis, and so forth). Teaching responsibilities in neurobiology, gross anatomy and/or ultrastructure. Send curriculum vitae and names of references to **Dr. Stephen D. Roper, Chairman, Department of Anatomy, Colorado State University, Fort Collins, CO 80523**. Deadline 30 May 1986. *Colorado State University is an Equal Opportunity/Affirmative Action Employer.*

NEUROPHYSIOLOGY

Applications are invited for a position in neuroscience at the **assistant professor** level in the Department of Physiology at the University of Manitoba, Faculty of Medicine. Candidates should have a Ph.D. or equivalent with postdoctoral training, and be eligible to compete for local and national scholarship awards. Send curriculum vitae, an outline of future research plans, and arrange for three letters of reference to be sent to: **Dr. H. G. Friesen, Professor and Head, Department of Physiology, University of Manitoba, Winnipeg, Manitoba, Canada R3E 0W3**. Receipt of applications is 1 June 1986. *In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada.*

PLANT POPULATION ECOLOGIST

Tenure-track, **assistant professor**, Department of Range Science, Utah State University (USU). Beginning summer or fall 1986. An earned doctorate, complete at the time of application, with emphasis on plant population biology is required. The person should have an experimental, field-oriented approach and a strong quantitative background. Postdoctoral experience and background in range science are desirable. The position is 60 percent research and 40 percent teaching (graduate and undergraduate). Jointly sponsored with the USU Ecology Center. Application deadline 24 May 1986, or until suitable applicant is found. Applicants should send résumé, selected publications, and names of three individuals willing to send reference letters to: **Dr. Martyn M. Caldwell, Department Range Science, UTAH STATE UNIVERSITY, Logan, Utah 84322-5230**. *An Affirmative Action/Equal Opportunity Employer.*

FERMENTATION MICROBIOLOGIST

The Fermentation Products Production Unit of The Upjohn Company, located in Kalamazoo, Michigan, is seeking a fermentation microbiologist. This position is responsible for the preparation and maintenance of culture used in large scale fermentations beginning with the transfer of the culture from the primary preservation source, proceeding through each fermentation stage and ending with the harvest of the production scale fermenter. During the fermentation process, various parameters must be monitored and changes implemented based on results and judgement. The successful candidate will work closely with personnel from the Fermentor Plant and the Fermentation Research and Development group.

The position requires a B.S. or M.S. degree in a biological science, preferably microbiology with a minimum of two years experience in microbiology and fermentation necessary. Experience with computerized data entry and statistical analysis is desirable.

Kalamazoo is a medium-sized Southwestern Michigan community with immediate access to a rich mix of culture, educational and recreational pursuits including numerous lakes and a four-season climate. Upjohn offers the opportunity for career growth, a competitive salary, commensurate with experience, a comprehensive benefits program and relocation assistance.

For confidential consideration, please call from outside of Michigan toll free 1/800/253-8600, ext. 3-6767 (inside Michigan call collect 616/323-6767), to request an employment application be sent to you immediately. Please refer to ad number 19266-A when calling.



An Equal Employment Opportunity Employer M/F

Molecular Immunobiologist

Becton Dickinson and Company Research Center is seeking an energetic, innovative and productive immunobiologist to assume a major technical role in advancing our understanding of the autoimmune aspects of diabetes. You will supervise the basic research effort and the application of important results to diagnostic test development.

This position requires a strong background and substantial experience in immune response regulation with particular emphasis on B and T cell interaction. Expression library preparation or gene cloning skills would be a strong plus. Work on membrane protein/receptor characterization would be beneficial.

If you are a PhD level immunologist and have 3 or more years of post doctoral training or equivalent with a published record of accomplishment in the above areas, we would like to talk with you about this new opportunity in our diagnostics research program.

Becton Dickinson offers excellent salaries, comprehensive benefits and the opportunity to become a major contributor in a dynamic organization. Please send your resume and salary history in confidence to: **Mr. F. Richard Wilson, Manager, Human Resources, Becton Dickinson Research Center, P.O. Box 12016, Research Triangle Park, NC 27709**. No agencies, please. An equal opportunity/affirmative action employer.

Caring for people is our business

**BECTON
DICKINSON**

POSITIONS OPEN

NEUROBIOLOGY TENURE-TRACK POSITION

The Department of Biology, University of Iowa, invites applications for an anticipated tenure-track faculty position, rank and salary negotiable. Any neurobiologist whose research interest is in an area of cellular, molecular, or developmental neurobiology may apply. Preference will be given to persons whose talents complement those of current faculty and whose interests will facilitate interaction among existing research programs. Postdoctoral experience is required. In addition to establishing a strong research program, the successful applicant will be expected to participate in undergraduate and graduate teaching. Applications will be considered as they are received until the position is filled. Send curriculum vitae, brief description of research goals, relevant publications and arrange to have three letters of recommendation sent to: **Dr. C.-F. Wu, Search Committee, Department of Biology, University of Iowa, Iowa City, IA 52242. The University of Iowa is an Affirmative Action/Equal Opportunity Employer.**

NEW YORK-Columbia University is seeking an **ORAL PATHOLOGIST**, Board-certified or -eligible, for a full-time, joint appointment at the assistant professor (tenure-track) level in the School of Dental and Oral Surgery and the Department of Pathology of the College of Physicians and Surgeons. This individual should have a strong and demonstrable commitment to an academic career involving research, teaching, and diagnostic histopathology. It would be advantageous if research skills could attract extramural funding. Basic requirements include a D.D.S. or D.M.D. degree, completion of an approved residency or training program in oral pathology, and eligibility for New York State licensure. An advanced academic degree in a related area, while not essential, is desirable. Please reply with curriculum vitae to: **David J. Zegarelli, D.D.S., Columbia-Presbyterian Medical Center, Physicians and Surgeons 14-432, 630 West 168 Street, New York, NY 10032. We take Affirmative Action to ensure Equal Opportunity.**

