

Matsuda argues that abnormal metamorphosis is likely to have been induced by environmental factors (especially in new, probably stressful, environments) because environmental factors can strongly influence hormonal action, which in turn mediates gene regulation of metamorphosis. He further contends that fixation of these altered metamorphic patterns occurs through genetic assimilation, and he apparently assumes that the altered patterns resulting are adaptive in their new environments.

Consideration of environmentally induced variation aside, Matsuda's discussions of hormonally controlled changes in metamorphic patterns make it easier to conceptualize the role of gene regulation in heterochrony, and his compilation of examples is impressive. However, the great gap between Matsuda's conceptual framework, presented in the first 50 pages, and the following 250 pages of densely packed examples leaves the reader to rely on scenario, assertion, and conjecture to make the connections between his thesis and the empirical data. Although Matsuda cites much relevant literature relating ontogeny and phylogeny, he has failed to appreciate some important lessons of recent years, making his interpretations of individual examples suspect. For example, he ignores both the necessity of having a well-established phylogeny against which to map the direction of ontogenetic change and the need to assess age, developmental stage, and size independently to determine how a metamorphic pattern has been altered.

I found the relatively brief conceptual part of this book unconvincing, but the rest of the work is a gold mine of examples of heterochrony in many different animal phyla, primarily invertebrates, that will be useful for anyone interested in heterochrony and evolution.

AMY R. McCUNE

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Books Received

- Ab Initio Methods in Quantum Chemistry.** Part 2. K. P. Lawley, Ed. Wiley-Interscience, New York, 1987. x, 588 pp. \$125. Advances in Chemical Physics, vol. 69.
- Advanced Magnetic Resonance Techniques in Systems of High Molecular Complexity.** Neri Niccolai and Gianni Valensin, Eds. Birkhäuser Boston, Cambridge, MA, 1986. ii, 515 pp., illus. \$119. Progress in Inorganic Biochemistry and Biophysics, vol. 2.
- AmFAR Directory of Experimental Treatments for AIDS and ARC.** Michael Gottlieb *et al.*, Eds. Liebert, New York, 1987. x, 122 pp. Paper, \$50.
- Arguing and Thinking.** A Rhetorical Approach to Social Psychology. Michael Billig. Cambridge University Press, New York, and Editions de la Maison des Sciences de l'Homme, Paris, 1987. vi, 290 pp. \$39.50. European Monographs in Social Psychology.
- Biological Materials.** Structure, Mechanical Properties, and Modeling of Soft Tissues. Frederick H. Silver.

New York University Press, New York, 1987 (distributor, Columbia University Press, New York). xxii, 228 pp., illus. \$42.50. New York University Biomedical Engineering Series.

Biological Surveys of Estuaries and Coasts. J. M. Baker and W. J. Wolff, Eds. Cambridge University Press, New York, 1987. xx, 449 pp., illus. \$69.50. Estuarine and Brackish-Water Sciences Association Handbook.

Biologically Active Atrial Peptides. Barry M. Brenner and John H. Laragh, Eds. Raven, New York, 1987. xxviii, 626 pp., illus. \$85. American Society of Hypertension Series, vol. 1. Based on a symposium, New York, May-June 1986.

Cosmic Joy and Local Pain. Musings of a Mystic Scientist. Harold J. Morowitz. Scribner, New York, 1987. xii, 321 pp. \$18.95.

Cuneiform. C. B. F. Walker. University of California Press, Berkeley, and British Museum, London, 1987. 62 pp., illus. Paper, \$6.95. Reading the Past, vol. 3.

Decaying Lakes. Origins and Control of Cultural Eutrophication. B. Henderson-Sellers and H. R. Markland. Wiley, New York, 1987. x, 254 pp., illus. \$59.95. Principles and Techniques in the Environmental Sciences.

Diseases and Plant Population Biology. Jeremy J. Burdon. Cambridge University Press, New York, 1987. viii, 208 pp., illus. \$49.50; paper, \$19.95. Cambridge Studies in Ecology.

The Electrical Resistivity of Metals and Alloys. Paul L. Rossiter. Cambridge University Press, New York, 1987. xvi, 434 pp., illus. \$79.50.

Electronic Phenomena in Adsorption and Catalysis on Semiconductors and Dielectrics. V. F. Kiselev and O. V. Krylov. Springer-Verlag, New York, 1987. viii, 279 pp., illus. \$100.70. Springer Series in Surface Sciences, 7.

Evolution of the Lewisian and Comparable Precambrian High Grade Terrains. R. G. Park and J. Tarney, Eds. Blackwell Scientific, Palo Alto, CA, 1987. viii, 315 pp., illus. \$80. Geological Society Special Publication no. 27. From a conference, Leicester, U.K., March 1985.

Federal Biotechnology Information Resources Directory. OMEC International, Washington, DC, 1987. xii, 151 pp., Paper, \$95. Biotechnology Information Series.

Federal Biotechnology Programs Directory. OMEC International, Washington, DC, 1987. xii, 162 pp., Paper, \$95. Biotechnology Information Series.

Flow Visualization IV. Claude Vêret, Ed. Hemisphere (Harper and Row), New York, 1987. xvi, 918 pp., illus. \$14.95. From a symposium, Paris, France, Aug. 1986.

The Gulf of Alaska. Physical Environment and Biological Resources. Donald W. Hood and Steven T. Zimmerman, Eds. National Oceanic and Atmospheric Administration, Washington, DC, 1987 (available from the Superintendent of Documents, Washington, DC). xiv, 655 pp., illus. \$46.

Heidelberg Colloquium on Glassy Dynamics. (Heidelberg, F.R.G., June 1986.) J. L. van Hemmen and I. Morgenstern, Eds. Springer-Verlag, New York, 1987. viii, 576 pp., illus. \$61.10. Lecture Notes in Physics, 275.

Iron and Infection. Molecular, Physiological and Clinical Aspects. J. J. Bullen and E. Griffiths, Eds. Wiley-Interscience, New York, 1987. xii, 325 pp., illus. \$79.95.

Islamic Technology. An Illustrated History. Ahmad Y. al-Hassan and Donald R. Hill, Cambridge University Press, New York, and Unesco, Paris, 1987. xvi, 304 pp., illus. \$39.50.

Late Stages of Stellar Evolution. S. Kwok and S. R. Pottasch, Eds. Reidel, Dordrecht, 1987 (U.S. distributor, Kluwer, Norwell, MA). xviii, 426 pp., illus. \$79. Astrophysics and Space Science Library, vol. 132. From a workshop, Calgary, Alberta, June 1986.

Lectures on Topics in Probability Inequalities. M. L. Eaton. Centrum voor Wiskunde en Informatica, Center for Mathematics and Computer Science, Amsterdam, the Netherlands, 1987. vi, 197 pp. Dfl. 30.40. CWI Tract 35.

Low-Gravity Fluid Mechanics. Mathematical Theory of Capillary Phenomena. A. D. Myshkis *et al.* Springer-Verlag, New York, 1987. xx, 583 pp., illus. \$100. Translated from the Russian edition (Moscow, 1976) by R. S. Wadhwa.

Mesenchyma-Epithelial Interactions in Neural Development. Joachim R. Wolff, Jobst Sievers, and Martin Berry, Eds. Springer-Verlag, New York, 1987. xiv, 428 pp., illus. \$124.60. NATO Advanced Science Institutes Series II, vol. 5. From a workshop, Berlin, March 1986.

Microclusters. S. Sugano, Y. Nishina, and S. Ohni-

shi, Eds. Springer-Verlag, NY, 1987. x, 289 pp., illus. \$56. Springer Series in Materials Science, vol. 4. From a symposium, Hakone and Kawasaki, Japan, Oct. 1986.

The Microenvironment and Vision. Joel B. Sheffield and S. Robert Hilfer, Eds. Springer-Verlag, New York, 1987. xiv, 247 pp., illus. \$85. Cell and Developmental Biology of the Eye. Based on a symposium, Philadelphia, PA, Oct. 1985.

Modern Gas Kinetics. Theory, Experiment and Application. M. J. Pilling and I. W. M. Smith, Eds. Blackwell Scientific, Palo Alto, CA, 1987. x, 347 pp., illus. \$40.

Proceedings of the Central Hardwood Forest Conference VI. (Knoxville, TN, Feb. 1987.) Ronald L. Hay, Frank W. Woods, and Hal DeSelm, Eds. University of Tennessee Institute of Agriculture, Knoxville, 1987. vi, 526 pp., illus. \$20.

Projection, Identification, Projective Identification. Joseph Sandler, Ed. International Universities Press, Madison, CT, 1987. xii, 216 pp. \$27.50. From a conference, Jerusalem, Israel, May 1984.

Prostaglandins in Cancer Research. E. Garaci, R. Paoletti, and M. G. Santoro, Eds. Springer-Verlag, New York, 1987. xii, 288 pp., illus. \$81. Proceedings in Life Sciences. Based on a conference, Rome, Italy, June 1986.

Remote Sensing and Image Interpretation. Thomas M. Lillesand and Ralph W. Kiefer. 2nd ed. Wiley, New York, 1987. xiv, 721 pp., illus. \$52.55.

Reproductive Physiology of Marsupials. Hugh Tyndale-Biscoe and Marilyn Renfree. Cambridge University Press, New York, 1987. xiv, 476 pp., illus. \$75; paper, \$27.95. Monographs on Marsupial Biology.

Rheology of the Earth. Deformation and Flow Processes in Geophysics and Geodynamics. Giorgio Ranalli. Allen and Unwin, Winchester, MA, 1987. xviii, 366 pp., illus. \$60; paper, \$34.95.

RNA Polymerase and the Regulation of Transcription. William S. Reznikoff *et al.*, Eds. Elsevier, New York, 1987. x1, 494 pp., illus. \$95. From a symposium, Madison, WI, July 1986.

Root Development and Function. P. J. Gregory, J. V. Lake, and D. A. Rose, Eds. Cambridge University Press, New York, 1987. xiv, 206 pp., illus. \$34.50. Society for Experimental Biology Seminar Series, 30. Based on a meeting, March 1985.

The Standard Model and Beyond. W. J. Zakrzewski, Ed. Hilger, Bristol, U.K., 1987 (U.S. distributor, Taylor and Francis, Philadelphia). x, 273 pp., illus. \$43. From a school, Durham, U.K., Sept. 1986.

Supercomputers and Their Use. Christopher Lazou. Clarendon (Oxford University Press), New York, 1986. xii, 226 pp., illus. \$45. Intended for "those of the general scientific public with some interest in computers, a historical curiosity, and an appetite for learning about things of strategic importance to our life-styles," with an effort to keep technical details to a minimum.

Technology, the Economy, and Society. The American Experience. Joel Colton and Stuart Bruchey, Eds. Columbia University Press, New York, 1987. xvi, 287 pp. \$35.

The Theory of Universal Gravitational Deceleration. James Y. L. Wong. Published by the author, 3 Aberdeen, Irvine, CA, 1986. Variously paged. \$30.

Thermodynamic Properties of Air. V. V. Sychev *et al.* Theodore B. Selover, Jr., English-language edition editor. Hemisphere (Harper and Row), New York, 1987. xiv, 276 pp., illus. \$120. National Standard Reference Data Service of the USSR, vol. 6. Translated from the Russian edition (Moscow, 1978).

Thinking Machines. The Search for Artificial Intelligence. Igor Aleksander and Piers Burnett. Knopf, New York, 1987. 208 pp., illus. Paper, \$17.95.

Understanding Science Through Evolution. A Humanist Approach. Arnold M. Clark. Thomas, Springfield, IL, 1987. xvi, 148 pp. Paper, \$21.50. American Lecture Series, no. 1069.

Varieties of Constructive Mathematics. Douglas Bridges and Fred Richman. Cambridge University Press, New York, 1987. x, 149 pp. Paper, \$19.95. London Mathematical Society Lecture Note Series, 97.

Water for the Future. Water Resources Developments in Perspective. Walter O. Wunderlich and J. Egbert Prins, Eds. Balkema, Accord, MA, 1987. xiv, 703 pp., illus. \$80. From a symposium, Rome, Italy, April 1987.

What I Have Learned. Thinking About the Future Then and Now. Michael Marien and Lane Jennings, Eds. Greenwood, Westport, CT, 1987. xvi, 204 pp. \$29.95.

Wives and Midwives. Childbirth and Nutrition in Rural Malaysia. Carol Laderman. University of California Press, Berkeley, CA, 1987. xiv, 267 pp. + plates. Paper, \$9.95. Comparative Studies of Health Systems and Medical Care, vol. 7. Reprint, 1983 edition.

