

"Herd of reindeer. Engraving on bone. Magdalenian, Dordogne." [After Kühn, from Grahmann and Müller-Beck; reproduced in *The Pleistocene*]

names that are in use in various countries and continents. His approach is intentionally conservative. Successive chapters list the conventional glacial stages of North America, northern Europe, and the Alps, together with their "conventional correlations." Chapters are organized on the basis of these correlations, which appear to be sound and reliable.

On reading only a short way into each chapter, newer and more radical ideas intrude. Traditional correlations are soon put into doubt, and the doubts are never resolved. A brief chapter on absolute dating methods does not sufficiently review the results of those methods. Age estimates for East European ice sheets based on thermoluminescence (p. 165) are given without comment. Radiometric ages for North American tephra (p. 375) obviously invalidate traditional European correlations, but the point is not stressed. The ages of at least three Pearllet Tuff beds are mentioned (p. 378) but are not used in any of the correlation charts. On page after page, this book shows the impact of the fast development of methodology.

Many figures from the well-known 1971 textbook by Flint and the 1969 textbook by Woldstedt (and their earlier versions) are copied by Nilsson in this book. Unfortunately, the use of these figures results in a nonuniformity of scale and technique that is quite distracting. The use of a figure from Flint's 1971 textbook that shows the distribution of Scandinavian erratics (p. 171) is surprising, for I would expect a Scandinavian author to have more current and primary references on this topic. Nilsson reproduces (pp. 394-395) the important but outdated maps of the proglacial North American Great Lakes from a 1963 article by Hough although Flint had already recognized their obsolescence in his 1971 book. Similarly, Nilsson reproduces (p. 397) a map of Lake Agassiz from a 1947 textbook by Flint without reference to any more recent sources.

Chapter 6 is a peculiar three-page essay or editorial on the Pliocene-Pleistocene boundary. It introduces a 12-page

chapter on the related Italian stratigraphy, and together these chapters support the author's implicit long chronology for the age of the Pleistocene, which has been variously suggested to be 1 to 3 million years (p. 22), 2.3 to 3 million years (p. 24), about 2 million years (p. 352), and 1.8 to 2.8 million years (p. 411). This information could have been collected in a single section to facilitate more effective analysis.

The primary value of this book lies in the way in which each chapter integrates regional stratigraphy, palynology, botanical stratigraphy, mammalian paleontology, and anthropology. Each of these subfields of Quaternary science has its protagonists, and only a senior, experienced writer would have attempted the comprehensive overview that Nilsson has provided.

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Books Received

The ABC of Psychology. Leonard Kristal. Facts On File, New York, 1983. 253 pp., illus. \$14.95; paper, \$6.95.

Absorption on and Surface Chemistry of Hydroxyapatite. Dwarika N. Misra, Ed. Plenum, New York, 1984. viii, 179 pp., illus. \$39.50. From a symposium, Kansas City, Mo., Sept. 1982.

Actions and Interactions of GABA and Benzodiazepines. N. G. Bowery, Ed. Raven, New York, 1984. xiv, 298 pp., illus. \$36. From a symposium, London, March 1983.

The Addictive Behaviors. Howard Shaffer and Barry Stimmel, Eds. Haworth, New York, 1984. x, 172 pp. \$22.95. Originally published in *Advances in Alcohol and Substance Abuse*, vol. 13, Nos. 1/2.

Advances in Clinical Neuropsychology. Vol. 1. Gerald Goldstein, Ed. Plenum, New York, 1984. viii, 189 pp., illus. \$29.50.

Advances in Energy Cost Savings for Industry and Buildings. Fairmont, Atlanta, Ga., 1984. x, 498 pp., illus. \$45. From a congress, Nov. 1983.

Beam Weapons. The Next Arms Race. Jeff Hecht. Plenum, New York, 1984. xii, 363 pp., illus. \$17.95.

Beyond the Dyad. Michael Lewis, Ed. Plenum, New York, 1984. x, 335 pp., illus. \$35. Genesis of Behavior, vol. 4. From a conference.

Biocontrol of Medical and Veterinary Pests. Marshall Laird, Ed. Praeger, New York, 1984. xx, 235 pp., illus. \$39.95. From a symposium, Kyoto, Japan, Aug. 1980.

Biofuture. Confronting the Genetic Era. Burke K. Zimmerman. Plenum, New York, 1984. xii, 305 pp., illus. \$16.95.

Chemistry and Biology of Pteridines. Pteridines and Folic Acid Derivatives. John A. Blair, Ed. Walter de Gruyter, New York, 1983. xxxiv, 1070 pp., illus. \$128. From a symposium, St. Andrews, Scotland, Sept. 1982.

Child Abuse and Neglect. A Teacher's Handbook for Detection, Reporting, and Classroom Management. Cynthia Crosson Tower. National Educational Association, Washington, D.C., 1984. 112 pp. \$14.95; paper, \$7.95.

Cochlear Implants in Clinical Use. W. D. Keidel and P. Finkenzerler, Eds. Karger, Basel, 1984. viii, 176 pp., illus. \$84. *Advances in Audiology*, vol. 2. From a symposium, Erlangen, Germany, 1982.

Cognition and Motor Processes. W. Prinz and A. F. Sanders, Eds. Springer-Verlag, New York, 1984. x, 378 pp., illus. \$30. From a conference, Bielefeld, Germany, July 1982.

Cognitive Processing in the Right Hemisphere. Ellen Perecman, Ed. Academic Press, New York, 1983. xx, 257 pp., illus. \$35. *Perspectives in Neurolinguistics, Neuropsychology, and Psycholinguistics*.

Collapse. The Buckling of Structures in Theory and Practice. J. M. T. Thompson and G. W. Hunt, Eds. Cambridge University Press, New York, 1984. x, 531 pp., illus. \$79.50. From a symposium, London, Aug. 1982.

Comparative Psychology in the Twentieth Century. Donald A. Dewsbury. Hutchinson Ross, Stroudsburg, Pa., 1984 (distributor, Van Nostrand Reinhold, New York). xiv, 413 pp., illus. \$34.95.

The Complete Computer Compendium. Michael Edelhart and Douglas Garr. Addison-Wesley, Reading, Mass., 1984. x, 278 pp., illus. Paper, \$12.95.

The Computer Comes of Age. The People, the Hardware, and the Software. R. Moreau. MIT Press, Cambridge, Mass., 1984. xii, 227 pp., illus. \$19.95. The MIT Press Series in the History of Computing. Translated from the French edition (Paris, 1981) by J. Howlett.

Concepts of Ecology. Edward J. Kormondy. 3rd ed. Prentice-Hall, Englewood Cliffs, N.J., 1984. xviii, 298 pp., illus. \$19.95.

Controlled Clinical Trials in Urologic Oncology. Louis Denis *et al.*, Eds. Raven, New York, 1984. xx, 329 pp., illus. \$49. Monograph Series of the European Organization for Research on Treatment of Cancer, vol. 13. From a symposium, Brussels, Oct. 1982.

Creative Evolution. Henri Bergson. University Press of America, Lanham, Md., 1984. lii, 507 pp. Paper, \$12.75. Translated from the French edition by Arthur Mitchell. Reprint, 1911 edition.

Current Practices in Software Development. A Guide to Successful Systems. David King. Youdon, New York, 1984. xvi, 216 pp., illus. Paper, \$28.

Deciphering the Senses. The Expanding World of Human Perception. Robert Rivlin and Karen Gravelle. Simon and Schuster, New York, 1984. 237 pp., illus. \$15.95.

The Developing Person. A Life-Span Approach. Helen L. Bee and Sandra K. Mitchell. 2nd ed. Harper and Row, New York, 1984. xviii, 653 pp., illus. \$26.95.

Eye Movements in Reading. Perceptual and Language Processes. Keith Rayner, Ed. Academic Press, New York, 1983. xxiv, 527 pp., illus. \$52. *Perspectives in Neurolinguistics, Neuropsychology, and Psycholinguistics*.

Fast Nuclear Rotation. Adziszlaw Szymański. Clarendon (Oxford University Press), New York, 1983. x, 241 pp., illus. \$39. Oxford Studies in Physics.

A First Course in Fluid Dynamics. A. R. Paterson. Cambridge University Press, New York, 1984. x, 528 pp., illus. \$59.50; paper, \$24.95.

Forgotten Children. Parent-Child Relations from 1500 to 1900. Linda A. Pollock. Cambridge University Press, New York, 1984. xii, 334 pp. \$49.50; paper, \$16.95.

Frogs of Western Australia. M. J. Tyler, L. A. Smith, and R. E. Johnston. Western Australian Museum, Perth, 1984. xii, 108 pp., illus. Paper, \$A9.95.

Functional Histology. Myrin Borysenko and Theodore Beringer. 2nd ed. Little, Brown, Boston, 1984. x, 400 pp., illus. Paper, \$24.95.

Gas Chromatography/Mass Spectrometry Applications in Microbiology. Göran Odham, Lennart Larsson, and Per-Anders Mårdh, Eds. Plenum, New York, 1984. xvi, 444 pp., illus. \$59.50.

Genetic Aspects of Speech and Language Disorders. Christy L. Ludlow and Judith A. Cooper, Eds. Academic Press, New York, 1983. xiv, 221 pp., illus. \$29. From a conference, Bethesda, Md., 1981.

Glacial Lake Agassiz. James T. Teller and Lee Clayton, Eds. Geological Association of Canada Publications, Business, and Economic Services, Toronto, 1983. vi, 451 pp., illus. C\$34; to members, C\$28. Geological Association of Canada Special Paper 26. From a symposium, Winnipeg, May 1982.

Groundwater Contamination. National Academy Press, Washington, D.C., 1984. xii, 179 pp., illus. Paper, \$17.95. *Studies in Geophysics*.