A full-time, **NON-FACULTY ASSOCIATE** position in teaching and research. This position involves research in insect behavior and teaching in the area of animal diversity. Teaching duties include lecturing to, and supervising, the laboratory of an undergraduate class in animal diversity. Applicants must have 1 year of postdoctoral experience in field research on insect behavior and some supervisory experience. Send curriculum vitae and three letters of recommendation to: **Mark D. Rausher, Department of Zoology, Duke University, Durham, NC 27706.**

PATHOLOGIST/TOXICOLOGIST with 3 to 5 years of industrial and GLP experience to supervise necropsy and histology laboratories and animal husbandry services. Supervisory experience essential. Successful candidate will be part of a research team composed of about 80 people involved in toxicology research and support services to the Department of Defense. Send resumé, including salary history to: **Northrop Services, Inc., 1344 Woodman Drive, Dayton, Ohio 45432. Equal Opportunity/Affirmative Action Employer, M/F/Veteran/Handicapped.**

PHYSICS: August 1986. Cumberland College invites applications for a tenure-track position. The successful applicant should have a Ph.D. degree in physics and be able to teach a wide range of courses to both science and non-science students. Cumberland College is a small liberal-arts institution, with emphasis on providing a well-rounded education in a Christian environment. Excellent fringe benefits; salary negotiable. Send letter of application, resumé, and letters of references to: **Dr. Joseph E. Early, Academic Dean, Cumberland College, Williamsburg, Kentucky 40769, by 23 May 1986.**

POSTDOCTORAL OR RESEARCH ASSOCIATE POSITION available immediately for 2 to 3 years to participate in studies involving molecular cloning and expression of falciparum malaria genes. Should have some experience with biochemical techniques. Salary negotiable, depending on experience. Send curriculum vitae and three letters of reference to: **Dr. A. C. Vezza, Department of Microbiology, University of Alabama at Birmingham, Birmingham, AL 35294. An Affirmative Action/Equal Opportunity Employer.**

POSITIONS OPEN

PHARMACEUTICAL CHEMIST/MANAGER/REGULATORY AFFAIRS—EUROPE to provide assistance to division's director to achieve timely submissions of accurate data and information to regulatory agencies to register new ethical pharmaceuticals; providing support for continued marketing of approved ethical pharmaceuticals in suitable style and format; responsible for advising management of changes and developments in regulatory requirements in the European region; tracking and monitoring registration activities in the European region; participating in development and strategy of new products to ensure shortest marketing approval time; advising country regulatory personnel in preparation/presentation of documentation for local health authorities; interpreting and maintaining compliance with regulatory requirements; participating in planning and development of new products ensuring adequate data is generated to provide for product registration in targeted countries. Bachelor of science is required with the major field of study in chemistry/biochemistry. Requisite experience must have involved pharmaceutical governmental registration in United Kingdom, France, Germany, Italy, the Benelux countries, as well as been involved in the collection of data to process applications for Human Clinical Trial Certificates and Product Authorization for Drugs. Additionally, the applicant must have 7 years of experience in the job offered or 7 years as quality control coordinator or senior registration officer in pharmaceutical industry. Forty hours. Monday thru Friday, 8:00 a.m. to 4:30 p.m., \$38,000.00 per year. Send resúms to: **Illinois Job Service, 910 South Michigan Avenue, Room 333, Chicago, IL 60605. Attention: Joan Sykstus, Reference number 5445-T. An employer-paid ad.**

PHYSIOLOGICAL ECOLOGY—Applications are invited for a tenure-track position to begin in September 1986. Candidate will be expected to establish an independently funded research program in physiological ecology within the framework of the Mitrani Center for Desert Ecology for the Jacob Blaustein Institute for Desert Research, Ben-Gurion University of the Negev. Send curriculum vitae, selected reprints, outline of research interests, and three letters of reference to: **Professor Uriel Safriel, Institute for Desert Research, Sede Boqer Campus, 84990 Israel.**

POSTDOCTORAL FELLOW

Postdoctoral research associate position available August 1986. Areas of investigation emphasize cell Ca^{2+} homeostasis, metabolic regulation, mitochondrial bioenergetics, and phosphatidyl inositol metabolism. Experience in ion transport and fluorescence measurements of intracellular Ca^{2+} desirable. Submit curriculum vitae and names of three references to:

Dr. Gary Fiskum, Department of Biochemistry, George Washington University School of Medicine, 2300 Eye Street NW, Washington, DC 20037. The George Washington University is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION in the area of biochemistry and gene expression of cardiac myosin and collagen. The successful applicant, based in our Genetics Department, will be a member of a multidisciplinary group of clinical and basic researchers studying experimental hypertension and cardiac hypertrophy in baboons as a model for humans. A strong background in biochemistry, genetics, or molecular biology is required. Send curriculum vitae, university transcripts, and the names and addresses of three references to: **Personnel Manager, Southwest Foundation for Biomedical Research, P.O. Box 28147, San Antonio, TX 78284. Equal Opportunity Employer, M/F.**

POSTDOCTORAL POSITION. Available immediately to investigate the role of protein phosphorylation in regulating neurotransmitter formation and release in the rat central nervous system. Applicant must have extensive prior experience in enzyme purification techniques. Experience with polyacrylamide gel electrophoresis and ^{32}P labeling of proteins is preferred. Send curriculum vitae, summary of research experience, and three letters of recommendation to: **Dr. Robert L. Patrick, Neurobiology Section, Box G, Brown University, Providence, RI 02912. Brown University is an Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

POSTDOCTORAL POSITION IN NEW YORK CITY. Nervous system regeneration research. Experience in tissue culture, protein characterization, and/or electron microscopy desirable. Available immediately or before January 1987. Send curriculum vitae and names of references(s) to:

Dr. Bernice Grafstein, Department of Physiology, Cornell University Medical College, New York, NY 10021.