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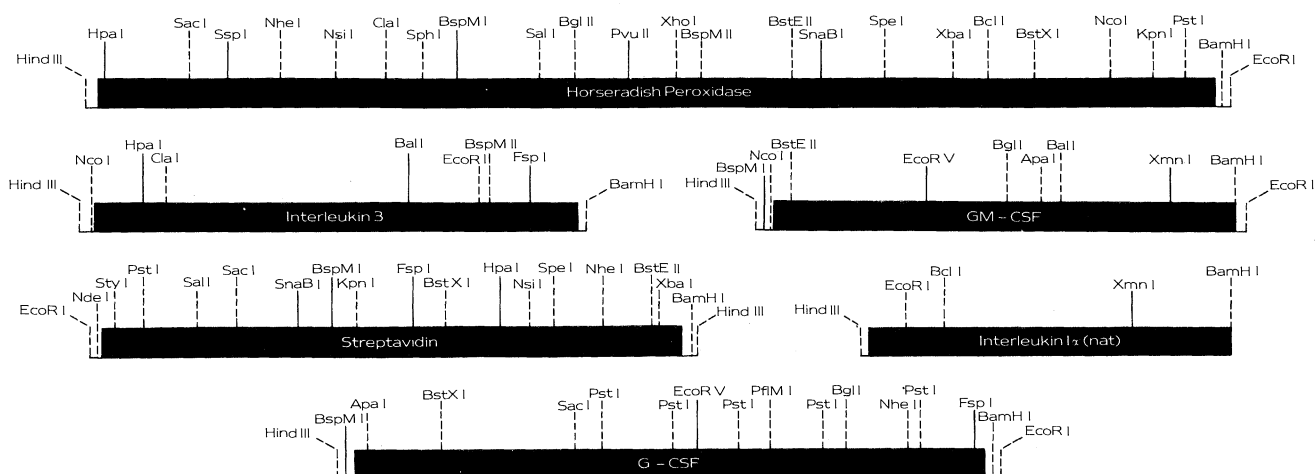
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DNA Synthesizer

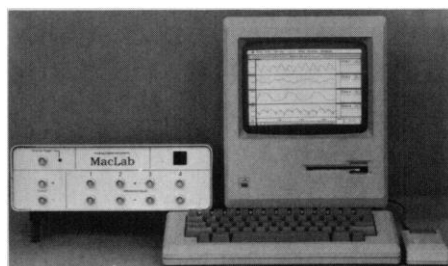
The 7500 DNA Synthesizer can routinely produce oligonucleotides longer than 100 bases. The synthesizer is based on β -cyanoethyl phosphoramidite chemistry. The machine consumes 5 to 10 mg of amidite and less than 8 ml of other reagents per cycle. All fluid paths are constructed of biocompatible and nonreactive materials. Either prepacked disposable or user-packed refillable columns

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may be used. Three independent syntheses may take place simultaneously. A voice synthesizer proofreads entered sequences. The synthesizer's self-diagnostics include a waste-level indicator, an amidite depletion detector, and a trityl monitoring system. MilliGen Division of Millipore. Circle 556.

Data Acquisition Systems

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pare waveforms, and save data for later analysis. The hardware contains four differential high-gain input amplifiers, 12-bit analog-to-digital and digital-to-analog converters, and a microprocessor with 16 kilobytes of buffer memory. Two software packages are included; Scope emulates a single-channel oscilloscope, and Chart emulates a four-channel paper chart recorder. MacLab operates with any Macintosh computer that has a free modem port. World Precision Instruments. Circle 569.

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Fortran Subroutine Libraries

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eigensystem analysis, interpolation and approximation, integration, differentiation, differential equations, transforms, nonlinear equations, optimization, and matrix and vector operations. The 170 subprograms of SFUN/LIBRARY calculate fundamental functions, trigonometric and hyperbolic functions, exponential integrals, gamma functions, error functions, Bessel functions, Kelvin functions, elliptic integrals, Weierstrass elliptic functions, and probability distribution functions and inverses. STAT/LIBRARY's 350 routines compute basic statistics, regression, correlation, analysis of variance, categorical and discrete data analysis, nonparametric statistics, tests of goodness of fit and randomness, time series analysis, factor analysis, discriminant analysis, and random number generation. The libraries operate on the IBM PC family of computers with either Microsoft FORTRAN 4.0 or IBM Professional FORTRAN 1.01, as well as many workstations, standard computers, and supercomputers. IMSL. Circle 578.

Monoclonal Antibody to Protein Kinase C

A monoclonal antibody to protein kinase C (clone MC5) is available for Western blotting and localization studies. Protein kinase C is involved in the signal transduction pathways in cells. This antibody reacts with samples from many species. Amersham International (England). Circle 559.

Literature

IR and NMR Spectral Data Structure Correlations for the Carbonyl Group provides chemical shift data for 600 compounds and demonstrates a correlation between the carbonyl stretching frequencies and the chemical shifts for the $\text{H}_3\text{C}-\text{C}=\text{O}$ and $\text{O}-\text{C}=\text{O}$ analogs within a class. Sadtler Research Laboratories. Circle 584.

Affinity Purified Antibodies and F(ab')₂ Fragments is a product brochure that describes unconjugated immunoaffinity-purified antibody molecules with specific activity directed toward a single antigen. Organon Teknika-Cappel. Circle 585.

Human Lymphocyte Subset Relationships is a wall chart that demonstrates the relations between human T cell and natural killer cell subpopulations. Becton Dickinson Immunocytometry Systems. Circle 588.

Joyce Loeb Densitometer is a four-page brochure about a scanning densitometer for quantitative evaluation of electrophoretic separations. HBI, Haake Buchler Instruments. Circle 589.

Personnel Placement

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Curriculum vitae and three letters of reference should be sent by 31 March 1988 to:

Dr. Raymond F. Novak
Chairman, Search Committee
Institute of Chemical Toxicology
Wayne State University
1072 Mackenzie Hall
Detroit, MI 48202

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Applicant should send curriculum vitae, a brief description of present and proposed research, and the names of several references to: **Dr. Robert M. Bell, Chairman, Search Committee; Section of Cell Growth, Regulation and Oncogenesis, Duke Comprehensive Cancer Center, Box 3814, Durham, NC 27710.**

To be assured of full consideration, application should be received by 28 February 1988.

Duke University is an Equal Opportunity/Affirmative Action Employer.

ASSISTANT/ASSOCIATE PROFESSOR, MOLECULAR PHARMACOLOGY/TOXICOLOGY. TENURE-TRACK POSITION: Department of Pharmacology, Southern Illinois University (SIU) School of Medicine in Springfield, IL. Ph.D. or M.D./Ph.D. degree, training in pharmacology, and postdoctoral experience are required. Assistant professors should have strong potential for fundable research programs and for effective participation in pharmacology graduate and medical courses. Associate professors should have a record of funded research, publications and teaching. Research experience in the application of molecular biology, genetics, cell biology or immunology or cardiovascular/neuropharmacology is preferred. Send curriculum vitae, representative publications, statement of research plans, and names and addresses of three references by 5 February 1988 to: **Dr. Ezio Giacobini, Professor and Chairman, Department of Pharmacology, SIU School of Medicine, P.O. Box 19230, Springfield, IL 62794-9230. Equal Opportunity/Affirmative Action Employer.**

VACANCY FOR ASSOCIATE CHIEF OF STAFF FOR EDUCATION

Experienced academic to assume responsibility for coordination of educational programs, including a combined house staff in excess of 140 residents. Programs are in two VA Medical Centers in the Tampa Bay, Florida area. This position includes academic and administrative appointments at the University of South Florida, College of Medicine in Tampa. Salary and fringe benefits are commensurate with qualifications. Please send résumé and supporting documents to:

**William E. Layden, M.D.,
Chairman**

**Associate Chief of Staff Education Search Committee
c/o Chief of Staff (11)**

**James A. Haley Veterans Hospital
13000 Bruce B. Downs Boulevard
Tampa, FL 33612**

An Equal Opportunity Employer.

BIOCHEMIST/NUTRITIONIST/PHYSIOLOGIST—Research associate position open for applicants with a master's or Ph.D. degree in a biologic science. The successful candidate will conduct and publish research investigating the role of natural and structured lipids in the amelioration of disease states using rodent models. Work entails use of isotopes, metabolic chambers and instrumentation systems to characterize treatment efficacy. Describe your experience and goals and send with curriculum vitae to: **John Palombo, Nutrition Labs, New England Deaconess Hospital/Harvard Medical School, 194 Pilgrim Road, Boston, MA 02215.**

POSITIONS OPEN

ASSISTANT OR ASSOCIATE PROFESSOR OF MEDICINAL CHEMISTRY. The Washington State University College of Pharmacy invites applications for a tenure-track annual appointment in medicinal chemistry, effective 1 July 1988. A Ph.D. in medicinal chemistry or related area is required. Postdoctoral experience is desirable. Preference will be given to candidates with a degree in pharmacy. Teaching experience at both undergraduate and graduate levels is desirable. The candidate should have a demonstrated potential for developing a creative, independent research program for appointment as an assistant professor, or an active extramurally funded program for appointment at the associate rank. Teaching duties will include participation in team-taught courses for professional pharmacy students and students in WSU's Pharmacology/Toxicology Graduate Program. Deadline for receipt of the applications is 15 March 1988 or until the position is filled. Applicants should provide curriculum vitae, the names and addresses of three references and a statement of research interests and professional goals. Contact: **Richard J. Bull, Ph.D., College of Pharmacy, Washington State University, Pullman, WA 99164-6510. Washington State University is an Equal Opportunity Employer. We encourage ethnic minorities, women, Vietnam-era or disabled veterans, persons of disability, and/or persons between the ages of 40 to 70 to apply and identify their status.**

FLORIDA INTERNATIONAL UNIVERSITY THE STATE UNIVERSITY OF FLORIDA AT MIAMI

Two biology faculty positions: (i) **BIOCHEMIST**, to teach general biochemistry and graduate courses in area of specialization; (ii) **PLANT PHYSIOLOGIST**, to teach plant physiology and graduate courses in area of specialization. Both positions are tenure-track assistant professor level, require the conduct of a vigorous research program and participation in faculty governance/student advising. Postdoctoral experience required. Apply with curriculum vitae, three letters of reference and recent publications postmarked on or before 26 February 1988 to: **Search Committee, Department of Biological Sciences, Florida International University (FIU), Miami, FL 33199. FIU is an Affirmative Action/Equal Opportunity Employer.**

BIOCHEMISTRY/MOLECULAR BIOLOGY MEHARRY MEDICAL COLLEGE

Two faculty positions are available in July 1988 in the Department of Biochemistry at the level of **ASSISTANT OR ASSOCIATE PROFESSOR** for well-trained or experienced candidates in biochemistry and molecular biology/molecular genetics. Successful applicants will be expected to develop and/or maintain a funded research program of high quality and to participate in the graduate and professional (medical, dental and allied health) school teaching programs of the Department. Applicants should send curriculum vitae, names of four individuals who may be contacted for reference, and a summary of research interests or ongoing projects to: **Ifeanyi J. Arinze, Ph.D., Chairman, Department of Biochemistry, Meharry Medical College, Nashville, TN 37208. Deadline for receipt of applications is 26 February 1988. Meharry Medical College is an Equal Opportunity/Affirmative Action Employer.**

BIOLOGY DEPARTMENT

BIOLOGIST: Tenure-track position for September 1988. Teach a majors' course in cell biology, an upper-level/graduate course in area of specialization, and participate in majors/non-majors introductory program. The successful candidate will be expected to conduct research in cellular/molecular biology, and preferably botany, and supervise undergraduate and graduate research. A Ph.D. is preferred, and college-level teaching experience is required. Applicants should send curriculum vitae, a statement of research interests and plans, plus the names, addresses, and telephone numbers of three references to: **Dr. Penelope J. Padgett, Department of Biology, Shippensburg University, Shippensburg, PA 17257. Receipt deadline for application materials is 1 March 1988.**

Shippensburg University is an Equal Opportunity/Affirmative Action Employer. Women and all minorities are encouraged to apply.

POSITIONS OPEN

BIOCHEMIST/NEUROCHEMIST: Postdoctoral position available for research on the pathogenesis of neurodegenerative disorders. Experience with protein purification and enzyme regulation required, experience with tissue culture work desirable. Starting data negotiable. Send curriculum vitae and names of three references to: **Robert Schwarcz, Ph.D., Maryland Psychiatric Research Center, P.O. Box 21247, Baltimore, MD 21228.**

BIOLOGIST. The Department of Biology and Wildlife and the Institute of Arctic Biology at the University of Alaska Fairbanks invite applications for a tenure-track position at the advanced assistant or associate professor level starting 21 August 1988. The applicant must have a Ph.D., experience and an interest in instruction at the introductory level, and a specialization in one of the following areas: cellular/molecular biology; aquatic pollution ecology; comparative animal nutrition.

Responsibilities include 75% instruction (participate in teaching introductory biology, develop courses in area of specialty, and advise undergraduate and graduate students) and 25% research (develop program and funding in specialty area). Please send by 1 February 1988, curriculum vitae, statement of teaching and research interest, copies of transcripts, and at least three letters of reference to: **R. L. Smith, Department of Biology and Wildlife, University of Alaska Fairbanks, Fairbanks, AK 99775. The University of Alaska is an Equal Opportunity/Affirmative Action Employer.**

BIOLOGY—ASSISTANT PROFESSOR molecular biologist, Ph.D., beginning September 1988. Primary teaching responsibility in undergraduate microbiology, molecular genetics, and biochemistry/microbiology laboratories; also to share teaching of general education introductory biology and biochemistry/molecular biology courses. Appointment renewable annually for maximum of 7 years. Generous fringe benefits. Strong commitment to liberal arts and undergraduate teaching required. Applications, résumés, transcripts, and three reference letters to: **Leonard DiLillo, Dean, Centre College, Danville, KY 40422. An Equal Opportunity Employer.**

THE UNIVERSITY OF WESTERN AUSTRALIA PERTH CHAIR IN GEOGRAPHY

Applications are invited for appointment to the Chair in Geography at The University of Western Australia vacant as a result of the retirement of **Professor M. J. Webb.**

The University is seeking to appoint a scholar of the highest academic standing with an appropriate level of qualifications including a substantial research background coupled with administrative experience and demonstrated strengths in academic leadership. Teaching experience at both undergraduate and postgraduate levels is also considered to be essential for the appointment.