Handbook of Physiology. A Critical, Comprehensive Presentation of Physiological Knowledge and Concepts. Sections 1, The Nervous System. John (Continued on page 345)

BOOKS RECEIVED

(Continued from page 308)

- M. Brookhart and Vernon B. Mountcastle, Eds. Vol. 3, *Sensory Processes*. Ian Darian-Smith, Ed. (distributor, Williams and Wilkins, Baltimore). Two volumes. xvi, 1190 pp., illus., + index. \$275.
- Handbook of the Birds of India and Pakistan.** Together with Those of Bangladesh, Nepal, Bhutan and Sri Lanka. Compact Edition. Salim Ali and S. Dillon Ripley. Oxford University Press, New York, 1983. xlv, 737 pp., illus., + plates. \$90.
- Introduction to Sensitivity and Stability Analysis in Nonlinear Programming.** Anthony V. Fiocco. Academic Press, New York, 1983. xii, 367 pp. \$27.50. Mathematics in Science and Engineering, vol. 165.
- Ion-Selective Electrodes.** Jiří Koryta and Karel Štulík. 2nd ed. Cambridge University Press, New York, 1983. vi, 217 pp., illus. \$49.50.
- Ionic Processes in the Gas Phase.** M. A. Almoester Ferreira, Ed. Reidel, Boston, 1984 (distributor, Kluwer Boston, Hingham, Mass.). x, 374 pp., illus. \$46.50. NATO ASI Series C, vol. 118. From an institute, Vimeiro, Portugal, Sept. 1982.
- Japanese Women. Constraint and Fulfillment.** Takiie Sagiyama Lebra. University of Hawaii Press, Honolulu, 1984. xii, 345 pp. \$18.95.
- Just in Case.** A Passenger's Guide to Airplane Safety and Survival. Daniel A. Johnson. Plenum, New York, 1984. xvi, 268 pp., illus. \$16.95.
- The Klamath Knot.** Explorations of Myth and Evolution. David Rains Wallace. Illustrations by Karin Wikström. Sierra Club Books, San Francisco, 1984. viii, 149 pp. Paper, \$8.95. A Yolla Bolly Press Book. Reprint, 1983 edition.
- Laboratory Experiments in Microbiology.** Christine L. Case and Ted R. Johnson. Benjamin/Cummings, Menlo Park, Calif., 1984. xiv, 414 pp., illus. Paper, \$16.95. The Benjamin/Cummings Series in the Life Sciences.
- Language Awareness and Learning to Read.** John Downing and Renate Valtin, Eds. Springer-Verlag, New York, 1984. x, 305 pp. \$35. Springer Series in Language and Communication, vol. 17.
- Large-Scale Dynamical Processes in the Atmosphere.** Brian Hoskins and Robert Pearce, Eds. Academic Press, New York, 1983. xvi, 397 pp., illus. \$54.50. From a symposium, Hamburg, Aug. 1981.
- Laser.** Supertool of the 1980s. Jeff Hecht and Dick Teresi. Ticknor and Fields, New York, 1984. viii, 264 pp., illus. Paper, \$8.95. Reprint, 1982 edition.
- Laser Treatment and Photocoagulation of the Eye.** R. Bimgruber and V.-P. Gabel, Eds. Junk, The Hague, 1984 (U.S. distributor, Kluwer Boston, Hingham, Mass.). x, 360 pp., illus. \$67. Documenta Ophthalmologica Proceedings Series, vol. 36. From a symposium, Munich, Sept. 1982.
- Maldescensus Testis. Operative Andrology 2.** A. Kelämi and J. P. Pryor, Eds. Karger, Basel, 1984. viii, 174 pp., illus. \$99.50. Progress in Reproductive Biology and Medicine, vol. 10. From a symposium, London, March 1983.
- Mammalian Diseases and Arachnids.** William B. Nutting, Ed. CRC Press, Boca Raton, Fla., 1984. Two volumes. Vol. 1, Pathogen Biology and Clinical Management. xviii, 277 pp., illus. \$83.50. Vol. 2, Medico-Veterinary, Laboratory, and Wildlife Diseases, and Control. xvi, 280 pp., illus. \$83.50.
- Man Suddenly Sees to the Edge of the Universe.** Richard Casement. Open Court Books, La Salle, Ill., 1984. 204 pp. \$12.95.
- The Marine and Estuarine Fishes South-western Australia.** A Field Guide for Anglers and Divers. Barry Hutchins and Martin Thompson. Western Australian Museum, Perth, 1983. 103 pp., illus. Paper, \$A9.95.
- Mathematical Models of Morphogenesis.** René Thom. Horwood, Chichester, England, and Halsted (Wiley), New York, 1983. 305 pp., illus. \$59.95. Ellis Horwood Series in Mathematics and Its Applications. Translated from the French edition (Paris, 1980) by W. M. Brookes and D. Rand.
- Nonlinear Filtering and Smoothing.** An Introduction to Martingales, Stochastic Integrals and Estimation. Venkatarama Krishnan. Wiley-Interscience, New York, 1984. xvi, 314 pp. \$34.95.
- Nuclear Radiation. Risks and Benefits.** Edward Pochin. Clarendon (Oxford University Press), New York, 1983. viii, 197 pp., illus. \$32.50. Monographs on Science, Technology, and Society.
- Nucleic Acid Research.** Future Development. Kiyoshi Mizobuchi, Itaru Watanabe, and James D. Watson, Eds. Academic Press, New York, 1983. xvi, 586 pp., illus. \$65. From a symposium, Kyoto, Japan, Dec. 1981.
- Numerical Methods for Nonlinear Variational Problems.** Roland Glowinski. Springer-Verlag, New York, 1984. xviii, 493 pp., illus. \$62. Springer Series in Computational Physics.
- Nutrition in Gerontology.** J. Mark Ord, Denham Harman, and Roslyn B. Alfin-Slater, Eds. Raven, New York, 1984. x, 347 pp., illus. \$35. Aging, vol. 26.
- Organic Reactions.** Vol. 30. William G. Dauben, Ed. Wiley, New York, 1984. xii, 579 pp., illus. \$54.50.
- Organometallic Chemistry of Rhodium and Iridium.** Ronald S. Dickson. Academic Press, New York, 1983. x, 421 pp., illus. \$85. Organometallic Chemistry.
- Overcoming Computer Illiteracy.** A Friendly Introduction to Computers. Susan Curran and Ray Curran. Penguin, New York, 1984. 458 pp., illus. Paper, \$12.95.
- Paradigms and Programming with PASCAL.** Derrick Wood. Computer Science Press, Rockville, Md., 1984. xiv, 425 pp. \$25.95.
- Pathology of the Esophagus.** Horatio Enterline and John Thompson. Springer-Verlag, New York, 1984. x, 192 pp., illus. \$45.
- Philosophy and Sociology of Science.** An Introduction. Stewart Richards. Basil Blackwell, Oxford, England, 1983. x, 210 pp. £17.50; paper, £5.95.
- Phonological Acquisition and Change.** John L. Locke. Academic Press, New York, 1983. xxii, 263 pp., illus. \$29.
- The Quest for Quarks.** Brian McCusker. Cambridge University Press, New York, 1984. viii, 160 pp., illus. \$14.95.
- Reason and the Search for Knowledge.** Investigations in the Philosophy of Science. Dudley Shapere. Reidel, Boston, 1984 (distributor, Kluwer Boston, Hingham, Mass.). xvi, 441 pp. \$59.50. Boston Studies in the Philosophy of Science, vol. 78.
- Recent Trends in Radiation Oncology and Related Fields.** Beatriz E. Amendola and Marco A. Amendola, Eds. Elsevier, New York, 1983. xx, 324 pp., illus. \$56.50. From a symposium, Ann Arbor, Mich., April 1983.
- Recombinant DNA and Medical Genetics.** Anne Messer and Ian H. Porter, Eds. Academic Press, New York, 1983. xviii, 207 pp., illus. \$29. Birth Defects Institute Symposia. From a symposium, Albany, N.Y., Nov. 1982.
- The Return of the Sea Eagle.** John A. Love. Cambridge University Press, New York, 1984. xiv, 227 pp., illus. \$29.95.
- Risk Profiles in Clinical Nephrology.** G. Buccianti, Ed. Karger, Basel, 1984. x, 199 pp., illus. \$54. Contributions to Nephrology, vol. 37. From a meeting, Milan, Feb. 1983.
- Robot Components and Systems.** Francois L'Hôte et al. Kogan Page, London, and Prentice-Hall, Englewood Cliffs, N.J., 1983. 346 pp., illus. \$38. Robot Technology, vol. 4. Translated from the French edition.
- Scientific Inference, Data Analysis, and Robustness.** G. E. P. Box, Tom Leonard, and Chien-Fu Wu, Eds. Academic Press, New York, 1983. xii, 304 pp. \$22.50. Publication No. 48 of the Mathematics Research Center, University of Wisconsin-Madison. From a conference, Madison, Wis., Nov. 1981.
- The Secret Guide to Computers.** Vol. 1. Russ Walter. Birkhäuser, Boston, 1984. 352 pp., illus. Paper, \$14.95.
- Semmelweis' Krankheit.** István Benedek. Akadémiai Kiadó, Budapest, 1983. 110 pp. + plates. \$8. Translated from the Hungarian edition (1978).
- Sexual Differentiation.** Basic and Clinical Aspects. M. Serio et al., Eds. Raven, New York, 1984. xvi, 368 pp., illus. \$43. Sero Symposia Publications from Raven Press, vol. 11. From a symposium, Carmel, Calif., March 1983.
- Silicon Valley Fever.** Growth of High-Technology Culture. Everett M. Rogers and Judith K. Larsen. Basic Books, New York, 1984. x, 302 pp., illus., + plates. \$19.95.
- Wandering Continents and Spreading Sea Floors on an Expanding Earth.** Lester C. King. Wiley-Interscience, New York, 1984. x, 232 pp., illus. \$29.95.
- Water Resources.** Distribution, Use, and Management. John R. Mather. Wiley, New York, and Winston, Silver Spring, Md., 1984. xvi, 439 pp., illus. \$40. Environmental Science and Technology.
- Waves on Fluid Interfaces.** Richard E. Meyer, Ed. Academic Press, New York, 1983. x, 359 pp., illus. \$25. From a symposium, Madison, Wis., Oct. 1982.
- When the Snakes Awake.** Animals and Earthquake Prediction. Helmut Tributsch. MIT Press, Cambridge, Mass., 1984. xvi, 248 pp. Paper, \$8.95. Translated from the German edition (Stuttgart, 1978) by Paul Langner. Reprint, 1982 edition.
- Working with RT-11.** David Beamont, Anne Summerfield, and Julie Wright. Digital Press, Bedford, Mass., 1983. x, 206 pp., illus. Paper, \$19. The RT-11 Technical User's Series.
- Yardsticks of the Universe.** Owen Bishop. Peter Bedrick Books, New York, 1984 (distributor, Harper and Row, New York). vi, 125 pp., illus. \$10.95; paper, \$5.95.
- Yeasts.** Characteristics and Identification. J. A. Barnett, R. W. Payne, and D. Yarrow. Photomicrographs by Linda Barnett. Cambridge University Press, New York, 1984. x, 811 pp. \$150.