An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITIONS available immediately to study the role of the extracellular matrix in oncogenic transformation. Experience in biochemistry/cell biology/molecular biology preferred. Expertise in protein purification/characterization or production of monoclonal antibodies desirable. Send curriculum vitae and three letters of recommendation to: **Dr. Susan P. Hawkes, Department of Pharmaceutical Chemistry, S-926, University of California, San Francisco, CA 94143. Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL/RESEARCH ASSOCIATE position available immediately for studies on hormonal control of plasma protein production (focus on fibrinogen and hemopexin). Projects concern regulation at level of transcription, translation, post-synthetic processing, and secretion. Background in biochemistry, molecular biology; experience with cell culture is desired. Send curriculum vitae and letters of reference to: **Dr. Gerd Grieninger, Head, Laboratory of Plasma Protein Regulation, Kimball Research Institute, The New York Blood Center, 310 East 67 Street, New York, NY 10021. Equal Opportunity Employer.**

POSTDOCTORAL RESEARCH ASSOCIATE: Position open immediately for research on molecular basis of mutagenesis in mammalian cells, involving shuttle vectors, somatic cell genetics, DNA sequencing, and so forth. Candidates should have a Ph.D. in biochemistry, genetics, molecular or cellular biology, and research experience with recombinant DNA technology. Send curriculum vitae and names of three references to: **Dr. Richard Davidson, Center for Genetics, University of Illinois College of Medicine, 808 South Wood Street, Chicago, IL 60612. For fullest consideration, applications should be received by 1 June 1986. The University is an Affirmative Action/Equal Opportunity Employer.**

The Immunobiology Division of the Department of Pathology and Laboratory Medicine at the University of Pennsylvania, School of Medicine, has an immediate opening for a **RESEARCH ASSISTANT PROFESSOR.**

The candidate must have a M.D. or Ph.D. degree with training in molecular biology and specific interests in cell surface receptors. Training in cellular immunology is also desired. Interest in developmental abnormalities in autoimmunity is an additional consideration.

The successful candidate will have demonstrated ability to develop an independently funded program. Send curriculum vitae and names of three references to: **Mark I. Greene, M.D., Director, Immunology Division, Department of Pathology and Laboratory Medicine, School of Medicine, Philadelphia, PA 19104-6082. The University of Pennsylvania is an Equal Opportunity Employer.**

RESEARCH ASSOCIATE, Faculty. Position available 1 September 1986 to participate in a program of research aimed at the development and use of methods for the implantation of multiple microelectrodes for the study of the activity of many neurons in the cerebral cortex of waking behaving monkeys. In particular, the research focuses on studies of neural mechanisms of binocular vision and stereopsis in striate and prestriate visual cortex. Candidates should have an M.D. or Ph.D. degree and postdoctoral experience in neurophysiology. Applicants should send their curriculum vitae and the names and addresses of three references to: **G. F. Poggio, The Philip Bard Laboratories of Neurophysiology, Department of Neuroscience, The Johns Hopkins University School of Medicine, 725 North Wolfe Street, Baltimore MD 21205.**

THE NUTRASWEET COMPANY

MANAGER, METABOLISM AND BIOANALYTICAL

The Department of Preclinical Research of The NutraSweet Company has an employment opportunity for an individual with experience in food additive or drug analysis and metabolism.

This individual will manage the daily operations of the Metabolism and Bioanalytical Group and will be responsible for the overall analytical support of preclinical and clinical studies to insure consistency with regulatory requirements. This individual will also be expected to provide scientific expertise in the areas of metabolism, pharmacokinetics, bioavailability, bioanalytical methods and in the preparation of ^{14}C - or ^3H -labeled compounds.

Candidates should hold a Ph.D. in Chemistry, Biochemistry, Pharmacology or a related discipline and have 5 or more years of experience in the Food or Drug industry.

The NutraSweet Company offers an excellent salary and benefit package and invites candidates meeting the above requirements to submit their curriculum vitae and a narrative letter describing their research and management experience to:

Mary Lynn Smedinghoff
Personnel Manager



The NutraSweet Company
Department MB-011
P.O. Box 1111
Skokie, IL 60076

An equal opportunity employer M/F/H

PROTEIN CHEMIST

Genex Corporation is seeking a senior-level Ph.D. Protein Chemist for its Protein Engineering Department. This position offers an exceptional opportunity in one of the most exciting new areas in biotechnology. The candidate will work closely with other protein chemists, crystallographers, and molecular biologists on the design, expression, purification, and characterization of engineered enzymes and proteins. The position requires protein purification and protein chemistry skills in addition to a working knowledge of immunochemical techniques. A minimum of 2 years of post-doctoral experience is required although the level and salary of the position are open and will be determined based on background and experience.

GENEX offers a stimulating R & D environment; competitive salary and fringe benefits; excellent research facilities; and a strong commitment to the publication of scientific results. A curriculum vitae together with a brief description of your scientific background and the names of three professional references should be submitted to:



Dept. PC
16020 Industrial Drive
Gaithersburg, MD 20877
Principals only M/F EOE

JUNIOR AND SENIOR FACULTY POSITIONS MOLECULAR BIOLOGY OF THE IMMUNE SYSTEM

The Department of Microbiology and Immunology invites applications for three to four junior and senior level, tenure-track positions focusing on the molecular analysis of significant problems in immunology. Senior candidates should have strong records of research accomplishment with sustained program growth and development. Junior candidates will be expected to develop high quality, independent research programs with long term growth potential. Teaching responsibilities, which emphasize quality rather than quantity, include medical, dental and graduate students. The University of Tennessee-Memphis Medical Center is in a major growth phase. The department has just moved into a completely renovated building and will be appointing a large number of new faculty in the areas of immunology, animal virology, tumor cell biology and eucaryotic molecular biology during the next several years. New faculty are also being appointed in the Departments of Anatomy, Biochemistry, and Pharmacology. A large Center of Excellence grant has resulted in establishment of a Molecular Resource Center within the Department featuring state-of-the-art facilities for: DNA cloning and sequencing, oligonucleotide synthesis, peptide synthesis, hybridoma antibody production, amino acid analysis, protein sequencing and flow cytometry. Funds for the initiation of research programs will be available and salaries will be highly competitive. Applications should consist of a curriculum vitae, copies of several recent publications, a brief statement of future research goals and three letters of reference to be sent to: **Dr. Terrance G. Cooper, Department of Microbiology and Immunology, University of Tennessee-Memphis, 858 Madison Ave., Memphis, Tennessee 38163.** Applications will be received until **June 15, 1986** or until the positions are filled thereafter. The University of Tennessee is an Affirmative Action/Equal Opportunity Employer.