The current salary for a professor is \$A58870 per annum. Superannuation, fares to Perth for appointee and dependent family, removal allowance, study leave and long service leave (after qualifying periods) and eligibility for interstate travel grants apply to the appointment. Further information (including the conditions governing the appointment and a detailed statement prepared by the Department) may be obtained from **Mr. Brian Cleary, Telephone: (09) 380-3007/3009** or from the Head of the Department of Geography, **Mr. David Scott, Telephone: (09) 380-2696/2712.**

Applications in duplicate stating full personal particulars (including work and home addresses and telephone numbers), qualifications, experience and the names and addresses of three referees should reach the: **Assistant Registrar (Staffing), The University of Western Australia, Nedlands, Western Australia, 6009** by 18 March 1988. The University reserves the right to make no appointment or to fill the Chair by invitation.

Equal Employment Opportunity is University Policy.

DEVELOPMENTAL BIOLOGIST. Entry level. Tenure-track. Recent Ph.D. Liberal arts college. Courses: embryology, comparative anatomy, evolution, beginning biology courses. Beginning September 1988. Departmental information available on request. Send complete credentials to: **Arthur A. Johnson, Chairman, Department of Biology, Hendrix College, Conway, AR 72032. An Equal Opportunity Employer.**

POSITIONS OPEN

CELL BIOLOGIST—PLANT PHYSIOLOGIST—MICROBIOLOGIST. Marietta College, a small 4-year, liberal arts college, is seeking to fill this tenure-track position at the assistant professor level, beginning August 1988. Ph.D. required with primary interest in teaching, but also a desire to carry on research with students. Principal duties include teaching cell biology, plant physiology, microbiology, and general biology. Review of applications will begin on 1 February 1988. Send résumé and three letters of reference to: **Dr. Peter E. Hogan, Chair, Biology Department, Marietta College, Marietta, OH 45750.** *Marietta College is an Affirmative Action/Equal Opportunity Employer.*

COGNITIVE NEUROSCIENTIST

The University of Oklahoma Department of Psychology invites applications for a tenure-track assistant professor position. Duties begin fall 1988, and include teaching undergraduate and doctoral students, and development of a strong program of independent research. A doctoral degree is essential and postdoctoral experience is desirable. Evidence of research productivity and promise of external funding should be apparent. Candidates that take a biochemical, physiological, endocrinological, or evolutionary approach to their research are especially encouraged to apply. In the event that a suitable cognitive neuroscientist cannot be found, cognitive scientists without a biological background, and biopsychologists without a specialty in cognition will be considered. Search closes 15 February 1988. Applicants should submit curriculum vitae, representative reprints, a general statement of research interests, and three letters of reference to: **W. Alan Nicewander, Chair, Department of Psychology, University of Oklahoma, Norman, OK 73019.**

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

DIRECTOR— LIMNOLOGICAL RESEARCH CENTER UNIVERSITY OF MINNESOTA

As a consequence of the retirement of Professor Herbert Wright as Director of the Limnological Research Center (LRC), the School of Earth Sciences of the University of Minnesota is searching for a new Director of the LRC. The LRC is an interdisciplinary center engaged in the study of lakes worldwide. Research in the center encompasses the full range of lake studies. We seek a new director who can maintain and expand a highly successful program based upon external funding. The Director will be a full-time faculty member at the professorial rank in the Department of Geology and Geophysics with appropriate responsibilities for direction of graduate students and teaching. The field of specialization of the new director is open, although preference will be given to applicants with interest in the geological or paleoecological aspects of limnology. Minimum qualifications are 8 years of experience beyond the Ph.D. Send curriculum vitae and names of five referees to: **G. H. Shaw, LRC Search Committee Chair, Department of Geology and Geophysics, University of Minnesota, 310 Pillsbury Drive SE, Minneapolis, MN 55455.** Deadline for applications is 15 April 1988. *The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.*

ECOLOGY AND EVOLUTION

The Ecology and Evolution Group seeks an **ASSISTANT OR TENURED ASSOCIATE PROFESSOR** commencing September 1988 or as soon thereafter as possible. The appointee must have a strong record of research productivity and grant funding, and will contribute to the undergraduate and graduate teaching program. The appointee's area will be plant population or evolutionary biology. Salary and setup funds will be commensurate with rank and experience. Send curriculum vitae, research and teaching interests, and names of at least three referees to: **Sidney B. Simpson, Jr., Head, Department of Biological Sciences (MC 066), University of Illinois at Chicago, Box 4348, Chicago, IL 60680.** Closing date 15 March 1988. Appointment depends on availability of funds. *The University of Illinois at Chicago is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

DIRECTOR INTERDISCIPLINARY CENTER FOR BIOTECHNOLOGY RESEARCH THE UNIVERSITY OF FLORIDA

The University of Florida is seeking applicants for the position of Director of the Interdisciplinary Center for Biotechnology Research. The Center was founded in May 1987 to foster research and development in the molecular life sciences, and is funded by a special legislative initiative. The Director will coordinate all biotechnology activities at the University of Florida.

We invite nominations of, or applications from, individuals with an earned doctorate and a strong record of achievement in scholarship and research.

Applicants should provide curriculum vitae, a brief description of current activities, and three letters of reference to:

**Roxanna M. Bruce
Office of the Vice President for Research
223 Grinter Hall
University of Florida
Gainesville, FL 32611**

The closing date for applications is Friday, 1 April 1988.

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

DIRECTOR OF CLINICAL RESEARCH IN SUBSTANCE ABUSE

The Department of Psychiatry of the School of Medicine, University of California, San Francisco and the San Francisco Veterans Administration Medical Center (SFVAMC) are seeking a director of clinical research in substance abuse for the Psychiatry Service at the SFVAMC. The substance abuse services at the SFVAMC include a 20-bed inpatient unit, a 150-patient methadone maintenance clinic, and a 100-patient alcohol outpatient clinic. The incumbent will be responsible for the development and coordination of clinical research activities which are centered on these units. The position will be at either the associate professor or professor level and will be available on 1 July 1988. The incumbent will play a major role in Department of Psychiatry programs in substance abuse at its various sites. Once this position is filled, the incumbent will play a major role in recruitment of a junior colleague at the SFVAMC.

The ideal candidate would be a Board-Certified Psychiatrist, with a record of clinical research in the biological aspects of substance abuse; the capacity for skilled clinical and educational leadership of medical students, residents, and fellows; and a demonstrated ability in administering a clinical research program. Eligibility for California Licensure is required. Applications must be received by 1 March 1988. Please send résumé to: **Lawrence Tierney, M.D., Search Committee Chair, Medical Service (111A), Veterans Administration Medical Center, 4150 Clement Street, San Francisco, CA 94121.** *UCSF and the SFVAMC are Equal Opportunity/Affirmative Action Employers. Women and minorities are encouraged to apply.*

The Department of Pathology, New York State College of Veterinary Medicine, seeks an **EXPERIMENTAL PATHOLOGIST** to be appointed within the section of clinical pathology. The successful candidate will be expected to emphasize development of a strong, independent research program in an area appropriate to the section, such as the biochemical pathogenesis of disease, to assist in the professional teaching program and to contribute to the service responsibilities of the section in an area appropriate to his/her expertise. D.V.M., Ph.D. or equivalent degree, and appropriate research training and experience essential. Position available 1 September 1988.

Appointment will be at the assistant, associate, or full professorial level. Rank and salary will be commensurate with background and experience. Informal initial enquiries are invited. Applicants should send curriculum vitae, five letters of reference, and a statement of research and career goals to: **Barry J. Cooper, B.V.Sc., Chairman, Clinical Pathology Search Committee, Department of Pathology, Box 60, New York State College of Veterinary Medicine, Cornell University, Ithaca, NY 14853-6401.** Telephone: 607-253-3350.

Cornell University is an Equal Opportunity/Affirmative Action Employer/Educator.

POSITIONS OPEN

The University of Mississippi Department of Biology invites applications for two tenure-track positions and one temporary 1-year position to begin August 1988. Rank and salary open, depending on qualifications. Successful candidates will be expected to teach undergraduate courses as well as graduate courses in their specialties. Those in the tenure-track positions will be expected to establish extramurally funded research programs. Ph.D. and publications required; postdoctoral experience preferred.

ECOLOGIST/ICHTHYOLOGIST. Teaching responsibilities will include general ecology, fish biology, and general biology.

VERTEBRATE PHYSIOLOGIST. Teaching responsibilities will include introductory mammalian physiology, human anatomy and physiology, and general biology.

CELLULAR BIOLOGIST/IMMUNOLOGIST (TEMPORARY). Teaching responsibilities will include immunology, molecular biology, and general biology.

The department consists of 18 faculty, and offers a variety of research programs leading to the M.S. and Ph.D. degrees. A current departmental focus is the development of a strong aquatic biology research program. Submit letter of application, curriculum vitae, transcripts, and three letters of recommendation by 15 March 1988 to: **Dr. Craig A. Busack, Biology Search Committee, Department of Biology, University of Mississippi, University, MS 38677.**

The University of Mississippi is an Equal Opportunity Employer.

ECOSYSTEMS ECOLOGIST. Assistant professor, tenure-track position available August 1988. Teaching in environmental studies and specialty area. Active terrestrial or aquatic research program development expected. Suitable specialties include ecosystems modeling, nutrient cycling or trophic-level interactions. Ph.D. required. Environmental studies teaching experience and/or postdoctoral research experience preferred. Send curriculum vitae, reprints, statement of goals, and three letters of recommendation by 15 February 1988 to: **Dr. Frank deNoyelles, Director, Environmental Studies Program, 6012 Haworth Hall, The University of Kansas, Lawrence, KS 66045.** *Equal Opportunity Employer/Affirmative Action.*

FACULTY POSITION—TASTE AND NUTRITION. Full-time research position for a psychology Ph.D. with at least 1 year of postdoctoral research experience in oral and/or peripheral (especially hepatic) controls of feeding. Expertise in cephalic-phase reflexes or autonomic innervation and feeding would be valuable. Salary, approximately \$30,000. Send curriculum vitae to: **Order no. 4159506, Philadelphia Job Bank, 444 North 3rd Street, Philadelphia, PA 19123.**

THE UNIVERSITY OF CALGARY FACULTY POSITIONS IN IMMUNOLOGY

The Immunological Sciences Research Group of The University of Calgary invites applications for faculty positions at the assistant professor level, or higher. Well qualified candidates will be eligible to apply for salary and establishment support by competitive application to the Alberta Heritage Foundation for Medical Research. Establishment support will cover the cost of setting up a new laboratory with major/minor equipment and operating funds for an initial 2-year period. Successful candidates will be expected to develop an independent research program in molecular or cellular immunology. Applicants require an M.D. and/or Ph.D. and research training at the postdoctoral level. Remuneration will be based on salary scales at The University of Calgary. Successful applicants will be expected to devote approximately 75% of their time to research and the remaining 25% to related activities including teaching. All suitable candidates are encouraged to apply.

In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada.

Interested candidates should submit their curriculum vitae, names of three references, and a letter stating their aims and research interests by 1 August 1988 to: **Dr. Dean Befus, Chairman, Immunological Sciences Research Group, The University of Calgary, Health Sciences Centre, 3330 Hospital Drive N.W., Calgary, Alberta T2N 4N1, Canada.**

TENURE-TRACK FACULTY POSITION IN MARINE SCIENCE

The University of Alaska-Fairbanks, Institute of Marine Science is seeking applicants for a tenure-track faculty position in the general area of paleoceanography. The appointment will be with the Institute of Marine Science in the School of Fisheries and Ocean Sciences, and will involve research and graduate-level instruction and supervision. The Institute of Marine Science has a dynamic group of 22 faculty from various disciplines and about 35 graduate students. It is involved in a variety of research activities in arctic and subarctic seas. Many of these are multidisciplinary, and we wish to fill the position with a person committed to collaborative work with ongoing and future programs.

We are seeking applicants who have clearly demonstrated expertise in applying their specialty to larger questions surrounding physical, geochemical and biological evolution of the deep oceans and continental margins. The successful applicant will be responsible for initiating, developing and executing an active research program relating to the marine stratigraphic history of the subarctic and arctic seas of Alaska.

Candidates must possess a Ph.D. in an appropriate discipline. We expect to fill this position at the Assistant Professor level, although a more senior appointment may be possible, depending on the applicant's credentials.

Applications must be received by March 1, 1988. Applicants should send a statement of interest, a curriculum vitae and the names and addresses of three references to:

Dr. Sathy Naidu, chair
Search Committee
c/o Director's Office
Institute of Marine Science
University of Alaska
Fairbanks, Alaska 99775-1080

The University of Alaska is an EO/AA employer and educational institution. Your application for employment with the University of Alaska may be subject to public disclosure if you are selected as a finalist.