Personnel Placement

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POSITIONS OPEN

UNIVERSITY OF PENNSYLVANIA DEPARTMENT OF MEDICINE

The Cardiovascular-Pulmonary Division has a position available for the clinician scientist as **ASSISTANT PROFESSOR OF MEDICINE.** Research on cell biology of airways. Candidate should be Board-eligible in chest medicine and have demonstrated capability for independent fundamental research on airways. Available 1 September 1984. Salary commensurate with training and experience. *University of Pennsylvania is an Affirmative Action/Equal Opportunity Employer, M/F.* All replies treated in strict confidence. Send résumés and names of three references to: **Michael McNicholas, Cardiovascular-Pulmonary Division, Department of Medicine, Hospital of the University of Pennsylvania, 874 Maloney Building, 3600 Spruce Street, Philadelphia, Pa. 19104.**

BIOCHEMISTRY. Tenure-track position at the assistant professor level starting July 1985. Applicants are expected to exhibit potential to develop an independent research program in biochemistry of differentiation, regulation of gene expression in eukaryotes, or function and biosynthesis of membrane components and receptors, and to contribute to undergraduate and graduate teaching programs. Send curriculum vitae, representative reprints, and three letters of reference to: **Dr. W. C. McMurray, Chairman, Department of Biochemistry, University of Western Ontario, London, Ontario, Canada N6A 5C1.** *In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents. An Equal Opportunity Employer.*

BIOLOGIST/BIOCHEMIST PARALEGAL. Medical D.C. law firm seeks person with B.A./B.S. in the biological sciences for research assistant position. Responsibilities include extensive research and analysis in the scientific literature pertinent to drug and patent matters. Requirements include an excellent academic record with strong background in biochemistry and chemistry, good writing skills, and a command of the current literature. Some research experience with publications a plus. Excellent benefits. Competitive salary. Send writing sample and résumé to: **Lorraine Harrington, Wiley, Johnson & Rein, 1776 K Street, NW, Washington, D.C. 20006.**

CANCER SCIENTIST

Position open for scientist with a chemical or biochemical background to work on radical mechanisms in cancer-related research. The work is conducted in the Radiation Biophysics Laboratory of the Department of Radiation Medicine, Massachusetts General Hospital. Concurrent appointment at Harvard Medical School available for suitably qualified candidate. Research involves studying importance of thiols in radiosensitization of hypoxic and oxygenated mammalian cells in tissue culture. Ph.D. in organic chemistry or biochemistry with research experience required. Send curriculum vitae, including names of three references, to: **Dr. Edward R. Epp, Head, Division of Radiation Biophysics, Massachusetts General Hospital, Boston, Massachusetts 02114.** *An Affirmative Action/Equal Opportunity Employer.*

SOUTHWESTERN UNIVERSITY Biology Department

Southwestern University seeks candidates for the **DISHMAN CHAIR IN SCIENCE** in the Department of Biology. This is a tenure-track position, to be filled at the professor or associate professor level, beginning with the 1985-1986 academic year. The successful applicant will exhibit a strong commitment to undergraduate education and teaching, maintain an active scholarly and professional life within the discipline, and be interested in establishing a research program which can involve undergraduate students. Preference will be given to candidates with broad teaching interests in an undergraduate program and with special competence in one or more of the following areas: Cell physiology, animal physiology, or molecular genetics.

Southwestern University is an undergraduate, liberal arts institution with an enrollment of over 1000 students, SAT scores well above the national mean for college-bound students, and a current market value endowment of over \$51,000,000. Applications and nominations should be sent to:

G. Benjamin Oliver, Dean
The Brown College of Arts and Sciences
Southwestern University
Georgetown, Texas 78626

An Affirmative Action/Equal Opportunity Employer

STAFF FELLOWSHIP APPOINTMENT

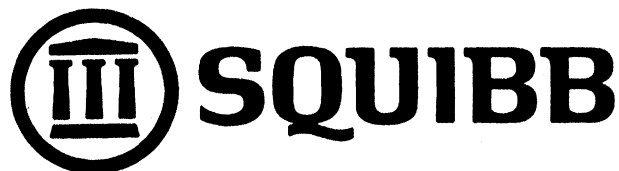
NATIONAL INSTITUTES OF HEALTH PUBLIC HEALTH SERVICE

The National Institutes of Health (NIH), National Institute of Neurological and Communicative Disorders and Stroke (NINCDS), invites applications for a Staff Fellowship position in the Clinical Epilepsy Section, Medical Neurology Branch, Intramural Research Program. We are looking for a post doctoral fellow in the field of pharmacology to assist in the establishment of a clinical pharmacology laboratory in a well established clinical research program in epilepsy. This section will serve as a focal point for antiepileptic drug studies, including pharmacodynamics, pharmacokinetics and metabolism, as well as investigations of the relationships of neurotransmitters to epilepsy and to drug therapy. Collaboration in clinical research projects is the primary mission of the laboratory, but independent investigation in epilepsy will be encouraged and expected. Although this is a non-tenured position, a multiyear appointment is anticipated to allow for maximum productivity.

Candidates must have been awarded a doctoral degree in a biomedical, behavioral or related science, or have been certified by a university as meeting all requirements leading to such a degree, and must have less than seven (7) years of professional level research experience. Candidates must be U.S. citizens or resident aliens who will be eligible for citizenship within four (4) years. The salary will range from \$17,000 to \$39,767 per year depending upon the appointee's qualifications and experience.

To apply please submit a PHS Form 3997, Application for the Staff Fellowship Program at the NIH, curriculum vitae, bibliography, transcripts of graduate college records, and a brief summary of your doctoral dissertation to: Mr. Jerry T. Chambers; NINCDS Personnel Office; Building 31, Room 8A-23; 9000 Rockville Pike; Bethesda, MD 20205. Questions should be directed to Mr. Chambers at (301) 496-6334.

THE NATIONAL INSTITUTE OF NEUROLOGICAL AND COMMUNICATIVE DISORDERS AND STROKE IS AN EQUAL OPPORTUNITY EMPLOYER



RESEARCH ASSOCIATE PHARMACOLOGY

The Squibb Institute for Medical Research, an established leader in pharmaceutical research, is seeking an individual to conduct basic cardiovascular research for new drug development.

Qualified candidates will possess a B.S. or M.S. in Physiology/Pharmacology or equivalent with a minimum of 1-3 years relevant experience. Responsibilities include the performance of surgical procedures and studies of cardiovascular responses to new chemicals, with special emphasis on *in vivo* techniques.

This challenging position is located at the Squibb Institute for Medical Research in Princeton, New Jersey, and provides an excellent salary and benefits package. Interested candidates are requested to send their resume including salary requirements in confidence to: **The Squibb Institute for Medical Research, Pharmacology Department, Room A2103, P.O. Box 4000, Princeton, New Jersey 08540.** An equal opportunity employer.

THE FIRST WORD IN... PROGRESSIVE PHARMACEUTICAL R&D

At Abbott Laboratories, we believe that research is a creative process that requires nurturing and support. To that end we've made a significant financial commitment to pharmaceutical R&D and backed it with the most advanced equipment and facilities available. We also understand the wants of scientists, and strive to make our scientific community one that fits their needs. That's a progressive R&D environment. And that's Abbott.

CELL BIOLOGIST

Based in our Cardiovascular Research Area, the selected applicant will lead and enlarge a team of cellular biologists. Qualified candidates will have a Ph.D. in Cell or Molecular Biology, Biochemistry or related discipline. Experience in the identification and isolation of cell receptors, tissue culture techniques, cellular transformation, RIA assays, receptor binding and characterization, monoclonal antibody techniques, cellular fractionation and recombinant DNA is preferred. Good communications skills are required.

CARDIOVASCULAR PHARMACOLOGIST

This key position focuses on the evaluation of cardiovascular, metabolic and/or behavioral effects of new compounds utilizing in-vitro, whole animal or biochemical methods. Applicants must have a Ph.D. in Pharmacology. A familiarity with computerized data handling and strong communication and interpersonal skills are also required. Prior experience in adrenergic receptor pharmacology with training in receptor theory is desirable, but not required.

SR. RESEARCH PHARMACOLOGIST

Joining a highly trained research team, this position assumes primary responsibility for supervising and evaluating the cardiovascular-renal effects of drug candidates being considered for product development. Qualified candidates will have a Ph.D. with at least 5 years experience in cardiovascular pharmacology to include in-vitro and in-vivo techniques. Good writing and interpersonal skills are also required.

SR. RESEARCH INVESTIGATOR - GASTROENTEROLOGY

The incumbent will supervise a highly trained research team working to evaluate the effects of drug candidates on gastrointestinal physiology. This responsibility also requires a strong interest in establishing novel methods for improving drug absorption. Exposure to the physical methodology associated with drug delivery across membranes is also essential. In addition, a Ph.D. and 5-10 years experience in gastrointestinal physiology and/or pharmacology is needed.

Abbott Laboratories is a \$2.9 billion health care products manufacturer headquartered in an attractive suburban community just 30 miles from Chicago. We provide excellent salaries, exceptional benefits including profit sharing and stock retirement plan, and an outstanding environment for professional growth and advancement. For prompt consideration, forward a resume with salary history to: **Charlene Crusoe-Ingram/Corporate Placement.** Abbott is an Affirmative Action Employer.

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POSITIONS OPEN

CHAIR AND PROFESSOR DIVISION OF NEMATOLOGY

Nominations and applications are invited for an 11-month, tenured position at the University of California at Davis to serve as Chair of the Division of Nematology. The chair will also have some research, teaching, and student advising responsibilities. The usual appointment as chair is for 5 to 7 years, subject to renewal on review. Upon completion of service as Chair of the Division, the faculty member may return to full-time teaching and research. The position is available 1 October 1984.

Qualifications include a Ph.D. with experience in nematology or closely related discipline, proven leadership and management qualities, and a record of scholarly and academic achievement.

Applicants should submit curriculum vitae with a bibliography and reprints of pertinent publications, statement of research, teaching, and administrative interests and background in each, and the names and addresses of at least three references to: **Dr. R. K. Webster, Acting Associate Dean and Search Committee Chair, College of Agricultural and Environmental Sciences, Dean's Office, 228 Mrak Hall, University of California, Davis, Calif. 95616.** Applications must be received by 1 September 1984. Applications received later will not be considered unless the position is reopened for recruitment.

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

CHEMICAL ENGINEERING PROGRAM MANAGER to serve within the Engineering Research Center, a new organization to promote university-industry interactions. Develops facilities and projects in biochemical and general chemical engineering research areas. Requires knowledge and experience in scale-up of biotechnology products through use of fermentation facilities. Skill required in working with university faculty and industrial personnel. Desire Ph.D. with a minimum of 3 to 5 years of significant experience and responsibility. Salary negotiable. Applications due by 3 August 1984. Send letter, résumé, and names and addresses of references to: **Dr. H. Rabin, Director, Engineering Research Center, University of Maryland, College Park, Maryland 20742.** An Affirmative Action/Equal Opportunity Employer.

DIRECTOR OF NMR RESEARCH/PROFESSOR/SENIOR CHEMIST, Department of Radiology, The Johns Hopkins University School of Medicine. Experience required in NMR, research, grant management, and section administration. Responsibilities include: coordination of research efforts of NMR spectroscopy, supervise research fellows, section administration, carry out personal research. Position available immediately. Send curriculum vitae to: **Chairman, Department of Radiology, The Johns Hopkins Medical Institutions, 600 North Wolfe Street, Baltimore, Maryland 21205.** An Equal Opportunity/Affirmative Action Employer.