Cell Biologist

The Office of Naval Research is seeking a highly qualified individual to plan and manage a contract research program in molecular aspects of cell biology. The research sponsored is conducted principally in universities and private laboratories. This is a Civil Service position at the GM-13 or GM-14 level (\$37,599-\$57,759), depending on qualifications.

The incumbent will establish goals for and conceive, organize and direct research and development programs in new areas of cell biology addressing the molecular mechanisms of cellular responses to injury and other adverse stimuli, as well as regulatory processes driving regenerative events in cells and tissues. Specifically, the individual selected will integrate research on regulatory cellular processes such as activation events mediated by

calcium ions, GTP-binding proteins, membrane lipid and protein phosphorylation, other post-translational modifications of proteins, and growth factors. The molecular events regulating cell function will be examined in the context of pathological changes in trauma, promotion of tissue regeneration, etc.

Applicants must have a Ph.D. or equivalent in the biological sciences with particular emphasis on cell biology and at least one year of professional experience or have acquired a minimum of three years of progressively responsible professional experience.

Interested persons should send a Standard Form 171, Application for Federal Employment (available at Federal Job Information Centers or from the address below), to:

Office of the Chief of Naval Research

Civilian Personnel Division, Code 01242P
Attn: Announcement # 86-30(S)
800 North Quincy Street
Arlington, VA 22217-5000

Applications will be accepted through 25 July 1986 and must be received by that date. Applicants are requested to complete the appropriate supplemental forms. For further information and supplemental forms, please call (202) 696-4705.



An Equal Opportunity Employer

U.S. Citizenship Required

POSITIONS OPEN

POSTDOCTORAL POSITION IN VIROLOGY

Ph.D. in biochemistry, molecular biology, or microbiology with a background in recombinant DNA techniques to study persistent baculovirus infections in insect cell cultures. Experience with DNA cloning, DNA sequencing, and in vitro protein synthesis desirable. Position available for 2 years, starting 1 September 1986. Send résumé and three letters of recommendation to: **Dr. H. Alan Wood, Boyce Thompson Institute, Cornell University, Tower Road, Ithaca, NY 14853. An Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL RESEARCH ASSOCIATES.

Two positions for research on the control of mitosis by calcium and on the regulation of cytoskeletal function in living neuronal cells. Approaches used include digital image microscopy, biochemistry, immunocytochemistry, and molecular biology. Salary commensurate with experience. Send curriculum vitae to: **Dr. M. L. Shelanski, Department of Pharmacology, New York University (NYU) Medical Center, 550 First Avenue, New York, NY 10016. An Affirmative Action/Equal Opportunity Employer, M/F.**

RESEARCH ASSOCIATE PLANT MOLECULAR BIOLOGY

A grant-funded position is available immediately for a research associate to participate in the isolation and characterization of cDNA clones corresponding to mRNA's of physiological and potentially industrial significance. Applicants should have a Ph.D. degree, plus postdoctoral experience, in the area of mRNA isolation and cDNA library construction and screening, preferably in higher plants. The position is available for 3 years. Salary will be commensurate with experience, and an excellent staff benefits package is included. *In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents.*

Applicants should send curriculum vitae, and arrange for three letters of recommendation to be sent, by 1 June 1986 to: **Professor R. D. Hill, Department of Plant Science, University of Manitoba, Winnipeg, Manitoba, Canada R3T 2N2.**



California Biotechnology Inc.

RESEARCH ASSOCIATE

A research associate position is available in the DNA Sequencing Laboratory at California Biotechnology, an established company of over eighty scientists, located on the San Francisco peninsula. Members of this group work in close association with a wide range of research projects, performing DNA sequence analysis. Experience in general techniques of molecular biology is required and direct experience with dideoxy sequencing and computer analysis of DNA sequences is preferred. Suitably qualified candidates, with B.S. or M.S. degrees, should apply in writing to:

**Director of DNA Sequencing Facility
Ad Number 3
California Biotechnology Inc.
P.O. Box 51560
Palo Alto, California 94303**

RESEARCH ASSOCIATE IV

Half-time, limited position, 1 July 1986—30 June 1987 with possible extension. Supervise electron microscope laboratory; operate and maintain scanning/transmission microscopes, darkrooms, associated preparative equipment; provide technical assistance to faculty and students; formally and informally instruct in use of instruments; promote laboratory as resource for in-house and outside users, do biological preparative work. M.S. or equivalent, with 3 years of experience in biological electron microscopy. Submit a letter of application and résumé by 2 June 1986 to: **Dr. Linda Hufnagel, Research Associate IV (020204) Position, THE UNIVERSITY OF RHODE ISLAND, P.O. Box G, Kingston, RI 02881. An Affirmative Action/Equal Opportunity Employer, M/F.**