NATIONAL SCIENCE FOUNDATION (NSF)

NSF's Office of College Science Instrumentation (proposed change in organizational title: Office of Undergraduate Science, Engineering and Mathematics Education) is seeking qualified candidates for three positions: (1) **Program Director, mathematics**, (2) **Program Director, biology** and (3) **Program Director, chemistry**. These positions are excepted from the competitive civil service and will be filled on a permanent, rotator, or temporary basis, in early 1988. The salary range is from \$45,763 to \$72,500 per annum.

The Program Director is assigned a program with responsibility for providing leadership in undergraduate education in his/her respective discipline; and must possess sufficient teaching experience to decide whether a proposed project is likely to meet the needs of students and faculty.

Applicants must have a Ph.D. or equivalent experience in mathematics, biology or chemistry. In addition, 6 or more years of successful experience as a science faculty member involved in teaching and research, and/or managerial experience is required.

Applicants should send resume or SF-171, Application for Federal Employment to: **National Science Foundation, Division of Personnel and Management, 1800 G St., NW., Washington, DC 20550. Attn: Catherine Handle.** For further information call 202/357-9529. Hearing impaired individuals should call TDD 202/357-7492. NSF is an Equal Opportunity Employer.



THE GRADUATE HOSPITAL
RESEARCH PROGRAM
Philadelphia, PA

Hulda and George McKay Research Fellowships

The Graduate Hospital of Philadelphia, Pennsylvania announces a call for nominations for the Hulda and George McKay Research Fellowships. Two Fellows will be appointed for two-year terms beginning July 1, 1988. The purpose of the Hulda and George McKay Fellowship is to provide young investigators who recently have completed their postdoctoral training the opportunity to continue research of interest to them and concomitantly of interest to The Graduate Hospital Research Program. Areas of interest include:

- Mucosal Defense Mechanisms
- Neuropharmacology
- Pulmonary Pathology
- Regulation of Connective Tissue Synthesis
- Tumor Immunology
- Vascular Smooth Muscle Regulation and Alterations in Hypertension

Letters of nomination together with the nominee's curriculum vitae may be submitted by February 12, 1988 to:

Robert F. Lovelace, *Director*, Research Administration, The Graduate Hospital, One Graduate Plaza, Philadelphia, PA 19146.

The Graduate Hospital is an Equal Opportunity/Affirmative Action Employer.

RESEARCH OPPORTUNITIES IN CANCER THERAPEUTICS

The Dow Chemical Company, in Midland, Michigan, is a recognized world leader in the chemical industry. Expanded research efforts in the area of cancer therapeutics and immunotherapy have created an immediate need within the Biotechnology Laboratory in the Central Research Department for qualified researchers in the area of

HYBRIDOMA TECHNOLOGY

The successful candidate will have a Ph.D. in immunology, microbiology or a related discipline and experience in hybridoma technology. Familiarity with state-of-the-art discovery of monoclonals, immunoassays and immunochemistry is desired. Research efforts will be directed toward obtaining novel antibody specificities for our biotechnology-based cancer therapeutic program. The above candidates must also possess strong communication skills and a desire to carry out independent research while functioning as part of an interdisciplinary research team.

The Dow Chemical Company offers a stimulating work environment and a competitive salary and benefits package.

Send resume to:
Technical Recruiting
Department H-2
P.O. Box 1655
Midland, MI 48641-1655



The Dow Chemical Company is an Equal Opportunity Employer

POSITIONS OPEN

FACULTY POSITION. The Department of Biology at Viterbo College invites applications for a tenure-track position at the assistant professor (Ph.D.) level. The successful candidate should have experience in teaching microbiology, biochemistry, and immunology. The position will remain open until filled. Application, including curriculum vitae, three letters of reference, copies of undergraduate and graduate transcripts, and a one-page statement of teaching and research interests should be sent to: **Dr. Linda Malick, Chairperson, Department of Biology, Viterbo College, 815 South 9th Street, La Crosse, WI 54601. An Equal Opportunity/Affirmative Action Employer.**

SETON HALL UNIVERSITY, FACULTY POSITION, BIOCHEMISTRY

The Chemistry Department of Seton Hall University invites applications at the assistant professor level for a tenure-track position, starting in September 1988. The successful candidate will teach at the graduate and undergraduate levels and direct biochemical research with B.S., M.S. and Ph.D. candidates. All areas of biochemistry which complement the research areas of our faculty will be considered, but preference will be given to applicants whose research emphasizes chemical approaches to metabolic or nucleic acid biochemistry.

Send résumé and three letters of recommendation, with a brief description of future research plans on or before 16 February 1988 to:

Biochemistry Faculty Search Committee, Chemistry Department, Seton Hall University, 400 South Orange Avenue, South Orange, NJ 07079. An Equal Opportunity/Affirmative Action Employer.

The Department of Physiology and Biophysics at the University of Illinois College of Medicine at Chicago, is seeking candidates for new **FACULTY POSITIONS**. Applicants must have a doctoral degree, and several years of postdoctoral experience, and should be prepared to carry out independent research and to participate in the teaching activities of the department. We will consider applicants in any area of physiology or biophysics, but will give preference to people who are studying molecular and cellular bases of organ-system function. Applicants must be able to teach mammalian physiology to graduate and health professional students, and to develop an advanced graduate level course in their area of interest. Applicants should send their curriculum vitae and bibliography, reprints of several recent papers, a statement of current research interests, and the names of three references to **Dr. John Solaro, c/o Business Manager, Department of Physiology and Biophysics, M/C 901, University of Illinois College of Medicine at Chicago, P.O. Box 6698, Chicago, IL 60680. The University of Illinois is an Equal Opportunity/Affirmative Action Employer.**

EASTERN CONNECTICUT STATE UNIVERSITY (ECSU) FULL-TIME FACULTY TENURE-TRACK POSITION AVAILABLE FALL 1988

Eastern is a comprehensive university serving more than 4000 full- and part-time students. The academic priorities of the institution emphasize quality undergraduate education, the liberal arts throughout the curriculum and a commitment to experiential learning. Eastern is aggressively recruiting qualified female and minority applicants for this position in an effort to bring greater diversity to its work force and community. Salary and fringe benefits are competitive. Send letter of application, résumé, three letters of reference, official transcripts, and salary history to the appropriate individual at **ECSU, 83 Windham Street, Willimantic, CT 06226-2295. The following position is available.**

ASSISTANT OR ASSOCIATE PROFESSOR IN ASTRONOMY AND PHYSICS. Ph.D. in either field preferred. Breadth of knowledge in the physical sciences and professional experiences that would facilitate design and teaching of interdisciplinary courses are desirable.

Eastern has a Spitz A-4 housed in a 9-meter dome, and offers programs to campus and community groups. Seven small telescopes available, placing emphasis on student participation in observation rather than research. Candidate expected to use planetarium for both teaching and public presentations. Ability to integrate microcomputers into coursework desirable. Respond to: **Timothy Swanson** by 1 February 1988.

Eastern Connecticut State University is an Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

FRESHWATER FISHERIES BIOLOGIST: Los Angeles Department of Water and Power invites applications for full-time position (1-year contractual basis—renewable annually) as a fisheries biologist. Candidates will participate in work involving preparation, evaluation, and analysis of biological and environmental studies related to Mono Basin stream and lake ecosystems. Applicants should have an advanced degree in biology with emphasis in fisheries biology. A B.S. in biology and strong work experience in instream flow studies with IFIM applications will be considered. Good oral and written communication skills needed; applicable work experience desirable. Approximate salary: \$30,000. Send résumé to: **Susan Nakagawa, Los Angeles Department of Water and Power, P.O. Box 111, Room 1466, Los Angeles, CA 90051** by 15 February 1988. Telephone: 213-482-7006.

GENERAL MILLS LAND-GRANT CHAIR IN CEREAL CHEMISTRY AND TECHNOLOGY. Tenured faculty appointment at rank of associate professor or professor. Must have Ph.D. in food science, biochemistry, chemistry, or related field. Involves teaching and basic research in relationship of cereal grain components to functionality in foods.

Application deadline 1 March 1988 to: **Joseph J. Warthesen, Chairperson, Cereal Chair Search Committee, Department of Food Science and Nutrition, University of Minnesota, 1334 Eckles Avenue, St. Paul, MN 55108. Telephone: 612-624-3224.** Application includes curriculum vitae and names and addresses of at least three references.

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

GRADUATE RESEARCH ASSISTANTSHIPS for Ph.D. candidates in biochemistry, chemistry, and biotechnology in dynamic, growing department with emphasis on interdisciplinary programs: enzymology, genetics of lignin degradation; spectroscopic and kinetic studies of metalloproteins; organic synthesis using enzymes and organometallics; electron transfer in membrane systems; molecular biology, physiology of plants and fungi. Stipends of \$9,000 with tuition waiver. **Department of Chemical and Biological Sciences, Oregon Graduate Center, Beaverton, OR 97006-1999.**

MOLECULAR BIOLOGIST LABORATORY FOR CELL, MOLECULAR, AND DEVELOPMENTAL BIOLOGY UNIVERSITY OF ILLINOIS AT CHICAGO

The Department of Biological Sciences of the University of Illinois at Chicago seeks a senior molecular biologist to join the Laboratory for Cell, Molecular and Developmental Biology. The appointment will be at the rank of full professor with tenure. The appointee will coordinate current programs and ongoing development of the Laboratory.

The Laboratory for Cell, Molecular, and Developmental Biology (LCMDB), was established to consolidate research and training programs in modern cellular, molecular, and developmental biology, and represents one facet of a campus-wide commitment to foster excellence in the areas of molecular biology and biotechnology. Permanent funding exists for LCMDB support staff, graduate fellowships, postdoctoral fellowships, new equipment, and facilities. Salary lines for the recruitment of junior faculty are also available.

The candidate should have a Ph.D. degree, currently hold the rank of associate or full professor (or equivalent), have an exceptional and ongoing record of research accomplishment, and be recognized as a leader in his or her field. Specific research specialty is open, but should be in an area central to molecular biology and/or molecular genetics.

The position will be available 1 July 1988. Salary is competitive. Applicants should submit curriculum vitae and the names of three references. Applications, nominations or inquiries should be directed to: **Dr. Brian Nichols, Senior Molecular Biologist Search Committee, Department of Biological Sciences m/c 067, University of Illinois at Chicago, P.O. Box 4348, Chicago, IL 60680. Telephone: 312-996-5064.**

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

POSITIONS OPEN

HERPETOLOGIST / ETHOLOGIST—Tenure track position in fall 1988 for assistant or associate professor. Candidates must have Ph.D. with research abilities (as evidenced by publications) involving ecologically oriented animal behavior and herpetology that complement current faculty interests in ecology, evolutionary biology, and physiology. Preference given to those conducting experimental, field-based research and/or using quantitative techniques. Museum collection experience desirable. Teaching includes herpetology and graduate-level offering in behavior. Send curriculum vitae, four recommendation letters, reprints, and description of research interests by 1 March 1988 to: **James N. Thompson, Jr., Chair, Department of Zoology, University of Oklahoma, Norman, OK 73019. Equal Opportunity/Affirmative Action Employer.**

INVERTEBRATE ZOOLOGY—Indiana University Southeast seeks applications from qualified Ph.D.'s with a specialty in invertebrate zoology for a tenure-track position at the assistant professor level. Teaching responsibilities include: invertebrate zoology, entomology, and other biology courses, and develop laboratories in the invertebrate biology courses. Candidates must demonstrate strong potential for research within their specialty. Submit curriculum vitae, three letters of reference, a statement of current and previous research, and official transcripts to: **Personnel Department, LB002, Indiana University Southeast, New Albany, IN 47150. Attention: Dr. C. M. Christenson, Chair, Invertebrate Biologist Search Committee. Indiana University is an Affirmative Action/Equal Opportunity Employer. Application deadline: 1 March 1988.**

MOLECULAR BIOLOGIST

Growing Rockville, Maryland biotechnology company in suburban Washington, D.C. seeks a Ph.D. with experience in molecular genetics/recombinant DNA. Familiarity with recombinant DNA techniques, including hybridization, Southern blotting, construction of genomic libraries and gene mapping is required. Competitive salary and benefits. Please forward résumé with salary requirements, references and a statement of availability in confidence to:

**Personnel Department—MM
Biotech Research Laboratories, Inc.
1600 East Gude Drive
Rockville, MD 20850**

Equal Opportunity Employer/Affirmative Action Employer

MOLECULAR BIOLOGIST

Applications are invited for an assistant professor in molecular biology at the Veterinary Research Laboratory (VRL) for appointment in the summer of 1988. This is a tenure-track, 100% research position (12-month appointment) in the area of infectious diseases of livestock supported by a full-time research technician and start up money. Salary will be \$35,000 to \$41,000 per year based on qualifications of the successful applicant.