ELECTRONICS PROGRAM MANAGER to serve as authority on electronics program within the Engineering Research Center, a new organization to promote university-industry interactions. Develop electronic projects such as in microelectronics, millimeter waves, and communications. Skill to work effectively with university faculty and industrial personnel. Desire Ph.D. with a minimum of 3 to 5 years of significant work and responsibility in electronics field. Salary negotiable. Applications due by 3 August 1984. Send letter, résumé, and names and addresses of references to: **Dr. H. Rabin, Director, Engineering Research Center, University of Maryland, College Park, Maryland 20742.** An Affirmative Action/Equal Opportunity Employer.

FACULTY POSITION. The Department of Pharmacology, University of Texas Medical School at Houston, invites applications for a regular tenure-track position at any academic level: assistant, associate, or full professor. Primary responsibilities are the performance of research and the teaching of medical and graduate students. Applications are encouraged from individuals interested in the regulation of biological processes at the molecular and/or cellular level. Interested individuals should send a covering letter outlining future research plans, curriculum vitae including a bibliography, and the names of three individuals who may be contacted as references to: **Dr. G. Alan Robison, Department of Pharmacology, University of Texas Medical School, P.O. Box 20708, Houston, Texas 77025.** The deadline for the receipt of applications is 10 August 1984. An Equal Opportunity Employer.

POSITIONS OPEN

DEAN School of Medicine Medical College of Georgia Augusta, Georgia

The Medical College of Georgia is a state-supported health sciences university committed to achievement of excellence in education, health care, and research through collegiality, academic freedom, and equal opportunity. Schools within the university, other than medicine, are allied health sciences, dentistry, graduate studies, and nursing.

Applications are sought (closing date: 1 October 1984) from individuals with a doctor's degree and a background in medical teaching, research, and administration. Experience with patient care is also desirable. Please submit your curriculum vitae, with the names and addresses of at least three people who, based on personal knowledge, can describe your skills and achievements to:

**Dr. Roy Witherington, Chairman
Search Committee for Dean
School of Medicine
Medical College of Georgia
Augusta, Georgia 30912**

Nominations are also welcome and must be received by 1 September 1984 to permit follow-up.

An Equal Opportunity/Affirmative Action Institution

DEVELOPMENTAL BIOLOGY—GENETICS— CELL AND MOLECULAR BIOLOGY

The Department of Biology at the University of Utah will make at least two junior-level, tenure-track appointments in the above broadly defined areas. We seek outstanding candidates who can contribute to the continued growth and improvement of strong graduate and undergraduate programs in a diverse department. Candidates with research interests bridging two or more of the above specialties (for example, developmental genetics) are of particular interest, but excellence will be the primary criterion in making these appointments. Address applications or nominations to:

**Dr. W. Joseph Dickinson
Department of Biology
University of Utah
Salt Lake City, Utah 84112**

Please send résumé and three letters of reference by 15 September 1984.

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

FACULTY POSITION available at the assistant to full professor level for research and teaching for candidates with an M.D. or Ph.D. who have research interests in one of the following areas: DNA virology, molecular genetics, medically related microbiology, neurobiology, or cytoskeletal structure and function. Submit curriculum vitae and three letters of reference to: **Dr. Bruce Kline, Chairman, Search Committee, Department of Cell Biology, Mayo Clinic, Rochester, Minnesota 55905.** An Equal Opportunity/Affirmative Action Institution.

GENETICIST. The Dairy Science Department seeks a Ph.D. for assistant professor position. Responsibilities are 60 percent research and 40 percent instruction. Opportunity to develop program of fundamental research with long-term application to genetic improvement of dairy cattle. Training may include population or quantitative genetics, molecular genetics, or biochemical genetics. Applications accepted until 1 August 1984 or until position is filled. Send résumé, statement of research interests, transcripts, and three letters of reference to: **Dr. George E. Shook, Chair, Genetics Search Committee, Dairy Science Department, University of Wisconsin, 1675 Observatory Drive, Madison, Wis. 53706.** The University of Wisconsin is an Equal Opportunity Employer.

INSECT VIROLOGIST/MICROBIOLOGIST. Postdoctoral research position available 1 September 1984 to study the quantitative aspects of baculovirus infectivity and pathogenicity in insect hosts. Candidates must have a strong interest in viral population dynamics and experience with in vivo assay is preferred but not essential. Appointment for 3-year period. Please submit curriculum vitae and names, addresses, and telephone numbers of three references to: **Dr. P. R. Hughes, Insect Pathology Resource Center, Boyce Thompson Institute for Plant Research at Cornell University, Ithaca, New York 14853.** An Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

DEPUTY DIVISION DIRECTOR DIVISION OF CHEMICAL AND PROCESS ENGINEERING

The National Science Foundation is seeking qualified applicants for position of Deputy Director, Division of Chemical and Process Engineering. Division is responsible for funding research in various areas of chemical and process engineering. Appointment to this Senior Executive Service (SES) position, which has a salary range of ES-1 at \$59,223 to ES-3 at \$64,008 (for new SES appointment), will be on a 2-year rotational basis. Candidates should have Ph.D. or equivalent professional experience in relevant field; substantial research contributions, as evidenced in publications; experience coordinating with academic, scientific, and engineering communities; and substantial supervisory/managerial experience. Applicants should contact: **Margaret Cademartori, telephone: 202-357-7857,** to request announcement EPS 84-23S which contains complete qualification requirements and application procedures. Applications must be received by 10 August 1984. An Equal Opportunity Employer.

MARINE FOOD CHEMIST/BIOCHEMIST

The Institute of Marine Resources and the Department of Food Science and Technology, University of California, Davis, seek a scientist with an interest in marine food chemistry/biochemistry to fill an 11-month, tenure-track position (75 percent research/25 percent teaching) as assistant, associate, or full professor. The individual will be expected to conduct fundamental research in chemistry and/or biochemistry of marine food products. The individual is also expected to participate in advising students and in teaching marine food science and components of departmental food chemistry/biochemistry courses. As a member of the university-wide Institute of Marine Resources, collaboration with marine scientists on other University of California campuses and with the marine food industry is encouraged. A Ph.D. in chemistry, biochemistry, food science, or a related field is required. Postdoctoral experience and additional research experience in a university, in the marine food industry, or with a governmental agency is desirable. Submit résumé including a summary of research and teaching experience and interests, transcripts of undergraduate and graduate work (if applicant is within 5 years of receiving doctorate), publication list, and names and addresses of four references to: **Dr. David Ogrzydzak, Search Committee Chairman, Institute of Marine Resources, University of California, Davis, Calif. 95616.** Closing date: 1 September 1984. *The University of California is an Affirmative Action/Equal Opportunity Employer.*

MOLECULAR BIOLOGIST

The Department of Anatomy of the University of Rochester School of Medicine and Dentistry has a tenure-track faculty position for an outstanding molecular biologist. Rank is open. The Department of Anatomy has a strong emphasis in neural sciences with 21 faculty working in this area and is looking for an individual who would interact extensively with department members in developing research on problems related to gene expression during development and aging, the production of enzymes related to neurotransmission, immune and plastic phenomena in the nervous system, or other problems of mutual interest. The University of Rochester is unusual in the degree of cooperation among departments and the individual filling this position could expect also to develop relationships with the extensive molecular biology community at the university. Willingness to teach in one of the major courses offered by the department is a requirement; probably either histology-cell biology or neural sciences. Please send résumé, statement of research interests, representative reprints, and names of three references to: **Dr. Mary Notter, Search Committee Coordinator, Department of Anatomy, University of Rochester, School of Medicine and Dentistry, 601 Elmwood Avenue, Rochester, New York 14642.**

Equal Opportunity Employer, M/F

PEDIATRIC ENDOCRINOLOGY. The Department of Pediatrics at the University of Michigan seeks an additional BC/BE endocrinologist at the assistant/associate professor level. The candidate should enjoy patient care and teaching but also have a major interest in research and be willing to seek funding. Direct inquiries and curriculum vitae to: **Dr. I. Z. Beitins, Chief of Service, Pediatric Endocrinology, F2125 C.S. Mott Children's Hospital, Ann Arbor, Michigan 48109.** The University of Michigan is a nondiscriminatory, Affirmative Action Employer.

Research Scientists MOLECULAR BIOLOGY AND IMMUNOLOGY

Applied bioTechnology, Inc., a growing firm specializing in the development of products for the prevention and diagnosis of human and animal disease, seeks highly qualified scientists to participate in the development of cancer diagnostic reagents based on oncogenes and oncogene proteins.

Successful candidates will have a Ph.D. and demonstrated expertise in one or more of the following areas:

RECOMBINANT DNA METHODOLOGY MAMMALIAN CELL CULTURE TUMOR IMMUNOLOGY

Preference will be given to those individuals with experience in the analysis of structure, function, and expression of oncogenes.

Applied bioTechnology, Inc. offers a stimulating research environment together with competitive salaries and equity participation. Submit curriculum vitae and the names of three references to Director of Personnel, Applied bioTechnology, Inc., 80 Rogers Street, Cambridge, MA 02142.

Equal Opportunity Employer

Applied bioTechnology Inc.

PhD • PHARMACOLOGY • PHYSIOLOGY

noticeable
Count on making a contribution
with a strong future
in the scientific community

We're a \$1.6 billion division of one of the world's leading producers of chemicals and pharmaceuticals, with an opportunity for a published pharmacologist or physiologist in our Pharmaceutical Division. Your primary responsibilities will entail developing contacts within medical institutions, universities, teaching hospitals and government research groups. In addition, you will prepare auxiliary technical sales materials and develop training programs for field sales personnel.

The ideal candidate will possess a BS in Pharmacy, a PhD in Physiology or Pharmacology, and 2-3 years teaching

experience at the university level. This is a unique opportunity which will provide direct contact with prominent figures in the medical and pharmaceutical industry.

We offer a superb compensation package, including an excellent salary plus expense account, a company car and outstanding company benefits. A Chicago-based position is available now.

Send curriculum vitae with current earnings requirements, to: Mr. Gary Kowalski, American Hoechst Corporation, Route 202-206 North, Somerville, NJ 08876.

An affirmative action employer M/F/H

Hoechst



Marine Sciences Group Department of Paleontology University of California OCEANOGRAPHIC ECOSYSTEM SCIENTIST

Full time Associate Research Marine Scientist position available with the Marine Sciences Group of the Department of Paleontology. Responsible for oceanographic ecosystem models for applied environmental programs. The position involves close cooperation with and integration of data from oceanographers, coastal engineers, and environmental scientists working on various ocean utilization projects. At least 5 years of postdoctoral experience in the application and development of ecosystem, water-quality, and hydrodynamic models of the type used in ocean-related environmental impact analysis required. Specifically, experience in modeling water circulation, nutrient dynamics, water quality, fish population dynamics, fate of toxicants, and sediment transport desirable. Candidates also should be familiar with and capable of designing, constructing, and operating physical oceanographic/coastal hydraulic models (tank tests) to study near-shore mixing phenomenon, cold and warm water plumes, gravity flows occurring in the form of intrusions, boundary currents, and surface currents. Ph.D. in applied oceanography, ocean engineering, or coastal engineering required, with minor in public health or environmental-health sciences desirable. Salary range: \$31,400 to 35,300 annually.