POSITIONS OPEN

A RESEARCH ASSOCIATE POSITION is available for an immunologist to conduct research on the role of macrophages in the control of neoplastic cell growth. A strong background in biochemical purification of cellular products, monoclonal antibody production, and mammalian cell culture is required. Candidates must have a doctoral degree and previous basic research experience. The salary range is \$25,000 to \$29,000 per year based on experience. Please submit a letter of application and curriculum vitae by 31 May to: **Dr. Edith M. Lord, University of Rochester Cancer Center, Box 704, 601 Elmwood Avenue, Rochester, NY 14642. The University of Rochester is an Equal Opportunity Employer.**

RESEARCH ASSOCIATE 2, BIOLOGICAL/HEALTH SCIENCE. Master's degree in biochemistry and 1 year of experience with mammalian tissue culture and at least four of the following procedures is required: isolation of DNA and RNA from mammalian cells, DNA cloning in plasmids, in vitro transcription, S1 nuclease mapping, Maxam and Gilbert DNA sequencing, site-directed mutagenesis, DNA-excess filter hybridization. Ph.D. in biochemistry is desired. Conducts research into the structure and mechanisms for controlling the expression of the gene for thymidylate synthase in mouse cells. Performs Southern and Northern blot analyses; analyzes RNA by S1 nuclease and primer extension analysis; constructs recombinant genes and measures the levels of expression following insertion into cultured cell lines; analyzes gene transcription rates and mRNA metabolism using various hybridization procedures; reads and reports on current research literature; writes reports and papers for publication; attends and presents results at national meetings. Forty hours per week. Salary: \$21,720 per year. Qualified applicants only send résumé with this ad to: **The Ohio Bureau of Employment Services, P.O. Box 1618, Columbus, Ohio 43216. Refer J.O. number 3015792 L. Ellison.**

RESEARCH ASSOCIATE

Applications are invited for postdoctoral position(s) from persons with Ph.D., M.D., or equivalent to study the roles of second messengers and protein phosphorylation in regulation of ionic channels and contractility in cardiac muscle. Studies include patch-clamp studies of calcium and potassium currents and biochemical studies of phosphorylation of contractile proteins. Facilities include two patch-clamp installations, fully equipped biochemical and tissue-culture laboratories, and a staffed electronics and computer shop. Send curriculum vitae and three letters of recommendation to: **Dr. H. Criss Hartzell, Department of Anatomy and Cell Biology, Emory University School of Medicine, Atlanta, GA 30322. An Equal Opportunity/Affirmative Action Employer.**

RESEARCH CHEMIST

Research chemist to conduct basic research in organic chemistry, including work on selective alkylation of phenolics and condensation reaction between aromatic amines and carbonyl compounds; to conduct methodology development research to investigate novel organic molecules resulting from synthetic research; and to establish reliable analytical methods and develop new products related to xanthophyll chemistry. Salary: \$18,000 per year. M.S. in chemistry. Experience in organic compounds synthesis, in molecular structure, and in experimental design; experience with liquid chromatography, gas chromatography and in spectroscopy, including infrared spectroscopy, mass spectroscopy and UV-visible spectroscopy and with microcomputers; publications. Send résumés to: **Iowa Job Service, 150 Des Moines Street, Des Moines, Iowa 50309. Specify Job order number 1615053.**

SENIOR RESEARCH BIOLOGIST GM-14. The Rocky Mountain Forest and Range Experiment Station, U.S. Department of Agriculture (USDA) Forest Service, seeks a senior scientist to conduct research on effects of atmospheric deposition on alpine/subalpine terrestrial and aquatic ecosystems. Seek a plant ecologist, pathologist, and/or physiologist capable of leading multidisciplinary research group conduct personal studies at interface between atmosphere and biosphere. Contact by 1 June 1986: **Dr. D. G. Fox, RMF&RES, 240 West Prospect, Fort Collins, CO 80526; telephone 303-224-1231**

POSITIONS OPEN

POSTDOCTORAL RESEARCH POSITION available, involved in study of biochemistry/molecular biology of prostaglandin receptors. Experience in platelet biology helpful. Permanent resident or U.S. citizenship required. Please send résumé to: **Asru K. Sinha, Ph.D., Division of Cardiology, Montefiore Medical Center, 111 East 210 Street, Bronx, NY 10467 or telephone: 212-920-4125.**

POSTDOCTORAL RESEARCH position expected to begin July on reconstitution of gap junctions. Experience with membrane reconstitution, gap junctions, model membranes, or electrophysiology required. Salary \$16,500 to \$19,800. Send by 15 June curriculum vitae, research interests, and three letters of reference to: **Dr. Gregory J. Brewer, Southern Illinois University School of Medicine, Box 3926, Springfield, IL 62708. Equal Opportunity/Affirmative Action Employer.**

RESEARCH SPECIALIST

Applications invited for the position of research specialist to perform studies in molecular genetics of plants. Specific duties will include restructuring, cloning and sequencing of DNA, as well as the analysis of products of gene expression produced in plants, as a result of transformation with foreign DNA. Ph.D. degree in biology, genetics or biochemistry required, with at least 2 years of postdoctoral research experience in molecular biology involving recombinant DNA techniques.

Forty hours per week; \$23,000 per year.

Please send a résumé and three letters of recommendation to:

**Matilda Moore
Department for Manpower Services
Cabinet for Human Resources
300 South Upper Street
Lexington, Kentucky 40508**

SUMMER RESEARCH POSITIONS are available at the **Trudeau Institute** for professors of 4-year colleges with a Ph.D. in immunobiology or a closely related field. The successful applicant will be provided the opportunity to perform collaborative research with a member of the Trudeau Institute staff. Accommodation is available and an appropriate salary will be provided.

The Trudeau Institute is a not-for-profit, pure research institute, located on the shore of Saranac Lake, in the Adirondack Mountains, 8 miles from Lake Placid, New York.