Required qualifications: Ph.D., experience in preparation of genomic DNA/cDNA libraries, DNA recombination, DNA cloning, and gene expression. A willingness to undertake research on the molecular biology of bacterial and other disease agents of livestock is essential. The successful applicant will be expected to collaborate with bacteriologists, immunologists, and parasitologists at the Veterinary Research Laboratory. Interested applicants should send letter of application, curriculum vitae and the names and addresses of three references to: **Donald E. Burgess, Ph.D., Veterinary Research Laboratory, Montana State University, Bozeman, MT 59717.** Screening of applicants will begin 8 April 1988. *MSU is an Affirmative Action/Equal Opportunity Employer.*

MOLECULAR/GENETICS—Indiana University Southeast seeks applications from qualified Ph.D.'s with a specialty in molecular biology/genetics for a tenure-track position at the assistant professor level. Teaching responsibilities include: molecular biology, cell biology, genetics, and developing laboratories in each. Candidates must demonstrate strong potential for research within their specialty. Submit curriculum vitae, three letters of reference, a statement of current and previous research, and official transcripts to: **Personnel Department, LB002, Indiana University Southeast, New Albany, IN 47150. Attention: Dr. C. M. Christenson, Chair, Molecular/Genetics Search Committee. Indiana University is an Affirmative Action/Equal Opportunity Employer. Application deadline: 1 March 1988.**

**PUBLIC HEALTH SERVICE
NATIONAL INSTITUTES
OF HEALTH**

**NATIONAL CANCER INSTITUTE
An Intramural Research
Scientist Vacancy
Chief,
Laboratory for Nutrition
and Cancer Research
Division of Cancer
Prevention and Control**

The National Cancer Institute develops the overall national strategy against cancer, coordinates Federal government and non-Federal government cancer programs, and supports international programs of cancer research. The incumbent of this position serves as the Chief, Laboratory for Nutrition and Cancer Research in the Cancer Prevention Research Program, Division of Cancer Prevention and Control. The Laboratory Chief plans, develops, implements and coordinates the NCI's programs in research on diet and nutrition as they relate to the prevention of cancer in humans. The program includes three major areas of study requiring an interdisciplinary approach to both basic and applied research. Investigations are to be conducted in 1) Basic science pertaining to nutrition, 2) Nutritional epidemiology, and 3) Clinical/metabolic research in humans. The Chief directly supervises and assumes responsibility for this multidisciplinary nutrition research program. Each of the three major research areas could have four or more Sections and a total staff of 60 or more full-time individuals when fully operational.

This is a Civil Service position at the GM-15 level with a salary range from \$53,830 to \$69,976 per annum and requires a doctoral degree or equivalent. In addition, candidates with an M.D. degree may be eligible for a Physician's Comparability Allowance up to \$20,000 per year. (Candidates alternatively may be eligible for appointment in the Commissioned Corps of the U.S. Public Health Service.)

In addition, it is desirable that candidates demonstrate professional/technical and managerial/executive qualifications. Candidates will be reviewed to determine the extent to which they exceed the minimum requirements and possess additional factors including scientific reputation/peer recognition, training and education and honors and awards. A copy of the requirements may be obtained by contacting Ms. Nancy Saltzman in the Personnel Management Branch, NCI at (301) 496-6864.

Applications for Federal Employment (SF-171) are to be sent to the above individual at: The National Cancer Institute, 9000 Rockville Pike, Building 31, Room 3A23, Bethesda, Maryland 20892-3100. A current curriculum vitae and bibliography must accompany all applications, which must be received by February 1, 1988. Applications from women and/or minority group members are especially solicited. U.S. Citizenship is required.

THE NATIONAL INSTITUTES OF HEALTH
IS AN EQUAL OPPORTUNITY EMPLOYER

**PLANT CELLULAR AND
MOLECULAR BIOLOGY**

We are seeking an innovative and strongly motivated scientist to join on-going research on legume plant transformation and regeneration. Qualified applicants should possess the following:

- Ph.D. in Cell or Molecular Biology, Genetics or related field
- Research background in one or both of the following areas: Plant Cell Biology & Tissue Culture; Molecular Biology
- A record of scientific achievement including original publications
- A deep interest in exploring cellular and molecular parameters affecting gene transfer into plants
- Willingness to work at the bench and interact with interdisciplinary team

Calgene is a leading plant biotechnology company located in Davis, California. We offer an excellent compensation package as well as a progressive research environment and growth potential. For consideration, send resume and cover letter to: **Calgene, Inc., File P500, 1920 Fifth Street, Davis, CA 95616.** EOE

CALGENE



ANNOUNCING POSTDOCTORAL
& SENIOR RESEARCH
ASSOCIATESHIP AWARDS FOR

PHD SCIENTISTS

at the U.S. Army Medical Research
Institute of Chemical Defense

Unique opportunities are available for independent research in the fields of:

- BASIC PHARMACOLOGY
- BIOCHEMISTRY
- NEUROTOXICOLOGY
- CORRELATIVE NEUROANATOMY
- ELECTROPHYSIOLOGY



The National Research Council in cooperation with the U.S. Army Medical Research Institute of Chemical Defense will offer competitive research awards in 1988 for independent scientific research. Recipients will be free to work on problems of their own choice as guest investigators at USAMRICD. The program is open to U.S. citizens who are senior scientists as well as recent Ph.D. graduates. Stipends will begin at \$30,000 for recent graduates and will be appropriately higher for seniors. Relocation reimbursement and funds for professional travel on tenure are available, and a health insurance program is offered.

For further information and application materials please write to:

Associateship Programs (GF1-424/AM1)
NATIONAL RESEARCH COUNCIL
2101 Constitution Avenue, N.W.
Washington, D.C. 20418

Application deadlines are April 15, 1988,
Aug. 15, 1988 and Jan. 15, 1989.

NEUROBIOLOGY POSTDOCTORAL PROGRAM

G.D. Searle - Washington University

G.D. Searle is a worldwide leader in the pharmaceutical industry. Neuroscientists at the G.D. Searle facilities in St. Louis (Chesterfield), Missouri and Chicago (Skokie), Illinois enjoy close interaction with the staff at Washington University in a number of exciting new areas of neurobiological research. Several openings are available for postdoctoral fellows to work with Searle and Washington University scientists in this interactive atmosphere.

The areas of research activity and/or interest for consideration include:

- characterization of central neuronal Ach receptors
- characterization of the endogenous ligands and receptors for PCP
- new concepts in opioid and nonopioid analgesics
- biochemistry and electrophysiology of excitatory amino acid transmitters and modulators at the Na⁺/Ca⁺⁺ channels
- NGF and other neurotrophic factors in neurodegenerative disorders
- novel approaches to evaluation and modulation of memory/learning processes
- exploration of blood-brain-barrier and brain transplantation research
- novel approaches to modulation of GABA receptors and chloride channel function
- exploration of subcellular events in signal transduction and generation of second messengers

Selected candidates will have an M.D. and/or Ph.D. in pharmacology, neurobiology, biochemistry, physiology or medicinal chemistry and a demonstrated record of experience and productivity in the area(s) of interest. These positions are endowed with a highly competitive total compensation package. The appointments are for one year and renewable for up to a further two years.

This program is under the direction of Robert C.A. Frederickson, Ph.D., Senior Director, CNS Diseases Research, G.D. Searle and Co. in cooperation with Gerald Fischbach, M.D. Chairman, Department of Anatomy and Neurobiology, Washington University, St. Louis.

For consideration, please send your curriculum vitae and names of two or three references to: **Ronald J. Moskal, Manager, R&D Professional Recruitment, G.D. Searle Research & Development, 4901 Searle Parkway, Dept. BF, Skokie, IL 60077.**

SEARLE



PENN
UNIVERSITY OF PENNSYLVANIA

Dean School of Medicine

The University of Pennsylvania invites nominations and applications for the position of Dean of the School of Medicine.

The Dean is the chief academic and administrative officer of the School. As such, the Dean is responsible for the School's educational and research programs and cooperates with and supports the Medical Center in maintaining clinical programs.

The Dean must hold the degree of Doctor of Medicine and must be a scholar and a proven academic leader, with a deep understanding of modern biomedical research and current clinical training and practice.

The University is an equal opportunity, affirmative action employer. Women and minority candidates are encouraged to apply.

Please send nominations and applications to:
Nicholas K. Gonatas, M.D.
Chairman, Dean Search Committee
Professor, Department of Pathology and
Laboratory Medicine
University of Pennsylvania School of Medicine
447 Johnson Pavilion
Philadelphia, PA 19104-6079

U.S. PATENT AND TRADEMARK OFFICE

POSITION: Microbiologist/Patent Examiner Opportunity involves the scientific and legal evaluation of patent applications involving recombinant DNA, molecular and cellular immunology, molecular genetics, microorganisms, cell biology, cell culture, fermentation, enzymology or clinical chemistry.

QUALIFICATIONS: A full 4-year or longer professional curriculum in an accredited college or university leading to a Bachelor's Degree or higher with specific study in Molecular Biology, Biochemistry, Immunology, Enzymology, Embryology, Protein Chemistry, Microbiology or Cell Biology.

A Ph.D. or M.S. degree with relevant research experience is preferred. A B.S. degree with significant research experience will be considered.

Research Experience in any of the following areas would be beneficial: DNA cloning, protein chemistry, gene expression, sequencing techniques, muteins, hybridoma technologies, monoclonal antibody applications, mammalian or plant cell lines, cell culture, immunossays, hybridization techniques, fermentation, enzymatic reaction, diagnostics and automation of clinical analysis.

SALARY: Dependent upon experience and qualifications.

LOCATION OF POSITION: Arlington, VA

For further information contact:

Patent and Trademark Office
Office of Personnel, C&E
CPK 1, Suite 700
Washington, D.C. 20231
703-557-3631
Toll free: 800-368-3064

BS/MS Scientist/ Bioanalytical Methods

The Department of Drug Metabolism of Smith Kline and French Laboratories, located in suburban Philadelphia, PA, is seeking qualified applicants to join a collaborative and expanding Bioanalytical section. The successful candidate will: develop novel analytical assays for drugs and their metabolites in biologic media; participate in the isolation and characterization of metabolites; participate in pharmacokinetic studies in animals; and participate in basic research programs in drug development.

Candidate qualifications will include:

- B.S. or M.S. in Analytical Chemistry, Chemistry, Biochemistry or related area plus 1-3 years experience in an analytical laboratory.
- Demonstrated experience in HPLC, GC and/or GC/MS and the application of these techniques in bioanalytical methods development for drugs in biologic media.
- Experience in the HPLC isolation of "trace" quantities of organic compounds.
- Knowledge of spectroscopic methods (MS, NMR) of analysis desirable.
- Proven research ability evidenced by scientific publications preferred.
- Excellent communication and interpersonal skills required.

We offer an excellent salary, benefits and relocation package as well as opportunities for personal and professional growth. Please forward your c.v. to Mary Ann McCarry, Senior Employment Consultant-R&D, C0067, Smith Kline & French Laboratories, P.O. Box 1539, King of Prussia, PA 19406-0939. We are an equal opportunity employer. M/F/H/V.

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**SCIENCE MAGAZINE
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1515 BROADWAY
NEW YORK, N.Y. 10036**

Plant Biology Research



An equal opportunity
employer

The Plant Genetics Department at Pfizer Central Research, in conjunction with numerous plant breeding stations worldwide, conducts research and development for DeKalb-Pfizer Genetics, a leading agricultural seed company. We invite applications from PhD level scientists to join our multidisciplinary team focused on the genetic improvement of corn. You must be an accomplished scientist who is innovative, enthusiastic, has good communication skills, enjoys working as part of a team, and has broad interests and capabilities. While experience in specific areas described below would be an asset, your educational training and intellectual capabilities are most important.

Physiology/Biochemistry—Join a strong research team investigating the physiological and biochemical basis for superior agronomic performance of corn. The short-term goals of this program are to identify germplasm sources for important agronomic traits and to develop methodology for following these traits in segregating populations. Longer term objectives include understanding the biochemical and molecular basis of superior agronomic performance with the potential for manipulating these traits. Your work would integrate with established research programs in applied (field) physiology and molecular biology. Applicants with training and experience in plant physiology, biochemistry and genetics are encouraged to apply.

Tissue Culture—Join a team at the forefront of corn tissue culture and regeneration research, the foundation of our somaclonal variation and genetic transformation projects. In this broadly-scoped position, you will interact with plant breeders who are evaluating the agronomic utility of corn somaclones, and molecular biologists, who will attempt to understand the mechanisms responsible for tissue culture-induced genetic variation. In collaboration with cellular and molecular biologists, you will design and implement innovative approaches to the genetic improvement of corn. Applicants with strong backgrounds in plant developmental biology and genetics are encouraged to apply.

These positions offer excellent opportunities for professional recognition and career growth. We offer an excellent salary, benefit and relocation package plus an attractive southeastern Connecticut shore location. Qualified applicants should submit their resume, including the names, addresses and phone numbers of three professional references, to: Dr. J.K. Larson, Manager of Employment, Pfizer Central Research, Eastern Point Road, Groton, CT 06340.

Research Toxicologists

Procter & Gamble has immediate entry-level openings for three scientists at our Miami Valley Laboratories in Cincinnati, Ohio. These individuals will function within an interdisciplinary group developing and applying state-of-the-art technologies toward improved risk assessments and the advancement of science. A Ph.D. is required and post-doctoral experience is desirable. Excellent writing, oral communication and interpersonal skills a must.

Research Developmental Toxicologist—Ph.D. in developmental toxicology or related field with a strong background in pharmacokinetics, embryo-fetal physiology or placental physiology. The successful candidate will plan and execute innovative research programs to investigate embryo-fetal dosimetry of maternally administered toxicants.

Research Toxicologist—Ph.D. in pharmacology or related field with a strong background in animal metabolism, metabolite isolation and characterization and toxicological testing methodology. Experience in analytical instrumentation is required and knowledge of the use of stable isotopes and microsurgery techniques is desired. Individual will study the relationship between metabolism and mechanisms of action of xenobiotics of interest to Procter & Gamble.