Interested candidates should submit curriculum vitae, complete bibliography, and names of three references by 3 August 1984 to:

**Professor W. B. N. Berry, Chairman
Department of Paleontology
University of California
7 Earth Sciences Building
Berkeley, Calif. 94720**

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

SENIOR RESEARCH ENGINEERS AND SCIENTISTS

Biosensors and Closed Loop Drug Delivery Systems

Eli Lilly and Company, an established leader in pharmaceutical research, is significantly expanding its commitment in medical device research, and is seeking candidates to conduct R&D on biosensors and closed loop drug delivery systems. Candidates should have a doctorate degree and several years experience in biocompatibility, electrochemistry, spectroscopy, pharmacokinetics, control systems, microcomputer/interface design and/or related areas. The biomaterials, biochemical, and bioinstrumentation engineers and scientists will work in a new research division, interact with other multidisciplinary research divisions in Lilly Research Laboratories, and collaborate with investigators at IVAC, Physio Control, Cardiac Pacemakers, and Advanced Cardiovascular Systems, Lilly's four medical device companies. Please send cover letter with resume and publications listings to:

**Alfred R. Potvin, P.E., Ph.D.
Director, Medical Instrument Systems Research
Lilly Research Labs, Bldg. 58
307 E. McCarty Street
Indianapolis, Indiana 46285**



An Equal Opportunity Employer M/F

POSITIONS OPEN

DIRECTOR OF ACADEMIC COMPUTING VIRGINIA COMMONWEALTH UNIVERSITY

An experienced professional is sought for a senior faculty rank position to provide leadership in the development of the university's computing programs in instruction and research on its Medical College of Virginia (MCV) and academic campuses. The director will lead two assistant directors and approximately 20 support personnel. The chief responsibilities are to enhance the computing environment for research and instructional users by maintaining and improving academic software and hardware resources, and providing instructional and consulting support services. Full job description with minimum qualifications is available upon request.

Applicants with a demonstrated ability to deliver academic computing services, an earned doctorate, and research, teaching, and managerial experience will receive greatest consideration.

Current computing resources available to academic computing include: Amdahl 470/V7 MVS/SP for academic and administrative users, VAX-11/780 on the MCV campus, and HP-3000 on the academic campus. A local area network is due to be installed on the academic campus during the 1984-1985 academic year.

Please send a letter of application, résumé, and names of three references by 3 August 1984 to: **Dr. Alfred Strash, Chairman, Search Committee for Director of Academic Computing, Virginia Commonwealth University, Box 16, MCV Station, Richmond, Virginia 23298.**

An Affirmative Action/Equal Opportunity Employer

GENETIC TOXICOLOGIST—Microbiological Associates, a leader in the field of genetic toxicology, is seeking a Ph.D. to join its Division of Genetic Toxicology. The candidate must have demonstrated expertise in mammalian in vitro test systems for genetic toxicity. Candidates with experience in cytogenetics will receive strongest consideration. Administrative leadership capabilities and strong communication skills are required. This position will offer the successful candidate opportunities for international exposure in this rapidly expanding field. We offer an excellent company-paid benefits package and salary commensurate with experience. Send curriculum vitae and names of three references to: **MICROBIOLOGICAL ASSOCIATES, Personnel Department, 5221 River Road, Bethesda, Md. 20816.** *An Equal Opportunity/Affirmative Action Employer.*

PLANT ECOLOGIST—Temporary (1 year) position with opportunity for reapplication (assistant professor rank) available 1 September 1984. Responsibility for undergraduate courses in plant physiology and general biology plus a graduate seminar in successful applicant's field of expertise; ecological plant physiology preferred. Ph.D. required in a botanical science. Please send letter of application, curriculum vitae and three letters of reference by 10 August 1984 to: **Dr. Peter L. Starkweather, Chairman, Department of Biological Sciences, University of Nevada, Las Vegas, Las Vegas, Nevada 89154.** *Affirmative Action/Equal Opportunity Employer.*

PLANT PHYSIOLOGY—PLANT BIOCHEMISTRY. The Department of Agronomy, University of Kentucky, is seeking an assistant professor for a tenure-track position. Appointee will develop a research (80 percent) program to obtain fundamental information on plant growth and development processes at the cellular/molecular level. Applicants should have expertise in molecular biology approaches exclusive of cloning and gene transfer techniques. Teaching (20 percent) responsibilities will include graduate course(s) in area of expertise. Salary commensurate with training and experience. Send biographical data, transcripts, and statement of research goals, and request that three letters of recommendation be sent to: **Dr. A. J. Hiatt, Department of Agronomy, University of Kentucky, Lexington, Ky. 40546-0091.** Applications received until 1 September 1984. *The University of Kentucky is an Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL FELLOW/RESEARCH ASSOCIATE. Available August 1984 at University of Kentucky, physiologist/pharmacologist with strong background in biochemistry. Experience in cardiovascular parameters an asset. Study of regulation of sympathoadrenal enkephalin secretion in vivo and using in vitro adrenal perfusion. Appointment for up to 3 years; salary commensurate with experience with \$16,000 minimum. Send curriculum vitae and three letters of reference to: **Glen R. Van Loon, VA Medical Center, Lexington, Ky. 40511.** *Equal Opportunity Employer.*

POSITIONS OPEN

IMMUNOASSAY DEVELOPMENT—Ph.D. Opportunity in private industry for immunoassay development. Our facility, located on beautiful Lake Hazeltine in suburban Minneapolis, offers both the "quality-of-life" that Minnesota has to offer and the development opportunities you are looking for. The qualified candidates must possess a Ph.D. and 5-plus years of experience in immunoassay development (preferably in industry). Experience with monoclonal antibody production, infectious diseases, and/or immunology very desirable. Supervisory or management experience preferred. Send curriculum vitae with salary requirements in confidence to: **R. Gay, KALLESTAD LABORATORIES, INC., 1000 Lake Hazeltine Drive, Chaska, Minn. 55318.** *An Equal Opportunity/Affirmative Action Employer, M/F.*

PHYSIOLOGIST: The Department of Reproductive Medicine at the University of California, San Diego (UCSD) has a research and teaching position for a physiologist whose emphasis is in the area of uterine and/or fetal physiology. The applicant should have an M.D./Ph.D. or Ph.D., postdoctoral training, and/or previous faculty experience, with a strong background in developing an effective research program. Ladder-rank faculty position and salary dependent upon previous experience. Major consideration will be given to those candidates with proven research potential and promise of further independent growth. The successful candidate will be responsible for basic research within the Division of Perinatal Medicine, as well as teaching in the Graduate School and School of Medicine. Please submit curriculum vitae, statement of research interests, and the names of three references before 31 August 1984 to: **Robert Resnik, M.D., Professor and Chair, Department of Reproductive Medicine, UCSD Medical Center, 225 Dickinson Street, San Diego, Calif. 92103.** *The University of California is an Equal Opportunity/Affirmative Action Employer.*

PLANT TAXONOMISTS—Three 1-year positions involving taxonomic and nomenclatural research on economic plants are available 1 September 1984. Ph.D. required; knowledge of ICBN necessary; computer and foreign language skills useful. Submit curriculum vitae, reprints, and three letters of reference to: **Dr. James L. Reveal, Department of Botany, University of Maryland, College Park, Md. 20742,** by 3 August 1984. *Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL FELLOW NEMATOLOGIST-INSECT PHYSIOLOGIST DEPARTMENT OF BIOLOGY MEMORIAL UNIVERSITY OF NEWFOUNDLAND

A position is available for a nematologist-insect physiologist at the rank of postdoctoral fellow, to conduct research directed toward the in vitro culture of mermithid nematode parasites of mosquitoes. Specific research responsibilities to include a detailed examination of factors responsible for controlling nematode development in vivo and their application to in vitro culture system(s).

The term of appointment is for 1 year, with possibility of renewal for a further year, subject to availability of funds.

Qualifications: Ph.D. with background in nematology and/or insect physiology. Applicants should possess a broad biological training in invertebrate physiology and have experience in axenic culture methodologies, as they relate to insect tissues/organs and to parasitic nematodes. A background in the biology of insect-parasitic nematodes and/or insect endocrinology preferred.

Salary range in accordance with Natural Sciences and Engineering Research Council scale.

The position is available now; applicants should forward their curriculum vitae and arrange for three letters of recommendation to be sent to:

**Dr. R. Gordon
Department of Biology
Memorial University of Newfoundland
St. John's, Newfoundland, Canada A1B 3X9**

Applications will be accepted until the position is filled.

POSTDOCTORAL FELLOW to study the control of cardiac muscle cell proliferation and terminal cell differentiation. Background in recombinant DNA technology and molecular biology preferred. Competitive salary. Send curriculum vitae and names of three references to: **William C. Claycomb, Ph.D., Professor of Biochemistry, Louisiana State University Medical Center, 1901 Perdido Street, New Orleans, La. 70112.** *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

PLANT STRESS PHYSIOLOGIST. NPI, an innovative plant research and product company established in 1973 and based in Salt Lake City, Utah, invites applications for a Ph.D. level position. A strong background in plant stress physiology and a desire to interact with other research disciplines are required. NPI currently has research groups in molecular biology, tissue culture, phytochemistry, soil microbiology, and reclamation services.

Applicants should send curriculum vitae, names of three references, and a statement of interests to: **Dr. Gretchen King, NPI, 417 Wakara Way, Salt Lake City, Utah 84108.**

POSTDOCTORAL-NEUROVASCULAR PHYSIOLOGY position available to study the interaction of sympathetic nerves and blood vessels during physiologic and pathologic states in animals and humans. Ph.D. or M.D. U.S. citizenship required. Send curriculum vitae, statement of research interests, and two references to: **Dr. Shirley Mueller, Departments of Neurology and Physiology, Indiana University, 1001 West 10 Street, Indianapolis, Ind. 46202.**

POSTDOCTORAL POSITION. For research on the molecular biology of gene expression in mouse teratocarcinoma cells and mouse embryos. Research can involve the construction of recombinant DNA vectors, the study of cell specificity of enhancement sequences or enhancement/promoter sequence combinations, transfer of genes to teratocarcinoma cells and mouse embryos via transfection, microinjection or retroviral vector infection, oligonucleotide mutagenesis, and genomic cloning. Previous molecular biological training or training in mouse embryological procedures preferred. Send curriculum vitae and names of two references to: **Dr. Elwood Linney, Department of Microbiology and Immunology, Box 3020, Duke University Medical Center, Durham, North Carolina 27710.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL POSITIONS available in: (i) **CELLULAR IMMUNOLOGY** to study the effect of toxicants on the immune system. Ph.D. in immunology or cell biology with experience in lymphokines or cell sorter desirable. (ii) **BIOCHEMICAL TOXICOLOGY** to study the toxicity of bacterial proteins. Ph.D. in biochemistry with experience in protein chemistry or membranes desirable. Send curriculum vitae and references to: **Dr. Sarjeet Gill, Division of Toxicology and Physiology, University of California, Riverside, Calif. 92521.** *An Affirmative Action/Equal Opportunity Employer.*

POSTDOCTORAL POSITION in the area of assembly and catalysis in oligomeric enzymes. Project includes enzyme purification, steady-state kinetics studies, analytical gel filtration, and work with cloned genes. Available immediately. Send curriculum vitae, publications, and names of three references to: **Dr. Donald W. Pettigrew, Department of Biochemistry and Biophysics, Texas A&M University, College Station, Texas 77843.**

POSTDOCTORAL POSITIONS: Two positions in the Developmental Biology Laboratory, Massachusetts General Hospital (MGH), Departments of Anatomy and Medicine, Harvard Medical School. Each carries a joint appointment as research fellow at Harvard and MGH. Our general interest is developmental biology and the molecular, cellular, and biochemical basis of morphogenesis, in particular.