Send curriculum vitae and a letter of reference from the department chairman to:

**Dr. R. J. North, Director
Trudeau Institute, Inc.
P.O. Box 59
Saranac Lake, NY 12983**

VERTEBRATE BIOLOGIST—Creighton University seeks a 9-month appointee to teach vertebrate comparative anatomy (fall and spring) and a course related to his/her specialty (spring). Appointment begins 18 August 1986. Ph.D. preferred. Application materials (curriculum vitae, transcripts, and three letters of reference) must be received by 30 May 1986.

**Chairman, Department of Biology
Creighton University
Omaha, Nebraska 68178**

Creighton University is an Affirmative Action/Equal Opportunity Employer.

VISUAL PERCEPTION NORTHWESTERN UNIVERSITY

Department of Psychology invites individuals with research interests in visual perception to apply for a new faculty position. Position, rank open, begins September 1987. Applicants should have: an established research program in visual information processing, including mathematical and/or computer modeling; and teaching interests in cognitive neuroscience, experimental psychology and/or perception. Résumés, research and teaching interests, and names of three references to: **Secretary, Vision Search Committee, Cresap Neuroscience Laboratory, Psychology Department, Northwestern University, Evanston, IL 60201.**

Equal Opportunity/Affirmative Action Employer.

Assistant Director Clinical Endocrinology

Continued expansion of our International operations has created an excellent and exciting opportunity on our Corporate Staff for an individual with a PhD in Endocrinology, preferably reproductive or neuro-endocrinology. This position is a new addition to staff.

Duties will include assisting in the development and administration of new drug programs for our overseas operations, participating in the design of studies and writing of protocols. The successful candidate should have experience in the early clinical phases of drug development with products related to reproductive endocrinology. Excellent communication skills, both verbal and written, are essential as well as the ability to analytically synthesize information into succinct summations.

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

If you're ready for more professional recognition, explore your advantages with Wyeth. We offer excellent salaries, extensive company benefits and a distinctive environment on our 20-acre corporate campus in Radnor, an attractive community on Philadelphia's prestigious Main Line. To find out more, please send your resume and salary requirements to:

Position # WL608GP, Personnel Manager, Wyeth International, Ltd., P.O. Box 8616, Philadelphia, PA 19101. Equal Opportunity Employer. M/F/H/V responses encouraged.

Wyeth International, Ltd.



TM

THE SCIENCE RECRUITMENT "FOUR DAY CLOSE"

NOW YOU CAN SEE YOUR AD IN SCIENCE
FOUR DAYS AFTER SUBMISSION

Scientific Recruiters can now advertise positions almost as soon as the need arises. Instead of reserving space a month or more in advance, you can now place your ad four days before the magazine mailing date.

Film (right-reading, emulsion face down), and insertion order must reach: SCIENCE, Short Close Desk, 1515 Broadway, New York, NY 10036 by NOON Mondays (except for legal holidays when material must reach New York by Noon Fridays). Because space is limited, the four-day close page will be reserved on a first-come, first-served basis. *

Now you don't have to wait to find the researchers you need immediately, nor must you advertise in a Sunday paper that pans a lot of sand, but not much gold. Scientific employers know that SCIENCE ads fill the job better. Now they fill it faster too.

You can call it "INSTANT RECRUITMENT"

For further information, telephone Ed. Keller, Recruitment Advertising Manager, or Donna Rivera, Production Manager at SCIENCE: 212-730-1050, or write to: SCIENCE, 1515 Broadway, NY, NY 10036.

CURRENT DISTRIBUTION 160,000

* At a 15% Premium

POSITIONS OPEN

VERTEBRATE PALEONTOLOGY SCIENTIFIC ASSISTANT

The Department of Vertebrate Paleontology of The American Museum of Natural History is seeking a scientific assistant to assist curators with research on lower vertebrates. Responsibilities include literature search and review; specimen identification, cataloging and collection maintenance; loan processing and attending to the needs of both public and scientific community visitors to the department.

Qualified candidates must have a baccalaureate degree, preferably in the biological or geological sciences, knowledge of anatomy and lower vertebrates, excellent manual dexterity and detail orientation. Skills in fossil preparation and illustration helpful. Salary is \$17,641 per annum. Excellent benefits. For consideration, please forward résumés to: **Mr. Lee Vilensky, Personnel Department, The American Museum of Natural History, Central Park West at 79th Street, New York, New York 10024. An Equal Opportunity Employer.**

TRAINING PROGRAMS

POSTDOCTORAL TRAINING PROGRAM CELLULAR AND MOLECULAR ENDOCRINOLOGY

Postdoctoral traineeships are available immediately and for 1987 in a NIH supported program. Trainees with a Ph.D. or M.D. degree having U.S. citizenship or permanent residence in the U.S. will participate in a research program with one of thirteen faculty from the Biochemistry Department and the Program in Biomedical Sciences on the campus of the University of California, Riverside. The purpose of the program is to provide for research training at the postdoctoral level in the following five major areas of focus:

- intracellular events in hormone action
- endocrinology of vitamin D, calcium, phosphorus and bone
- insulin and its action
- molecular biology of hormone action
- hemopoietic growth factors and lymphokines

For detailed information and application forms, write to:

Dr. Anthony W. Norman, Program Director
Department of Biochemistry
University of California
Riverside, California 92521
Telephone: 714-787-4777
*An Affirmative Action/
Equal Opportunity Employer*

TRAINING PROGRAM IN MEMBRANE RECEPTORS AND TRANSPORT PROTEINS AT COLUMBIA UNIVERSITY

We invite applications for pre- and postdoctoral training in this NIH-sponsored, interdisciplinary program, involving the Departments of Biochemistry and Molecular Biophysics, Medicine, Neurology, and Physiology. The proteins being studied in the training laboratories include acetylcholine receptor, substance P receptor, Na,K-ATPase, bacteriorhodopsin, gap junction channel, amiloride-sensitive sodium channel, epithelial chloride channel, proton translocating ATPase, and gramicidin. Many biophysical, biochemical, cell biological, and molecular biological approaches are being used. Only U.S. citizens and permanent residents can be accepted. Applicants should send their curriculum vitae and three letters of reference to:

Professor Arthur Karlin
Department of Biochemistry
and Molecular Biophysics
Columbia University
College of Physicians and Surgeons
630 West 168 Street
New York, NY 10032

Columbia University is an Equal Opportunity Employer.