Research Pharmacokineticist—Ph.D. in pharmaceuticals or related field with a strong background in pharmacokinetic modeling, animal metabolism and metabolite isolation and identification. Experience in analytical instrumentation, computer programming, toxicology testing methodology and physiologically-based pharmacokinetics is desired.

Individual will plan and execute innovative research programs in the area of physiologically-based pharmacokinetic modeling of chemicals of interest to Procter & Gamble.

Procter & Gamble is a world leader in the research, development and manufacture of consumer, health and personal care and pharmaceutical products.

We offer a competitive salary, a fringe benefit package in the top 5% of U.S. firms, and excellent opportunity for personal and career growth.

Applicants must be U.S. citizens or permanent residents and should send resume and publication list to:

Dr. T.J. Logan
Research Toxicologist Positions
THE PROCTER & GAMBLE CO.
P.O. Box 398707
Cincinnati, Ohio 45239-8707

Procter & Gamble is an EQUAL OPPORTUNITY employer.

Procter & Gamble

POSITIONS OPEN

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

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

NEUROSCIENCES

ASSISTANT OR ASSOCIATE PROFESSOR of neurosciences. Requirements: Ph.D. with preparation in neurosciences and anatomy; commitment to teaching podiatric medical students and graduate students; minimum 5 years of full-time teaching experience; postdoctoral teaching/research experience. Applicants should be engaged in active ongoing research program. Responsibilities include lecture, laboratory, and student advising. Salary open. Send résumé, transcripts, and three letters of recommendation by 10 February 1988 to: **Sister John Karen Frei, O.P., Ph.D., Associate Vice President, Academic Health Science Center, Barry University, Miami Shores, FL 33161.**

NEUROSCIENTISTS

The University of Calgary Faculty of Medicine invites applications for faculty positions in a new program involving basic and clinical aspects of neurodegenerative diseases. The basic component stresses the cellular basis of neurodegeneration and applicants should have expertise in one or more of these areas: (i) CNS tissue culture; (ii) neurotransmitter/tropic factor and/or receptor chemistry; (iii) recombinant DNA technology and/or protein chemistry. The position will be funded, following successful competition for a Scholarship or more senior Medical Scientist Award, from the Alberta Heritage Foundation for Medical Research. The candidates can apply to the Foundation for an Establishment Grant to cover the cost of setting up a new laboratory with major/minor equipment and operating funds for an initial 2-year period.

Applicants require a Ph.D. and/or M.D. with research training at the postdoctoral level and will be associated with the Neurosciences Research Group and the Department of Pathology. Academic appointment and salary will be commensurate with experience and qualifications. The applicants are expected to devote approximately 75% of their time to their designated area of research and the remaining 25% to activity related to the research field, including teaching. *In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada.* Please submit a current curriculum vitae, statement of research interests, and the names and addresses of three referees prior to 29 February 1988 to:

Dr. N. B. Rewcastle
Professor and Head
Department of Pathology
The University of Calgary
3330 Hospital Drive N.W.
Calgary, Alberta Canada
T2N 4N1

POSITIONS OPEN

MOLECULAR IMMUNOLOGIST with demonstrated excellence in genetic analysis, cloning, and expression of genes coding for factors involved in immune system function and/or development. The successful candidate must also possess a strong background in microbiology and interest in the application of current molecular techniques to the study of animal diseases or immunopathology. Postdoctoral experience required. Undergraduate and graduate teaching consistent with other science faculty. Available 1 July 1988. Assistant professor, 12 months, tenure track in Colleges of Science and Agricultural Sciences (Agricultural Experiment Station). Application closing date: 1 April 1988. Send curriculum vitae, transcripts, and three letters of recommendation to: **J. L. Fryer, Chairman, Department of Microbiology, Oregon State University, Corvallis, OR 97331-3804.** *OSU is an Affirmative Action/Equal Opportunity Employer and complies with Section 504 of the Rehabilitation Act of 1973.*

MOLECULAR PATHOGENESIS— GEOGRAPHIC MEDICINE

The Division of Geographic Medicine in the Department of Internal Medicine at the University of Virginia is recruiting an experienced **MOLECULAR BIOLOGIST** (M.D. or Ph.D.) for the tenure-track faculty. This is a widely recognized Division with a well established program studying the pathogenesis of enteric and parasitic infections. The major research activities within the Division at the present time include work on the pathogenesis of enteric bacterial and protozoal infections (including *Escherichia coli*, *Campylobacter*, *C. difficile*, amebic and cryptosporidial infections) and the cellular and humoral host defenses in leishmaniasis. An Institute of Molecular Biology is being established at the University. We anticipate that this faculty member will have major input in the development of molecular biology in the Department of Internal Medicine. A joint appointment with the Department of Microbiology is encouraged. The appointee will be expected to interact with other faculty in Divisions of Geographic Medicine, Infectious Diseases and Clinical Pharmacology and other departments. Salary support and significant start-up funds will be available. The primary focus should be on research and appropriate protected time will be provided. Respond to: **Richard L. Guerrant, M.D., Box 485, Division of Geographic Medicine/Infectious Diseases, University of Virginia School of Medicine, Charlottesville, VA 22908.**

The University of Virginia does not discriminate on the basis of race, religion, age, sex, handicap, national origin, or political affiliation.

NUTRITION

TWO TENURE-TRACK POSITIONS available in Department of Home Economics, July 1988. Appointees will be expected to establish strong research program in clinical, community, or experimental nutrition providing opportunities for training graduate students. Candidates should have ability to attract external funding and develop national recognition as scholar. Undergraduate and graduate teaching in nutrition and dietetics. One position will direct ADA Plan IV/V program. Ph.D. in nutrition required, research and development, and postdoctoral experience preferred. Closing date: 1 March 1988 or until suitable candidates are found. Send curriculum vitae, three letters of reference, transcripts, statement of teaching and research interests to:

Dr. Adria R. Sherman, Chair
Department of Home Economics
Davison Hall, Cook College
New Brunswick, NJ 08903
Telephone: 201-932-9516

An Equal Opportunity/Affirmative Action Employer.

PHYSICIST, Ph.D. with experimental skills in quantum optics, quantum electronics, non-linear optics and laser physics, to participate in fundamental quantum mechanics experiments studying Einstein-Podolsky-Rosen type correlations with light quanta, and in relativity experiments involving laser ranging and atomic clocks. Contract-supported position as assistant research scientist (rank of assistant professor) available now. Please send curriculum vitae and names of three references to: **Professor C. O. Alley, Department of Physics and Astronomy, University of Maryland, College Park, MD 20742** by 8 February 1988. *The University of Maryland is an Equal Opportunity Employer.*

POSITIONS OPEN

OB/GYN FACULTY POSITION

The Department of Obstetrics and Gynecology, University of Oklahoma Health Sciences Center in Oklahoma City is seeking an individual with research interests in reproductive biology. The candidate must have academic training in reproductive biology, early gamete physiology, and andrology. Ph.D. required. Preference will be given to (i) individuals familiar with in vitro fertilization techniques, especially in nonhuman primates, and (ii) individuals with at least a peripheral interest in reproductive immunology. The individual should be prepared to participate in student and resident teaching and assisting in research projects of students and residents. Candidates should be capable of interdigitating research efforts with clinical faculty as well as working independently on more basic projects.

Send curriculum vitae and bibliography:

John I. Fishburne, Jr., M.D.
Professor and Chairman
Department of Obstetrics and Gynecology
University of Oklahoma College of Medicine
P.O. Box 26901, 4SP 700
Oklahoma City, OK 73190
An Equal Opportunity Employer

Full-time **PHYSICS INSTRUCTOR**, minimum of M.S., Ph.D. preferred. Start fall, 1988. Major assignment: introductory/general physics and physical science or pre-calculus math. No research involved. Salary range: \$18,000 to \$27,000. Send letter of application, résumé, and names of three references by 18 March 1988 to: **Dr. Marshall Bishop, V.P. for Instruction, Southwestern Michigan College, Dowagiac, MI 49047.** *Southwestern Michigan College is an Equal Opportunity Employer, Title IX, Section 504 Employer.*

PLANT AQUATIC ECOLOGIST

The Augustana College Biology Department has a tenure-track opening for an assistant professor (Ph.D.) in September 1988. Applicants must be prepared to teach aquatic ecology, principles of ecology, and participate in an introductory biology course. Staff members are expected to maintain active research programs that involve undergraduate students. Augustana is a liberal arts college related to The Evangelical Lutheran Church in America. Applications should include curriculum vitae, complete transcripts, three letters of professional evaluation including critical comments on past teaching performance and research ability, and the applicant's statement of plans for future professional development. Applications accepted until 1 February 1988, or until position is filled. Send applications to:

Mrs. Jeanne Kruse
Administrative Assistant
Augustana College
Sioux Falls, SD 57197

POPULATION BIOLOGIST

The Department of Biology at Princeton University plans to make three appointments in the next few years in the areas of ecology, behavior, evolution, and population or quantitative genetics. We expect to make one appointment in 1988; the rank is open. Preference will be given to those with strong theoretical work that complements the interests of existing members of Princeton's Ecology, Evolution, and Behavior group: **Bonner, Gould, Grant, Horn, Kreitman, Lisk, Pierce, Rubenstein, Sullivan, and Terborgh.** The closing date for applications is 15 March 1988. Applicants should send curriculum vitae and arrange for three letters of reference to be sent to: **Henry Horn, Search Committee, Department of Biology, Princeton University, Princeton, NJ 08544.**

Princeton University is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL FELLOWSHIP position available for a neurobiologist to work with a group interested in the pathogenesis of CNS alterations in viral infection with particular emphasis on myelin injury. Experience with cell and tissue culture techniques, molecular aspects of cell-cell interactions, monoclonal antibodies, and immunohistochemistry preferred. Interested candidates send curriculum vitae and three names for reference to: **Dr. Mauro C. Dal Canto, Department of Pathology (Neuropathology), Northwestern University Medical School, 303 East Chicago Avenue, Chicago, IL 60611.**

Northwestern University is an Equal Opportunity Employer.

THE UNIVERSITY OF ADELAIDE SOUTH AUSTRALIA

invites applications from women and men who are graduates of Medicine and/or Science for the following position:

PROFESSOR DEPARTMENT OF MICROBIOLOGY AND IMMUNOLOGY

The Department is part of both the Faculty of Science and the Faculty of Medicine and has responsibility for teaching undergraduate Science and Medical students. It also offers Honours programmes to B.Sc. graduates and studies leading to an Honours Degree of B. Med. Sc. to Medical students who have completed at least the 3rd year of the M.B., B.S. degree course.

The Department maintains a substantial postgraduate research school and its members of staff are all active in both basic and applied areas of research in Microbiology and Immunology. Excellent opportunities exist for extending collaborative activities in both basic science and clinical areas. Through its association with the biotechnology company Enterovax Pty. Ltd., the Department has interests in the construction and evaluation of genetically engineered oral vaccines. The Department also has links with other Departments of the Faculties of Science and Medicine within the University, various Divisions of the Institute of Medical and Veterinary Science and the Teaching Hospitals, including the Flinders Medical Centre.

The University is interested in applicants with a high level of achievement in modern biological research in any area within the fields of Microbiology, Immunology or both, preferably with interests that will complement both the teaching and research activities of the Department. While some preference will be given to suitable medical graduates, it is emphasised that scientific calibre will be the single most important factor in selection of the successful applicant. Introduction of further area(s) of enquiry in the Department is possible because, in addition to the Chair, there is an expectation that there will be a need to fill two other tenurable academic positions by the end of 1988.

The successful candidate will be responsible for providing strong leadership for the research, teaching and administrative functions of the Department. He/she will be expected to act as Chairman of the Department for at least the first five years of appointment, and to represent the interests of the Department in the Faculties of Science and Medicine.

The University has a Study Leave Scheme that provides full salary whilst on leave in addition to a contribution toward travel. Study Leave accrues at the rate of one academic term for every two years of service. University staff contribute to the Superannuation Scheme of the Australian Universities to which the staff member contributes 7% of salary and the University 14%.

It is University policy to encourage women to apply for consideration for appointment to tenurable academic appointments. Holders of full-time tenured or tenurable academic appointments have the opportunity to take leave without pay on a half-time basis for a specific period of up to ten years where this is necessary for the care of children.

The position is available from 8 August, 1988. Further information concerning the duties of the position and details of the Department and The University may be obtained from Professor J. Priedkalns, Dean of the Faculty of Science, telephone (08) 228 5650.

INFORMATION about the general conditions of appointment may be obtained from the Senior Assistant Registrar (Personnel) at the University.

SALARY per annum \$AUS58,870 (plus para-clinical loading of \$AUS6,964 where applicable).

APPLICATIONS, IN DUPLICATE, quoting reference number 1724 and giving full personal particulars (including whether candidates hold Australian permanent residency status), details of academic qualifications and names and addresses of three referees should reach the **Senior Assistant Registrar (Personnel) at the University of Adelaide, GPO Box 498, Adelaide, South Australia, 5001, Telex UNIVAD AA 89141** not later than **18 March 1988**.

The University reserves the right to make enquiries of any person regarding any candidate's suitability for appointment, not to make an appointment or to appoint by invitation.