ONE POSITION to study the biosynthesis, processing, and mechanism of action at the cellular level of the enzyme, hyaluronidase and its role in morphogenesis. Studies will include preparation of monoclonal antibodies, immunochemical and immunohistochemical methodologies, as well as biochemical techniques involved in protein purification. Molecular biological approaches are planned.

ONE POSITION to study the biochemistry, molecular structure, supramolecular organization and formation of specific well ordered basement membranes of which Decemant's Membrane of the cornea is an example. The laboratory is well staffed, experienced, and equipped for these studies in depth.

The opportunity exists for collaboration on a project designed to examine the biosynthesis of noncollagenous basement membrane macromolecules, their interactions with collagenous components of the basement membrane, as well as with cell surface and extracellular matrix components.

Please send curriculum vitae and three letters of reference to: **Dr. R. W. Orkin and Dr. J. Gross, Developmental Biology Laboratory, Massachusetts General Hospital, Boston, Mass. 02114.**

**NATIONAL INSTITUTE OF ARTHRITIS, DIABETES,
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OFFICE OF THE DIRECTOR**

**DIRECTOR
DIVISION OF
DIGESTIVE DISEASES**

(and Associate Director for
Digestive Diseases)—Dual Position

Incumbent must be a recognized and respected leader in the field of digestive diseases related research, with experience and expertise in the development of new knowledge and new technology in digestive diseases. Responsibilities include identifying research needs and opportunities; planning, developing and implementing a high quality extramural research and research training program in the field; and conducting laboratory investigations in digestive diseases related research.

Salary Range—\$58,938 to \$66,400 per annum

Position information, SF-171 (application), and qualifications requirements may be obtained by contacting:

**Mr. Clifford Moss, Executive Secretary
Search Committee for Director,
Division of Digestive Diseases
Building 31, Room 9A34
National Institutes of Health
Bethesda, Maryland 20205
(301) 496-4231**

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The new department will be specifically concerned with the research and development of novel antiviral agents. Initial responsibilities will be to recruit a biochemistry team to complement the existing virology section and, in collaboration with senior chemists, to expand the range of research programmes in the field of antiviral chemotherapy.

The successful candidate will have a PhD in biochemistry, extensive research experience and a record of personal achievement in the biochemistry of viruses. The ability and flair to direct a research team is essential, as is an interest in the implementation and management of R & D policy in a commercial environment.

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Salary, dependent on experience, will reflect the importance and responsibility of this senior position. Excellent benefits will include a company car and generous assistance with relocation expenses where appropriate.

Please write with full personal and career details quoting ref: WRL/285, to Dr. H. Avshu, Personnel Officer, The Wellcome Research Laboratories, Langley Court, Beckenham, Kent BR3 3BS. England.



Wellcome

 The Department of Biological Chemistry invites qualified Ph.D. or M.D. scientists to submit applications for four new tenure-track faculty positions, as follows.

ASSISTANT PROFESSOR. Applicants should have experience and dedication to ongoing research in an area of eukaryotic gene expression, including differentiation or the study of oncogenes. Interest in teaching biochemistry/molecular biology is essential. Please send curriculum vitae, reprints, statement of research interests, and names of at least three references to: **Dr. Dale L. Oxender, Department of Biological Chemistry, Box 034, The University of Michigan, Ann Arbor, Mich. 48109.**

TWO ASSISTANT THROUGH FULL PROFESSIONAL POSITIONS with academic appointments in biological chemistry and research appointments in the Institute of Gerontology. Candidates having strong interest in research in the area of molecular biology (especially eukaryotic gene expression or membrane biochemistry) and in teaching biochemistry/molecular biology will be given preference. Please send curriculum vitae, reprints, statement of research interests, and names of at least three references to: **Dr. Ari Gafni, Institute of Gerontology, 400 North Ingalls Building, The University of Michigan, Ann Arbor, Mich. 48109.**

ASSISTANT THROUGH FULL PROFESSOR with academic appointment to a named professorship in the Departments of Ophthalmology and Biological Chemistry, with research support provided. Strong interest in undertaking basic research in some aspect of the biochemistry of vision and in teaching biochemistry is essential. Candidates should have had excellent basic scientific training in biochemistry but need not have had prior training in research on vision and should not presently be carrying out such research as their primary interest. Please send curriculum vitae, reprints, statement of research interests, and names of at least three references to: **Dr. Paul R. Lichter, Chairman, Department of Ophthalmology, 2437 Kellogg Eye Center, Box 004, The University of Michigan, Ann Arbor, Mich. 48109.**

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INSECT NEUROBIOLOGY AND BEHAVIOR ASSISTANT PROFESSORSHIPS

The Arizona Research Laboratory Division of Neurobiology (ARLDN) invites applications for two state-funded, tenure-track faculty positions:

- 1) NEUROCHEMIST—BIOCHEMIST** with research interests and experience in identification, metabolism, and mechanisms of action of neurotransmitters, neuromodulators, and neurohormones in the insect central nervous system.
- 2) BEHAVIORAL BIOLOGIST—CHEMICAL ECOLOGIST** with research interests and experience in biology and behavior of insects, insect-plant interactions, neural substrates of arthropod behavior, and chemical ecology and behavioral, physiological, and structural adaptations of terrestrial arthropods.

Candidates should have a Ph.D. or M.D. degree, at least 3 years of postdoctoral research experience, and a demonstrated dedication to multidisciplinary, collaborative, and independent research.

These appointments, to begin in the summer/fall of 1985, will be assistant professorships in an appropriate department of the University of Arizona, and will involve research, teaching, supervision of pre- and postdoctoral trainees, and collaboration with other scientists in the ARLDN on multidisciplinary projects.

Applications, including résumé, three letters of recommendation, and a brief outline of future research plans, should be sent by 31 August 1984, to: **Neurobiology Search, University Department of Molecular and Cellular Biology, University of Arizona, Biosciences West, Tucson, Arizona 85721.**

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

POSITIONS OPEN

POSTDOCTORAL POSITION available immediately to study fungal sterols. Applicants should have expertise in GLC, HPLC, and mass spectrometric techniques. Background in biochemistry desirable but not necessary. Starting salary: \$14,000, fringe benefits paid. Send curriculum vitae and names and addresses of four referees to: **Professor A. Domnas, Biology Department, 110 Coker Hall 010A, University of North Carolina, Chapel Hill, N.C. 27514.** An Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITION available for individual with a background in molecular biology to study regulation of gene expression in lymphocytes. Position available 15 October 1984. Send curriculum vitae and names of two references to: **Elizabeth L. Mather, La Jolla Cancer Research Foundation, 10901 North Torrey Pines Road, La Jolla, Calif. 92037.**

POSTDOCTORAL POSITION available immediately for research on biosynthesis of insect pheromones. Experience in biochemistry and radiolabeled techniques essential. Refer to *Science* 220, 1387 (1983). Send résumé, transcripts, and names of three references to: **Dr. Wendell Roelofs, Department of Entomology, Cornell University, Geneva, N.Y. 14456.** An Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL IN MOLECULAR GENETICS

Available August 1984, for up to 2 years. Use transient expression and P-element-mediated transformation in *Drosophila* to define regulatory DNA sequences. Some background in molecular cloning, DNA sequencing, or expression vector analysis desirable. Send curriculum vitae and names of three references to: **Dr. Edward M. Berger, Biology Department, Dartmouth College, Hanover, N.H. 03755.** An Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL POSITION available to study the mechanism of action of alpha and beta adrenergic receptors or the effects of catecholamines on vascular smooth muscle. Strong background in biochemistry or pharmacology preferred. With inquiries, send curriculum vitae and three references to: **Dr. Brian B. Hoffman, Department of Medicine, Stanford University Medical Center, Stanford, California 94305.** Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL RESEARCH ASSOCIATE to study DNA replication and expression of genes coding for immunoglobulins and histocompatibility antigens. Project also includes identification and isolation of origins of replication in mammalian DNA and effects of oncogene rearrangements on replication. Challenging opportunity for training in recombinant DNA techniques. Send curriculum vitae and have two references sent to: **Dr. Carl Schildkraut, Department of Cell Biology, Albert Einstein College of Medicine, Bronx, N.Y. 10461.**

POSTDOCTORAL RESEARCH ASSOCIATE

Seeking a Ph.D. organic chemist with 3 years of experience in organic chemistry or 3 years in synthetic organic chemistry to design and synthesize steroidal derivatives for use as diagnostic imaging agents in nuclear medicine. Chemistry involving gamma-emitting radionuclides will also be performed. Must know how to use analytical instrumentation such as NMR, HPLC, MPLC, IR, and GC-MS. Salary is \$15,500 per year for 40-hour week. Send curriculum vitae and reprints of papers or thesis abstracts plus letters of recommendation to: **New Mexico Employment Department, 6209 Hendrix, NE, Albuquerque, New Mexico 87110. Telephone: 505-841-6659.** Job order number 254. Salary: \$15,500 per year.

PROTEIN CHEMIST

The W. Alton Jones Cell Science Center invites applications for the position of head of the protein chemistry laboratory. The candidates should be willing to collaborate closely with the recombinant DNA laboratory and with several tissue culture laboratories that are engaged in the isolation, characterization, and modification of bioeffectors produced by various differentiated cell types. Expertise in modern microtechniques of protein sequencing is expected. Particular consideration will be given to candidates with background in conformational studies of proteins and experience in synthetic peptide chemistry. Synthetic peptides will be used for structure-function studies in cell cultures and for raising antibodies. Salary negotiable. Applicants should send curriculum vitae and references to: **Dr. Gordon Sato, W. Alton Jones Cell Science Center, 10 Old Barn Road, Lake Placid, New York 12946.**

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATE. Membrane biophysics studies of electrical properties of cell membranes with fluorescent probes; membrane-membrane contact phenomena; time-resolved fluorescence of cell surface probes; \$18,000 to \$20,000 per year. Start early fall 1984. Apply to: **Leslie M. Loew, Department of Physiology, School of Medicine, University of Connecticut Health Center, Farmington, Connecticut 06032.** Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL RESEARCH ASSOCIATE. Project involves biochemical study on the regulation of contraction in normal and pathological smooth muscles. A strong background in protein purification, protein phosphorylation, enzyme kinetics, or metal binding protein is preferable. However, highly motivated person with background in electron microscopy, smooth muscle physiology, or developmental biology will be considered. Send curriculum vitae and names of three references to:

**Dr. Samuel Chacko
 Department of Pathobiology
 School of Veterinary Medicine
 University of Pennsylvania
 3800 Spruce Street
 Philadelphia, Pa. 19104**

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POSTDOCTORAL RESEARCH ASSOCIATE to join an interdisciplinary study of the interactive processes that regulate ion transport, electrical activity, and cell volume of cultured heart cells. Requires experience in cellular biophysics, physiology and/or biochemistry. Send curriculum vitae, research summary, and names of references to: **Dr. Mel Lieberman, Department of Physiology, Duke University Medical Center, Box 3709, Durham, N.C. 27710.** Equal Opportunity/Affirmative Action Employer.