ANNOUNCEMENT

LEADING THE WAY TO NEW LEVELS OF PERFORMANCE IN SCIENTIFIC COMPUTING.

For information on research allocations write:

National Center for Supercomputing
Cornell Theory Center, 265 Olin Hall,
Cornell University,
Ithaca, New York 14853-5201

CALL FOR PAPERS

CALL FOR PAPERS NATIONAL CONFERENCE ON SUSTAINING AGRICULTURE NEAR CITIES 20 to 21 November 1986, Boston, Massachusetts

Abstracts are invited for a conference on the problems affecting farming near metropolitan areas and the opportunities for mutually beneficial agricultural/urban relations.

Topics: Metropolitan influences on agriculture; farmland preservation; direct marketing; agriculture in regional planning; using municipal sludge in agriculture; urban food production.

Types of Papers: Papers may be on original research, action programs, or policy issues, and may be from any discipline. We particularly welcome papers appropriate to an audience involved with this subject in diverse ways, including research, extension, production agriculture, and agricultural marketing and services.

Submission: Abstracts of 250 to 500 words (three copies) should be sent by 20 June to: **Professor William Lockeretz, School of Nutrition, Tufts University, Medford, MA 02155.**

SYMPOSIUM

THE FOURTH SYMPOSIUM ON ENZYME PROTEIN AND CELL IMMOBILIZATION 21 to 23 July 1986 Tufts University European Center Talloires, France

The program is designed for chemists, biologists, biochemists, microbiologists, chemical, and biochemical engineers who want to gain insight into this important field. The format includes introductory lectures, analytical, and industrial application lectures and poster sessions. Those interested in participating in the poster session should send a one-page abstract outlining salient features of work to be presented.

For information about speakers and registration, contact:

Tufts University
Chemistry Department
Symposium on Enzyme Protein
and Cell Immobilization
Medford, MA 02155
Telephone: 617-381-3441

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIPS NEUROBIOLOGY

Postdoctoral fellowships are available as part of an NINCDS-funded program project to examine the neurobiological bases of recovery from injury to monoaminergic systems. Salaries range from \$16,000 to \$23,000, commensurate with experience. Candidates may apply to work with project directors in the following areas of interest: electrophysiological studies in basal ganglia (**T. Berger**), in vivo and in vitro intracellular recording in substantia nigra and striatum (**A. Grace**), molecular biological studies of genes regulating catecholamine biosynthesis (**B. Kaplan**), developmental studies of monoamine systems (**R. Lund**), homeostatic effects of damage to peripheral and central catecholaminergic systems (**B. Stricker**), and in vitro neurochemical studies of striatal function (**M. Zigmond**). Please send a brief description of research interests, curriculum vitae, and three letters of recommendation to:

Michael J. Zigmond, Ph.D.
Center for Neuroscience
University of Pittsburgh
570 Crawford Hall
Pittsburgh, PA 15260

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

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP/RESEARCH ASSOCIATE available in July 1986. Expertise required in cell biology and biochemistry to pursue studies in a productive laboratory at University of California, Los Angeles (UCLA)—Wadsworth VA. Work entails system development, study of receptor characterization, and cell activation underlying gastric secretory function. Salary commensurate with qualifications. Two years of funding available, with potential for advancement. Mail curriculum vitae and names of three references to: **Dr. A. H. Soll, Center for Ulcer Research, Building 115, Room 203, Wadsworth VA Hospital, Los Angeles, CA 90073.**

POSTDOCTORAL FELLOWSHIP IN PROTEIN CHEMISTRY/MICROBIOLOGY

Two-year, postdoctoral fellowship available for person with Ph.D. in biochemistry, membrane biochemistry, or protein chemistry to work on a project purifying, sequencing, preparing oligonucleotide probes, and cloning the genes for radiation-induced transforming growth factors from mammalian cells. Interested applicants should send curriculum vitae and three letters of recommendation to: **Joel S. Greenberger, M.D., Professor and Chairman, Department of Radiation Oncology, University of Massachusetts Medical Center, Worcester, MA 01605.**

An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL FELLOWSHIP UNIVERSITY OF CALIFORNIA, IRVINE

Immediate postdoctoral position available for radiobiological studies of human hybrid cells (genetic aspects of cellular radiosensitivity, oncogenic cell transformation). Tissue culture experience and working knowledge of cellular radiation biology and modern techniques in molecular biology desirable. Salary commensurate with experience. Send curriculum vitae, names of three references, and letter outlining experience and interests to:

J. Leslie Redpath, Ph.D.
Division of Radiation Oncology
Department of Radiological Sciences
University of California, Irvine
Irvine, California 92715

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

POSTDOCTORAL FELLOWSHIPS

Positions become available from time to time for persons with an M.D. or Ph.D. to conduct research as a member of a group in any one of the following areas: neurophysiology: electrophysiology and biophysical theory: membrane phenomena, biophysics, and active transport: cellular neurophysiology: cardiovascular physiology: circulation: respiration: behavioral and sensory physiology: and physiology of the heart and muscle, or other related specialties. Applicants are expected to be familiar with advanced research techniques relevant to the area of interest and must have strong academic background. Stipends usually range from \$15,000 to \$35,000, depending upon postdoctoral experience. Applicants with own private funding will also be considered. Applicants should submit curriculum vitae with a list of publications and names of references to: **Professor Wilfried F. H. M. Mommaerts, Chairman, Department of Physiology, University of California, 53-259 CHS, Los Angeles, California 90024.**

The University of California is an Affirmative Action Employer with an Equal Opportunity program. Women and minorities are encouraged to apply.