THE UNIVERSITY OF ADELAIDE IS AN
EQUAL OPPORTUNITY EMPLOYER

STAFF MEMBER

RESPONSIBILITIES: Develop and conduct research using a Fourier transform flow cytometer. Instrument development will address the design and fabrication of a high optical throughput, high speed FT spectrometer for flow cytometry, a high speed, high resolution data acquisition array processor, and software for data acquisition and processing. Research specifics include high speed FT spectroscopy, programmable digital filters, highly parallel processor architectures, and adaptive signal processing, as applicable to flow cytometry. Biological applications will involve an investigation of developmental pathways using cell culture models. This position will involve collaboration with fellow researchers in the Life Sciences Division in developing new biological applications of flow cytometry and publishing these results in scholarly journals.

EXPERIENCE REQUIREMENTS: Practical and theoretical knowledge and experience in cellular biology, biophysics, and immunology is required as demonstrated by six courses in physics or biophysics and four courses in cellular and theoretical immunology at the graduate or upper level undergraduate level. Proficiency in flow cytometry and its applications, applications of interferometry, immunofluorescence multiplexing chamber design and programming, and use of analog and digital signal processing electronics including programmable digital filters is required, demonstrated by a minimum of five publications in a job-related field. Fluency in at least one programming language, preferably PASCAL is also required.

EDUCATIONAL REQUIREMENTS: Ph.D. in Physics or Biophysics.

Salary: \$4513.00/month

Send resumes and inquiries to: Job Order No. 178079, New Mexico Department of Labor, P.O. Box 1908, Santa Fe, NM 87501.

Affirmative Action/Equal Opportunity Employer

RESEARCH SCIENTIST

Diagnostic Chemistry

The Becton Dickinson Research Center located in Research Triangle Park, N.C. is seeking a dedicated and talented scientific professional to assist in a challenging assignment - the development of novel non-isotopic immunoassays.

Primary responsibilities will include the investigation of new methods of amplifying immunoassays, separating bound and free constituents, enhancing the sensitivity of the trapping antibody, and supervising the activities of personnel assigned to these areas.

If you are looking for the opportunity to contribute to an exciting research project and you hold a Ph.D. in Chemistry, Biochemistry or a similar discipline with two years of postdoctoral experience, we are interested in discussing this position with you.

Becton Dickinson offers a competitive salary as well as comprehensive benefits package. Persons interested in this opportunity should submit a resume to: **Human Resources Department, BECTON DICKINSON RESEARCH CENTER, P.O. Box 12016, Research Triangle Park, N.C. 27709, (919) 549-8641**. No Agencies, Please.

BECTON DICKINSON

AA/EEO Employer

TRAINING PROGRAM IN CONTEMPORARY CARDIOVASCULAR BIOLOGY

Predoctoral and postdoctoral positions are available in research areas related to the organization and control of the cardiovascular system. Specific projects range from highly sophisticated whole animal cardiovascular dynamics to the molecular biology and regulation of various gene families.

The research program is based in the Department of Pharmacology and Cell Biophysics, which is chaired by Dr. Arnold Schwartz. The program is supported by a Program Project Grant, numerous individual grants, funding from several pharmaceutical companies, and a training grant through which successful applicants will be funded. Stipend levels are competitive.

Postdoctoral fellows, visiting scientists, graduate students, and twenty-six faculty are involved in studies that include molecular, biochemical and pharmacological studies of contractile proteins, mitochondria, cell membranes, sarcoplasmic reticulum, smooth muscle, whole animal physiology, and lipoproteins. The isolation, reconstitution, and characterization of pumps, channels and receptors form an integral part of the program, along with a strong emphasis on contemporary electrophysiology and immunochemistry. The trainee has an opportunity to rotate through several areas or may concentrate on a specific project.

The city of Cincinnati is a riverfront community which is proud of its cultural and educational heritage. It is home for two major league sport teams, the Reds and the Bengals; it offers unusually fine dining, entertainment, scholastic opportunities, and is consistently ranked very high in terms of quality of life and low cost of housing.

Applicants must be a United States citizen or have permanent resident status. For further information describing the activities in greater detail, write to: **Earl T. Wallick, Ph.D. (postdoctoral applicants) or Evangella Kranias, Ph.D. (predoctoral applicants) Department of Pharmacology and Cell Biophysics, College of Medicine, University of Cincinnati, 231 Bethesda Avenue, Cincinnati, Ohio 45267-0575. Equal Opportunity Employer.**

SUMMER 1988 TEN ENVIRONMENTAL SCIENCE AND ENGINEERING FELLOWSHIPS

Applications Invited

The American Association for the Advancement of Science (AAAS) invites applications for ten environmental science and engineering fellowships available for summer 1988. The fellows will work closely with the Environmental Protection Agency (EPA), Office of Research and Development, and other program offices, in Washington, DC, and assist in identifying and assessing the significance of long-range environmental problems and opportunities. The 10-week appointments are scheduled for 6 June through 12 August 1988. The awards will be announced prior to the end of April 1988.

Postdoctoral to mid-career scientists, engineers, and other appropriate professionals are encouraged to apply. Candidates may be from the physical, biological, or behavioral sciences, or any field of engineering or other relevant professional fields. They are expected to be critical thinkers, articulate, adaptable, and able to work with a variety of people from different professional backgrounds.

The 1988 Environmental Fellows will receive a taxable stipend of \$700 per week and a nominal additional amount for temporary relocation expenses and travel in connection with the fellowships.

A detailed, future-oriented research project will be conducted by each fellow which is of mutual interest to him or herself and the EPA. A project report will be submitted at the completion of the summer's work. Typical areas of research interest within EPA include: environmental risk assessment; biological pesticides; acid deposition; mobile source air pollution; oxidants, gases and particles; municipal waste water and spills; drinking water; hazardous waste; chemical testing and assessment; pesticides; radiation; and energy.

For further information and specific application requirements contact:

Lisbeth A. Levey
Environmental Science and Engineering Fellows Program
American Association for the Advancement of Science
1333 H Street, NW, Washington, DC 20005
Telephone: 202-326-6600

Deadline for applications is 1 March 1988.

SENIOR RESEARCH BIOCHEMIST

The Merrell Dow Research Institute, located in suburban Cincinnati, has an immediate opening for a Senior Research Biochemist. Candidates should have a Ph.D. in biochemical pharmacology, biochemistry or related areas with 1-3 years of postdoctoral experience. Our laboratory is currently involved in the search for new chemotherapeutic strategies for the treatment of malaria with emphasis on the inhibition of polyamine biosynthesis and function. Experience with enzymology, HPLC and cell culture is desirable. The successful candidate will be involved in identifying potential enzyme (or other) targets for the development of new chemotherapeutic agents for the treatment of malaria and other parasitic diseases.

We offer a good starting salary along with a liberal benefits package and relocation assistance. Please send resume including salary history and names of three references in confidence to:

Merrell Dow

**Job Code AJB
Personnel Services Manager**

**MERRELL DOW
RESEARCH INSTITUTE**

2110 East Galbraith Road
Cincinnati, OH 45215

*U.S. Citizenship or
Permanent Visa Required
Equal Opportunity Employer M/F/H/V*

Laboratory Assistant Department of Neuroscience

Pfizer Central Research has an immediate opening for a laboratory assistant in the Department of Neuroscience. In this position, you will participate in research on neurodegenerative diseases as well as contribute to on-going drug discovery programs.

You should possess a BS or MS in neuroscience or a related field. Experience in developing biochemical assays and in post-receptor signal transduction mechanisms is important. Your previous record should demonstrate a high level of technical accomplishment and the ability to work with minimal supervision.

In addition to a stimulating scientific environment, we also offer competitive compensation, benefit package and the opportunity to live in an attractive Connecticut shore community. Please send resume and description of research accomplishments to: Lorraine C. Corr, Personnel Associate, Pfizer Central Research, Eastern Point Road, Groton, Connecticut 06340.



An equal opportunity employer

**Public Health Service
National Institutes of Health
NATIONAL INSTITUTE OF ENVIRONMENTAL
HEALTH SCIENCES
Research Triangle Park, North Carolina
DIRECTOR, DIVISION OF TOXICOLOGY
RESEARCH AND TESTING
A Senior Executive Service Vacancy**

Opening Date: January 11, 1988

Closing Date: February 12, 1988

The National Institute of Environmental Health Sciences (NIEHS) invites nominations and applications for the position of Director, Division of Toxicology Research and Testing. This is a Civil Service position in the Senior Executive Service (SES) with a salary range of \$64,700 to \$73,400 per annum. In addition, M.D. candidates may be eligible for a Physician's Comparability Allowance up to \$10,000 per year. (Alternatively, candidates may be eligible for appointment in the Commissioned Corps of the U.S. Public Health Service.) The person selected may be eligible for Physician Comparability Allowance of \$10,000 per year. A one-year probationary period must be served if the individual selected is not currently in the SES.

The Division of Toxicology Research and Testing (DTRT) is one of the four major program divisions within the Institute and functions as an integral part of the National Toxicology Program (NTP).

As Director, DTRT, the incumbent manages and directs a staff of approximately 160 employees and manages a budget of approximately \$70 million, of which approximately \$55 million is devoted to contracts. Through subordinate supervisors and managers, the incumbent: directs implementation and attainment of overall chemical testing, test-method development validation and testing goals and fulfillment of the objectives of the NTP; improves DTRT testing activities by broadening the range of toxicologic characterization of chemicals through the development and initiation of more complete experimental designs, the coordination of diverse testing activities and the expansion and improvement of the evaluative technical reports; and develops and integrates operating structures for the program, allocating and reallocating resources as necessary to insure maximum achievement in attaining goals and objectives.

Candidates must meet the following mandatory professional and managerial qualifications.

Mandatory Professional/Technical Qualifications

This is a multidisciplinary position. Candidates must (1) meet the minimum educational requirements for any one of the following: Biologist, GS-401; Pharmacologist, GS-405; Toxicologist, GS-415; Health Science Administrator, GS-601; Medical Officer, GS-602; Veterinary Medical Officer, GS-701; or Chemist, GS-1320 (or equivalent combination of experience and training) as defined by the U.S. Office of Personnel Management Handbook X-118 Qualifications Standards for positions under the General Schedule, which is available in Federal Personnel Offices and Federal Job Information Centers and (2) possess research experience and knowledge of research programs in one or more areas related to toxicology/chemical testing.

Mandatory Managerial/Executive Qualifications

The incumbent must have had extensive experience of sufficient scope to carry out the managerial duties of the position. Experience must have included progressively responsible experience in directing, guiding and managing complex programs and/or projects. Must have demonstrated possession of: (1) a broad knowledge of and demonstrated ability to apply management practices and principles related to planning, organizing, staffing, directing, allocating of resources and coordinating of difficult and complex programs; (2) ability to develop policy and establish short-term and long-term goals, priorities and objectives for complex programs; (3) ability to deal with diverse and complex problems through application of analytical and decision making skills; (4) ability to select, develop and utilize a subordinate staff, including a demonstrated positive attitude regarding the implementation of an equal opportunity program; (5) ability to represent the organization and deal effectively with key individuals in federal, state and local governments, the academic community, professional and scientific organizations, consumer groups and industry; and (6) skill and ability to conduct analysis and evaluation of program.

Candidates who meet the mandatory qualifications will be further evaluated on the following factors: training and education; research experience and leadership of a research program in or related to toxicology; scientific reputation/peer recognition; honors and awards; and additional managerial/executive qualifications.

Further information about the position and qualification requirements may be obtained by calling Johnny McLean, Personnel Management Specialist at 919-541-7513. U.S. Citizenship is required. Resumes are not acceptable applications for entrance into the Senior Executive Service. Applications for Federal Employment SF-171, (available at all Federal Job Information Centers and Federal Personnel Offices) accompanied by a current curriculum vitae and bibliography should be submitted to:

Mr. Johnny McLean (HN5)
NIEHS Personnel Office
PO Box 12233
Research Triangle Park, NC 27709

NIH IS AN EQUAL OPPORTUNITY EMPLOYER

Opportunities for Protein Chemists

Genentech, Inc., a leader in the field of biotechnology, has a strong commitment to a new department in research to work on state-of-the-art purification and sequence determination of novel proteins.

The success of this group will require the addition of personnel at all levels including Postdocs, Scientists, Senior Scientists at the Ph.D. level who have a proven record of innovative and productive research in this area. Senior Scientist level individuals will be expected to establish and lead teams to support the efforts of the group to become a leading force in this field.

Positions will also be available for Research Assistants and Associates with a BS or MS in Biochemistry, Chemistry or related degree. Experience in protein purification, especially high resolution techniques such as FPLC, HPLC, as well as two-dimensional gel electrophoresis and tissue culture would be helpful.

Genentech offers an excellent salary and benefits package coupled with the opportunity to make a significant contribution to our organization. Please send your curriculum vitae, a summary of your research interests and three letters of reference to Dr. Bart Aggarwal, Senior Scientist, Protein Chemistry Department, Genentech, Inc., 460 Point San Bruno Blvd., South San Francisco, CA 94080. An equal opportunity employer.