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RESEARCHER

Postdoctoral position available immediately to conduct studies on mechanisms of *cis*-platin cytotoxicity in cultured human carcinoma cells. Strong background in biochemical pharmacology required, including experience in DNA alkylation and purification and extensive knowledge of HPLC techniques to set up and utilize HPLC system. Experience in tissue culture, cell biology, flow cytometry, and/or glutathione metabolism most desirable. Send summary of research interests and three letters of recommendation to: **B. Drevwinko, M.D., Ph.D., Department of Laboratory Medicine, Box 73, University of Texas System Cancer Center, M. D. Anderson Hospital and Tumor Institute, 6723 Bertner Avenue, Houston, Texas 77030.**

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RESEARCH ASSISTANT PROFESSOR position is available at the University of Arizona Health Sciences Center for a Ph.D. physicist or engineer to assist in the development of a therapeutic ultrasonic heating system for cancer. Familiarity with ultrasonic systems is essential; general knowledge of computer-controlled instrumentation is highly desirable. The Radiation Oncology Division has a broadly based research program involving all aspects of hyperthermia ranging from basic biological studies through several physics and engineering programs to clinical trials in both animals and humans. The incumbent will be an active participant in this group and will be expected to bear primary responsibility for the scientific and engineering aspects of the ultrasound project. Salary and benefits will be commensurate with experience and level of appointment. Contact: **Dr. Robert B. Roemer (telephone: 602-621-6112) or Dr. Thomas C. Cetas (telephone: 602-626-6722), Division of Radiation Oncology, Arizona Health Sciences Center, Tucson, Arizona 85724.** Closing date: 3 August 1984 or until position is filled. *The University of Arizona is an Equal Opportunity Employer.*

DIRECTOR OF RESEARCH IMMUNOLOGIST/MOLECULAR VIROLOGIST

The Otsuka Pharmaceutical Co., Ltd., a major Japanese pharmaceutical corporation, has extended its deadline for applications for the position of Director of Research at its new Maryland research facility. The duties of this position shall include the development and administration of research programs, assembly of a multi-disciplinary research staff, and participation in research activities. The successful candidate will have over five years of post-doctoral research experience in the field of immunology or molecular virology and an outstanding publication record. Group leadership experience is a pre-requisite. Industrial experience is desirable. Special consideration shall be given to individuals who combine the above qualifications with an M.D. degree.

Otsuka Maryland Laboratories will be located in a suburb of Washington, D.C., and will begin operations in March of 1985. The facility, presently under construction, will engage in the discovery/evaluation of immune response modifiers (cytokines) of therapeutic value and the development of biotechnological production methods. Scientific staff (including technicians) shall number 25 - 30 individuals divided into molecular biology, immunology and cell biology groups. Fermentation facilities are also planned.

The position offers salary and benefits fully commensurate with experience and qualifications as well as an exceptional opportunity for professional achievement.

Applications should include C.V., publication record, statement of research, and at least three references. Applications will be accepted through August 20, 1984 and should be sent to:



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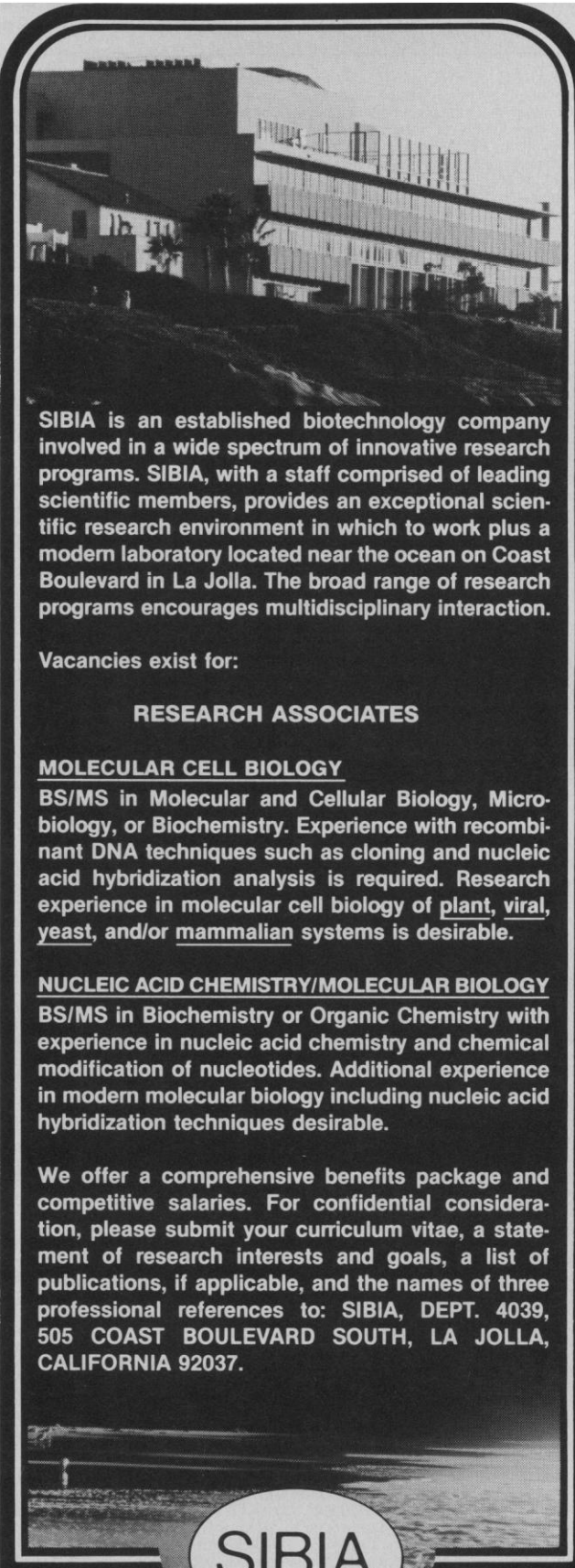
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BS/MS in Biochemistry or Organic Chemistry with experience in nucleic acid chemistry and chemical modification of nucleotides. Additional experience in modern molecular biology including nucleic acid hybridization techniques desirable.

We offer a comprehensive benefits package and competitive salaries. For confidential consideration, please submit your curriculum vitae, a statement of research interests and goals, a list of publications, if applicable, and the names of three professional references to: SIBIA, DEPT. 4039, 505 COAST BOULEVARD SOUTH, LA JOLLA, CALIFORNIA 92037.

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RESEARCH ASSOCIATE position available for study of effects of purines on hematopoietic differentiation and mechanisms responsible for causing immune deficiency in inherited diseases of purine metabolism; Ph.D., preferably with postdoctoral experience. Requires knowledge of HPLC techniques, protein chemistry, purine and nucleic acid biochemistry. Background in adenosylmethionine metabolism, nucleic acid methylation, molecular genetics desirable. Please send curriculum vitae to: **Dr. Michael S. Hershfield, Box 3049, Department of Medicine, Duke University Medical Center, Durham, N.C. 27707. Equal Opportunity/Affirmative Action Employer.**

RESEARCH ASSOCIATE POSITION available to candidates with Ph.D. in pharmacology with strong background in RIA, HPLC, behavioral, physiological, and biochemical pharmacology. Salary: \$14,000 to \$16,000 per year, based on experience. Send résumé and three references by 15 August 1984 to: **Dr. Hemendra N. Bhargava, Department of Pharmacodynamics, University of Illinois at Chicago, P.O. Box 6998, Chicago, Ill. 60680. An Affirmative Action/Equal Opportunity Employer.**

RESEARCH CHEMIST—Ph.D. or equivalent in physical chemistry and 3 years of experience in a similar position or 5 years of experience in related applicable postdoctoral research. The successful candidate must have experience in carbon molecular sieve development, coal characterization, coal conversion, carbonization, carbon formulation and characterization, catalysis, modifying carbon surfaces for specific adsorption processes, gas separations processes, and low- and high-pressure adsorption. The incumbent will conceive, design and implement laboratory and pilot plant programs leading to the development of a new class of proprietary/patentable carbon adsorbents for vapor phase separation processes and will provide technical direction in carbon formulation, surface characterization, adsorption behavior, and manufacturing process scale-up. Salary: \$2792 per month; hours: 8:30 a.m. to 5:00 p.m.; 40-hour week. Send résumé to: **Charles A. Wilson, Office of Employment Security, 300 Liberty Avenue, 13th Floor, Pittsburgh, Pa. 15222. Job order number 3638967. An Equal Opportunity Employer.**

RESEARCH POSITION—MICROBIOLOGY/BIOCHEMISTRY—INFECTIOUS DISEASES

The Veterinary Infectious Disease Organization (VIDO), University of Saskatchewan, has a research position for a microbiologist with a strong interest in bacterial biochemistry and physiology to participate in research programs on economically important diseases of food-producing animals. Major projects are in the areas of *Pasteurella* and *Haemophilus* pneumonias of cattle and swine and viral/bacterial synergism. Applicants should have a degree in microbiology or veterinary medicine, together with a Ph.D., and preferably some postdoctoral experience in at least one of the following areas: host-parasite interactions and bacterial mechanisms of virulence, bacterial biochemistry, physiology, or genetics. An interest in the application of modern microbiological techniques to the solution of problems related to the diagnosis and control of infectious diseases of animals is essential.