MARKETPLACE

FIND YOUR REPRINTS FAST

BOOKPRO PLUS Computer Reference System

- Retrieval in seconds
 - Prints bibliographies
 - Multiple cross-indexes
- IBM-PC, XT, AT \$150
Apple II+, e, c \$175
Add \$5 shipping in USA

ARISOFT SYSTEMS

25824 Dundee Road
Huntington Woods, MI 48070
(313) 547-3433

Circle No. 139 on Readers' Service Card



Untitled (1986), cement, polymer, silicone, oxides on marine plywood and mahogany, 24"x 48"x 8½". Laddie John Dill. A wooden armature is primed with a cement and polymer emulsion pigmented with oxides. A pattern is then executed on the surface using the pigmented emulsion poured adjacent to areas of silicone. Polished glass triangles are then laminated to the wet, poured surface. The color system is based on the oxidation and crystallization of alkalides in the cement, a process created by and unique to the artist.

The fine art of discovery. It enables us to go beyond conventional boundaries. To boldly open doors to the unknown. And to shed light on images the world has never seen.

At the Aerojet Propulsion Research Institute, we recognize discovery as the driving force behind technical achievement. It makes possible the creation of exciting propulsion concepts involving anti-matter, laser, chemical, electromagnetic and other advanced technologies.

To foster the pioneering spirit, we encourage our people to pursue their own ideas, as well as to publish and present the results. We support their efforts with the comprehensive resources vital to the generation of revolutionary concepts. And, most importantly, we demonstrate our long-term commitment through a solid blend of company and contract funding.

Dr. William Heiser, Institute Vice President and Director, "Without question, we are creating one of the world's most advanced propulsion research centers. Without compromise, we offer the professional freedom and peer recognition the world's leading propulsion researchers deserve."

And we invite those individuals to write us for more information. The Aerojet Propulsion Research Institute, Dept. 116, Highway 50 & Aerojet Road, P.O. Box 13502, Sacramento, California 95853-4502. We are an equal opportunity, affirmative action employer. U.S. citizenship required.

Aerojet Propulsion Research Institute

THE WORLDS OF

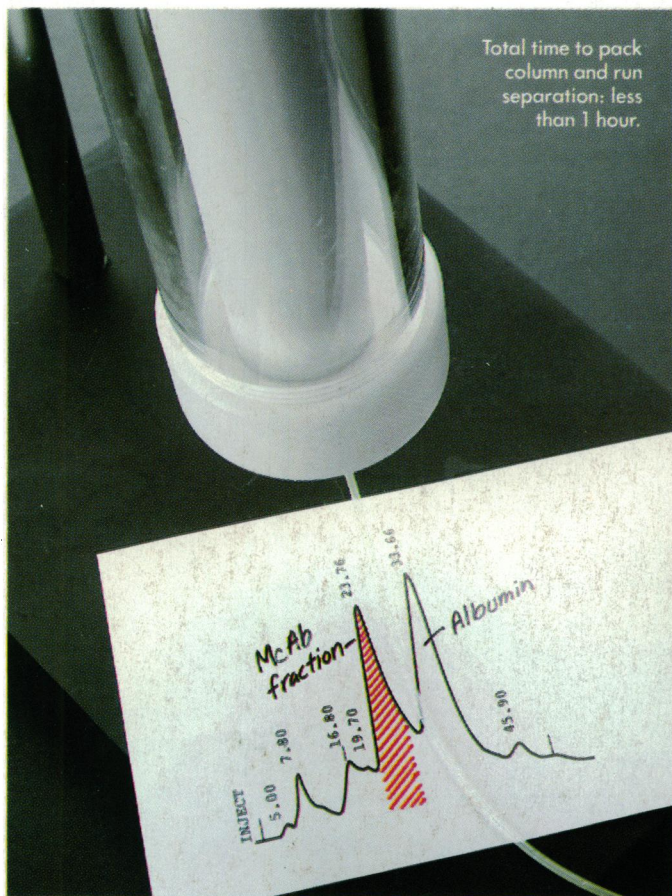
**AEROJET
GENERAL**

A GENCORP COMPANY

ELECTRONICS • ORDNANCE
PROPULSION • RESEARCH

Waters ACCELL™ media. Protein isolation complete.

Conventional gel. Still on the shelf.



Total time to pack
column and run
separation: less
than 1 hour.



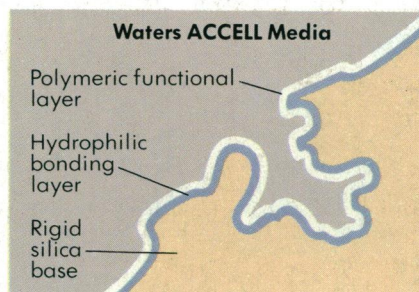
Conventional gels
often require hours to
prepare for packing.

© 1985 Millipore Corporation

Now get LC isolation of your protein in minutes—not hours.

With Waters ACCELL anion and cation exchange media.

ACCELL packs quicker, easier and allows faster flow rates—to minimize time spent on protein separations. A patented copolymerization process exploits the properties of a rigid separation media while giving excellent recovery of biological activity. Because it's not subject to the shrinking and swelling typical of gels, ACCELL provides better reproducibility and resolution previously unattainable by



Patented copolymerization process double-encapsulates all active sites of the rigid wide-pore silica base to produce low non-specific binding properties.

conventional techniques. Its rigid structure permits linear scale-up at all flow rates and pressures—from analytical to prep to process—using the same methods and the same chemistry.

Circle No. 83 on Readers' Service Card

Try Waters ACCELL media in your lab. For technical specifications, protocols and additional information, call toll-free 1-800-252-HPLC. Or write Waters Chromatography Division, Millipore Corporation, Dept. PM, 34 Maple Street, Milford, MA 01757.

Now available in
prepacked cartridges
and in bulk.



Waters
Division of MILLIPORE