Inquiries and applications should be directed to:
S. D. Acres, D.V.M., M.P.V.M., Ph.D.
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BARROW NEUROLOGICAL INSTITUTE DIVISION OF NEUROBIOLOGY

Is inviting applications for **TWO STAFF POSITIONS**. Investigative neuroscientists with a Ph.D., postdoctoral training, and experience in motor system neurophysiology are being sought. Applications from both junior and senior investigators will be considered. Particular attention will be directed toward an evaluation of the candidates' research achievements and their demonstrated or potential capability for obtaining research support. Please forward letters of application, list of references, and curriculum vitae to: **James R. Bloedel, Chairman, Division of Neurobiology, Barrow Neurological Institute, St. Joseph's Hospital and Medical Center, 350 West Thomas Road, Phoenix, Arizona 85013. St. Joseph's Hospital is an Equal Opportunity Employer.**

POSITIONS OPEN

Duke University—A **RESEARCH FELLOW** position in the Duke University Department of Psychiatry—Affective Disorders Program is available immediately. Fellows will work under the preceptorship of a senior investigator. The fellowship offers an exciting variety of learning experiences, including close contact with clinical and basic science investigators, participation in ongoing and fellow-initiated research projects, journal club, lectures, and seminars. Major clinical investigators include: Drs. Bernard Carroll, Charles Nemeroff, Dan Blazer, and Peter Loosen. PGY-4 residents or Board-eligible psychiatrists are invited to submit curriculum vitae and three letters of recommendation to: **P. T. Loosen, M.D., Duke University Medical Center, Box 3857, Durham, N.C. 27710.**

Harvard Medical School and the Dana-Farber Cancer Institute invite applications for a Sr. Faculty Position in the areas of carcinogenesis, DNA damage and DNA repair studied at the molecular level. Candidates with unusually strong records of research productivity in these areas are invited to apply. Please include a complete curriculum vitae and names of at least 3 references. Write: **Arthur B. Pardee, Dana-Farber Cancer Institute, D-810, 44 Binney Street, Boston, MA 02115.** Harvard Medical School and the Dana-Farber Cancer Institute are affirmative action/equal opportunity employers.

SENIOR RESEARCH ASSOCIATE

Position requires Ph.D. in physics with 2 years of postdoctoral training in experimental high-energy astrophysics and 2 years of experience in a top laboratory on problems of high-energy astrophysics. Requires special knowledge and competence in the design and operation of high-energy particle detectors; familiarity and experience with computers and computer software; accomplished experimental and technical skills; expertise in the general field of research in astrophysics. The job involves the design, construction, and testing of a novel experiment that is to be flown on the Space Shuttle. Preparation of the data-handling system, electronics, and analysis. Data analysis and evaluation of the scientific results. Preparation for a scheduled reflight of the instrumentation. Supervision of postdoctoral personnel, graduate students, and undergraduate students. Supervision of engineers and programmers for this and related projects. This is basically a research position which involves collaboration with graduate and undergraduate students and, hence, has some aspects of teaching. To qualify the person must have scientific stature to be eligible as co-investigator.

The position is a full-time, 40-hour week (9 a.m. to 6 p.m.) at \$24,500 per year. Please direct response with résumé to: **Illinois Job Service, 910 South Michigan Avenue, Third Floor, Chicago, Ill. 60605; attention: Dennis Doligala. Alien Certification Reference Number 090227D. An employer paid ad.**

STAFF SCIENTIST—Interdisciplinary research position combining biochemistry, analytical chemistry, and organic chemistry, particularly in regard to basic work in chromatography. This scientist will also help to develop a cooperative industrial-academic program. Salary competitive, based on qualifications. Send résumé to: **Cynthia J. Coffman, Administrative Assistant, Barnett Institute of Chemical Analysis and Materials Science, 341 Mugar Hall, Northeastern University, 360 Huntington Avenue, Boston, Mass. 02115. Northeastern is an Equal Opportunity/Affirmative Action/Title IX University.**

VETERINARY PATHOLOGIST. Board-certified or -eligible veterinary pathologist interested in an academic and research career. The position is at the level of assistant or associate professor depending on qualifications and experience and will be tenure-acruing. A strong background in clinical and morphological pathology of laboratory animals is required. The successful candidate will be responsible for operation of the department's diagnostic laboratories. Time will be divided between professional service, research, and teaching. The development of independent and collaborative research interests will be encouraged. Salary is negotiable. Please address letters of interest to: **Christian R. Abree, Chairman, Department of Comparative Medicine, University of South Alabama College of Medicine, 1040 Medical Sciences Building, Mobile, Alabama 36688.**

SYMPOSIUM

RENAL ORIGIN OF HYPERTENSION: PROGRESS OVER 50 YEARS

A symposium commemorating the production of experimental hypertension by Harry Goldblatt in 1934 will be held 8 and 9 October 1984 at Medical College of Ohio (MCO) in Toledo, Ohio. Sponsors: Department of Pathology (MCO), Case Western Reserve University, and Council for High Blood Pressure Research. Program chair: **Peter J. Goldblatt, M.D., Chairman, Pathology (MCO).** Information/brochure, contact: **Office of Continuing Medical Education, Medical College of Ohio, C.S. 10008, Toledo, Ohio 43699. Telephone: 419-381-4237.**

TRAINEESHIPS

POSTDOCTORAL AND PREDOCTORAL TRAINEESHIPS IN NUTRITION AND ONCOLOGY available immediately. Search is open-ended. Positions available in laboratories investigating basic mechanisms relating dietary components to the etiology and pathogenesis of cancer. Cooperating departments include Nutritional Sciences, Food Microbiology and Toxicology, Oncology and Human Oncology. Postdoctoral candidates (with either Ph.D., D.V.M., or M.D.) should send résumé and three references to: **Dr. J. L. Greger, Nutritional Sciences Department, 1415 Linden Drive, Madison, Wis. 53706; telephone: 608-262-2727.** Predoctoral candidates should apply to University of Wisconsin-Madison Graduate School, citing interest in this program. Applicants must be citizens or permanent residents of the United States. *An Equal Opportunity/Affirmative Action Employer.*

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP to study molecular biology and neuropathogenesis of coronaviruses. Molecular cloning will be utilized to study a novel RNA splicing mechanism and possible link to multiple sclerosis. Strong background in molecular biology or virology preferred. Send résumé to: **Dr. Michael Lai, Department of Microbiology, University of Southern California, School of Medicine, Los Angeles, California 90033.**

POSTDOCTORAL FELLOWSHIP/RESEARCH ASSOCIATE

Position available from October 1984 for 2 years to study molecular genetics of human phosphofructokinases. The research would involve synthesis of cDNA's and isolation, cloning, and characterization of normal and mutant enzyme genes. The long-term objectives are to elucidate the mechanism(s) of expression and regulation of the genes coding for the isozymes of phosphofructokinase in a number of pathophysiological states in humans. The candidate must be able to function independently. Background in molecular biology essential and that in biochemistry appreciated. Send curriculum vitae to: **Dr. S. Vora, Division of Biochemistry, Scripps Clinic and Research Foundation, 10666 North Torrey Pines Road, La Jolla, Calif. 92037. Telephone: 619-455-8097. Equal Opportunity/Affirmative Action Employer, M/F/H.**

POSTDOCTORAL FELLOWSHIP IN REPRODUCTIVE IMMUNOLOGY. Applications are invited from candidates with M.D., Ph.D., or equivalent degree to study membrane proteins and gene structure of spermatozoa. The research program includes the study of membrane and genetic expression during spermatogenesis. Applicants with interest and achievement in molecular or cellular biology preferred.

Interested individuals should send curriculum vitae and three letters of recommendation to: **Dr. Samuel S. Koide, Center for Biomedical Research, The Population Council, 1230 York Avenue, New York, N.Y. 10021.**

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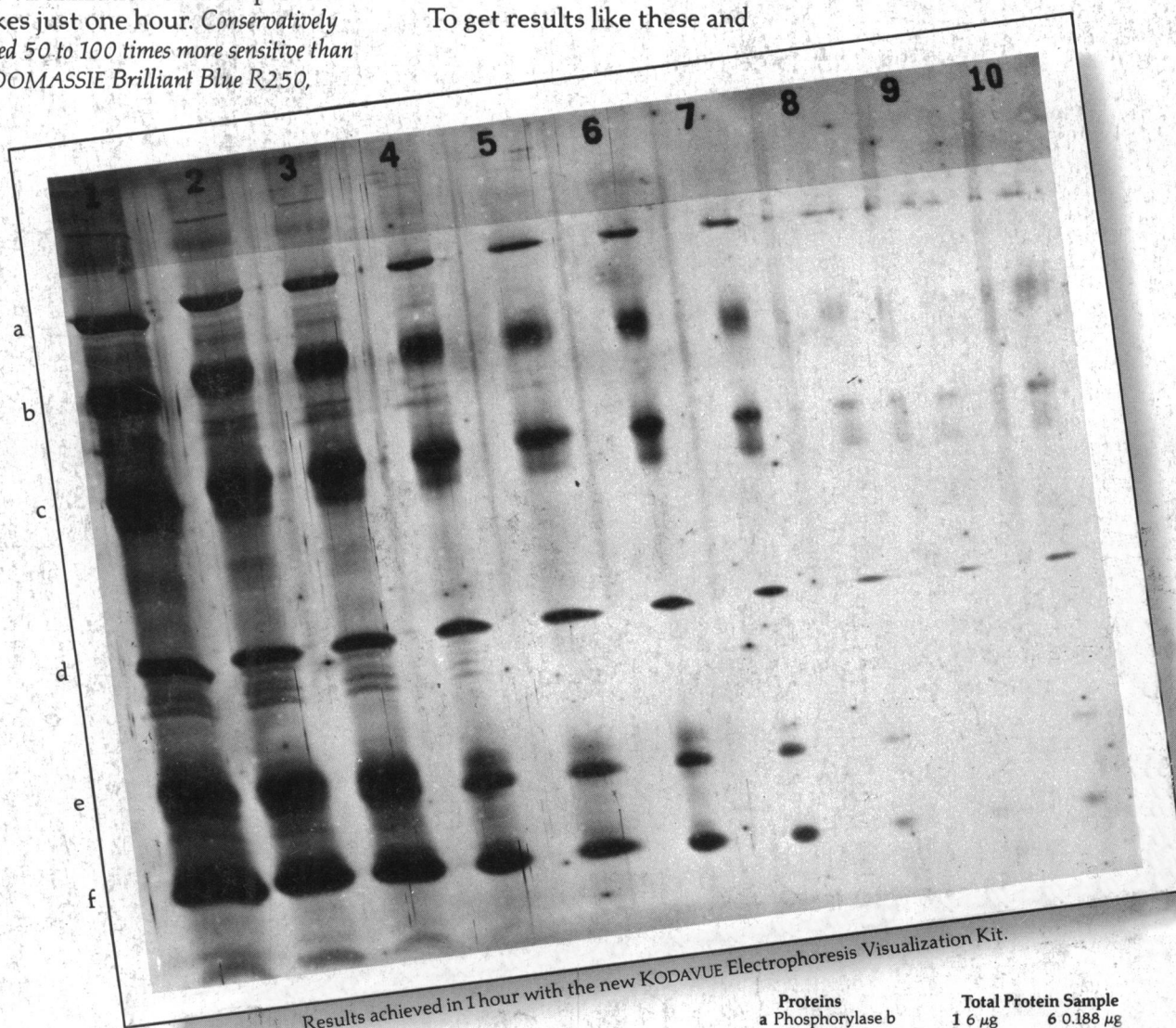
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