Genentech, Inc.
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POSITIONS OPEN

POSTDOCTORAL POSITION—A postgraduate research position is available immediately for the production of cDNA clones from genetic strains of mosquitoes and from various arboviruses. Experience with molecular biological techniques is required; virological experience advantageous. This position has NIAID support for 3 years. Salary: \$21,948 to \$23,964, depending upon qualifications. Send curriculum vitae and three letters of recommendation by 15 February 1988 to: **Dr. J. L. Hardy, School of Public Health, University of California at Berkeley, Berkeley, CA 94720. Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION available in the spring of 1988 to study the differentiation of cultured murine embryonic teratocarcinoma stem cells. The laboratory focuses on the control of gene expression drawing differentiation, and understanding the molecular mechanism by which the vitamin A derivative, retinoic acid, causes the differentiation of certain cell types. A background in molecular biology and/or biochemistry is desirable, and applicants should be highly motivated, creative scientists. This position is a joint appointment between the Dana-Farber and the Department of Biological Chemistry and Molecular Pharmacology at Harvard Medical School. Please send curriculum vitae with the names and addresses of three references to: **Dr. Lorraine Gudas, Associate Professor, 830D, Dana-Farber Cancer Institute, 44 Binney Street, Boston, MA 02115. An Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION available immediately for an electrochemist to carry out research in modeling membrane-channel transport mechanisms. The program will involve studies on interfaces between immiscible solutions and transport through artificial microchannels. Strong background in modern electrochemical kinetic techniques is essential. Interested applicants should forward copy of their curriculum vitae and three letters of recommendation to: **Dr. Petr Vanýsek, Department of Chemistry, Northern Illinois University, DeKalb, IL 60115. Closing date: 5 February 1988. An Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION available immediately for investigation of expression of proliferation- and differentiation-associated nuclear antigens and *c-myc* amplification in human colon cancer. Recent Ph.D. with research experience in immunochemistry, molecular biology, or analytical cytology preferred. Send curriculum vitae including the names of three references to: **Dr. K. D. Bauer, Department of Pathology, Northwestern University Medical School, Wesley Pavilion, 250 East Superior Street, Chicago, IL 60611.**

POSTDOCTORAL POSITION PLANT MOLECULAR BIOLOGY

A position is available immediately for a postdoctoral fellow to study molecular aspects of promoter function by recombinant DNA techniques and genetic transformation of plants. Experience in recombinant DNA techniques desirable. Send curriculum vitae including a detailed summary of research experience and three letters of recommendation to: **Dr. Robert Thornburg, Department of Biochemistry and Biophysics, Iowa State University, Ames, IA 50011. Telephone: 515-294-7885.**

TWO POSTDOCTORAL POSITIONS available in the Division of Medical Oncology, Lombardi Cancer Research Center. The applicants should have experience in biochemical pharmacology, cellular studies and therapeutic evaluation of anticancer agents. Record of productivity and ability to write research proposals is desirable. The laboratories of Medical Oncology have a comprehensive ongoing program in Developmental Therapeutics and carrier-mediated drug delivery. Potential opportunities to expand these programs are available for career development. Salary is commensurate to experience. Write in confidence with three letters of references to:

**Dr. Aquilur Rahman
Division of Medical Oncology
Lombardi Cancer Research Center
Georgetown University Medical Center
3800 Reservoir Road, NW
Washington, D.C. 20007**

POSITIONS OPEN

POSTDOCTORAL RESEARCH

Growing Rockville, Maryland biotechnology company in suburban Washington, D.C. seeks a Ph.D. in biochemistry with experience in protein purification and immunoassays who can work independently on human retrovirus research and development projects, and collaborate with other researchers. Competitive salary and benefits. Please forward résumé with salary requirements, references, and availability date to:

**Personnel Department—SA
Biotech Research Laboratories, Inc.
1600 East Gude Drive
Rockville, MD 20850**

Equal Opportunity Employer/An Affirmative Action Employer.

POSTDOCTORAL RESEARCH ASSOCIATE—available immediately, positions in a research team with 5 years of NIMH funding, clinical studies (one position) and animal studies (one position), investigating the neurological basis of psychosis. The ideal candidate should have a background in developmental neurosciences, with excellent interpersonal, administrative, and research writing skills. Send curriculum vitae, reprints, and references to: **H. S. Bracha, M.D., University of California, San Diego, (M-003), La Jolla, CA 92093.**

POSTDOCTORAL/RESEARCH ASSOCIATE

A postdoctoral/research associate position is available for September 1988 to study muscle gene expression in *Drosophila*. We are studying promoter and splicing function in transgenic flies and cell-free systems. Applicants must have a Ph.D. and experience in recombinant DNA methods will be favored. Starting salary is competitive. Send curriculum vitae and names of three references to: **Dr. Robert V. Storti, Department of Biochemistry, University of Illinois College of Medicine, 1853 West Polk Street, Chicago, IL 60612.**

POSTDOCTORAL RESEARCH ASSOCIATE

Position available for studies on endothelial cells (EC). The studies involve morphological and biochemical aspects of EC in culture and EC interaction with hematopoietic cells. Recent Ph.D. in cell biology/biochemistry/physiology/immunology and experience in EC isolation and culture as well as basic biochemical/cellular biology methods would be most useful. Send curriculum vitae and names of three references to: **Dr. G. Feuerstein, c/o Civilian Personnel, USUHS, 4301 Jones Bridge Road, Bethesda, MD 20814.**

POSTDOCTORAL RESEARCH ASSOCIATES

Positions for NCI postdoctoral training program in molecular and cellular mechanisms of carcinogenesis are available at The University of Texas System Cancer Center (UTSCC)—Science Park. Research programs focus on the following areas: somatic cell genetics, DNA repair and mutagenesis, carcinogen metabolism and adduct formation, tumor promotion, mechanisms of lymphomagenesis, normal and tumor cell differentiation, biochemical genetics, growth factors, and retroviruses. Applicants must be U.S. citizens or permanent residents and have a Ph.D., M.D., or D.V.M. degree. For application forms contact: **Dr. Thomas J. Slaga, Director, UTSCC, Science Park—Research Division, P.O. Box 389, Smithville, TX 78957. Telephone: 512-237-2403. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH ASSOCIATES BIOCHEMISTS/CELL BIOLOGISTS

Positions are currently available to study the cellular biology and biochemistry of wound healing. Primary research interests include the isolation and characterization of several unique growth factors. Candidates should have experience in characterization of biologically active proteins, as well as bioassay, and cell culture experience. Send curriculum vitae and references to: **David R. Knighton, M.D., Department of Surgery, Box 120 UMHC, University of Minnesota, Minneapolis, MN 55455.**

POSITIONS OPEN

POSTDOCTORAL/RESEARCH ASSOCIATE position available immediately at Baylor College of Medicine, Houston, Texas, to study the molecular genetics of lipid and lipoprotein metabolism. Research project includes regulation of expression of genes related to lipid metabolism at the whole animal as well as tissue culture levels, structure-function relationships using recombinant DNA techniques, and the molecular genetics of human lipid disorders. Candidates should have a Ph.D. in a biochemical science. Experience in molecular biology techniques desirable. Salary commensurate with experience. Send curriculum vitae and three letters of reference to either: **Dr. Lawrence C. B. Chan, Department of Cell Biology, Baylor College of Medicine, 1 Baylor Plaza, Room 21-E, Houston, TX 77030. Telephone: 713-799-4478; or Dr. Joel D. Morrisett, Department of Medicine, The Methodist Hospital, MS/A601, 6565 Fannin Street, Houston, TX 77030. Telephone: 713-799-4164.**

Baylor College of Medicine, Houston, Texas is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL RESEARCH POSITION

available immediately to study sulfur metabolism in *Plasmodium falciparum*. The ongoing focus of research in this newly equipped facility is the development of novel antimalarial agents. The work requires broad knowledge in biochemistry and organic chemistry. Experience in molecular biology would be helpful. Applicants interested in this 2- to 3-year position should send their résumés to: **Michael K. Riscoe, Ph.D., VA Medical Center, Medical Research Service, 3710 SW Veterans Hospital Road, Portland, OR 97201.**

POSTDOCTORAL TRAINING IN CELLULAR AND MOLECULAR MECHANISMS OF CARDIOVASCULAR DISEASE. This program is a part of the Atherosclerosis Research Center of the Bowman Gray School of Medicine of Wake Forest University and is one of seven Specialized Centers of Research in Atherosclerosis in the country supported by the NIH. The training program is in its 19th year, and has a strong history of training basic scientists for careers in research in cardiovascular disorders, particularly atherosclerosis. Opportunities exist in three nationally recognized multidisciplinary research programs. These include lipoprotein cholesterol transport and metabolism, arterial wall metabolism and cell biology, and proteoglycan biochemistry. These areas of research are being pursued using a variety of contemporary experimental approaches including the techniques of protein chemistry, molecular biology, cell biology, receptor biology, and ultrastructure. In addition to modern well-equipped and funded research laboratories, unique resources include a colony of 1400 nonhuman primates for use in atherosclerosis research, and an NIH-supported National Resource for Intermediate Voltage Electron Microscopy. Candidates must have a Ph.D., M.D., or equivalent degree and, according to NIH rules, must be U.S. citizens, U.S. nationals, or permanent residents. Salaries range from \$16,000 to \$30,000, depending on experience. Send résumé to: **Dr. Richard W. St. Clair, Department of Pathology, Bowman Gray School of Medicine, Winston-Salem, NC 27103. Telephone: 919-748-2673. An Equal Opportunity/Affirmative Action Employer.**

PROFESSOR OR ASSOCIATE PROFESSOR OF TOXICOLOGY/PHARMACOLOGY

The Department of Pharmacology, University of Tennessee, Memphis, The Health Science Center, is inviting applications for a tenure-track position available immediately. The applicant should possess the Ph.D. or M.D. degree, and should be an established scientist with demonstrated experience in the application of biochemical, molecular, and/or immunological knowledge in the study of basic toxicological problems. The applicant would be expected to maintain an active, independent research program and participate in undergraduate and graduate teaching. Please submit complete curriculum vitae, and three letters of reference before 29 February 1988 to: **Dr. Murray Heimberg, Chairman, Department of Pharmacology, University of Tennessee, Memphis, The Health Science Center, Memphis, TN 38163. An Equal Opportunity/Affirmative Action Employer.**

The U.S. Environmental Protection Agency (EPA) is recruiting for the following research positions to work at its Corvallis, Oregon Research Laboratory:

RESEARCH PLANT PHYSIOLOGIST, \$32,567–\$42,341 per annum. Incumbent will work on developing physiological process models for simulating and predicting the response of mature trees to air pollutants from experimental studies of seedlings. Applicants must possess a doctorate in botany, plant physiology or closely related discipline relating to tree physiology and plant modeling. Experience with the effects of airborne pollutants on plants is desirable.

RESEARCH BIOLOGIST, \$38,727–\$50,346 per annum. Incumbent will work as a senior scientist on the quantitative assessments of acidic deposition and associated airborne pollutants on U.S. forests through the development of models which can quantitatively describe and predict pollutant impacts on forests. Applicants must possess a doctorate or its equivalent in biology or a related field of science with mathematical and statistical coursework. Experience on modeling and inference for complex systems especially forests is desirable. Strong statistical, modeling, quantitative, and computer skills are required as is a background in forestry and forest ecology.

RESEARCH ECOLOGIST, \$38,727–\$50,346 per annum. Incumbent will perform research on the effects of enhanced levels of solar UV-B radiation on crops and forests. Applicants must possess a doctorate or its equivalent in biology or a related field of science underlying ecological research.

RESEARCH ECOLOGIST (LANDSCAPE), \$45,763–\$59,488 per annum. Incumbent will work as a landscape ecologist and senior scientist responsible for the design and verification of procedures to evaluate the ecological effects of climatic change and stratospheric modification on a regional scale. Applicants must possess a doctorate or its equivalent in biology or a closely related field of science underlying ecological research. Knowledge of hydrology is desirable. Experience emphasis in landscape ecology or hydrology.

For technical information on these positions—contact **Dr. Robert T. Lackey**, telephone: (503) 757-4634/4600. To obtain a complete vacancy announcement, application package, and instructions—write to the **EPA Personnel Office, PO Box 98516, Las Vegas, NV 89193-8516 NO LATER THAN MARCH 18, 1988.**

Applicants must be a U.S. Citizen. The U.S. Environmental Protection Agency is an equal opportunity employer.

Postdoctoral Scientist

The Department of Pharmaceutical Research and Technologies of Smith Kline & French Laboratories, located in suburban Philadelphia, PA, is seeking a highly motivated Postdoctoral Scientist. This position offers the opportunity to interact with a multidisciplinary group of scientists and to work with state-of-the-art technology. Publication of results is encouraged.

The successful candidate will:

- Study effects of lyophilization on structure and function of proteins.
- Identify additives for stabilization of proteins.
- Prepare prototype formulations and evaluate stability of proteins.
- Develop analytical methods for measurement of water in proteins.
- Communicate results in oral and written forms (e.g. publications).

Candidate qualifications include:

- Ph.D. in Chemistry, Biochemistry or related areas.
- Experience in methods of protein characterization, including activity assays.
- Familiarity with thermal analysis techniques and/or methods for moisture determination is preferred.

We offer an excellent compensation, benefits and relocation package as well as opportunities for personal and professional growth. Please forward your C.V. and three references to Marianne Shandy, Manager, Personnel Relations-R&D, C0068, Smith Kline & French Laboratories, P.O. Box 1539, King of Prussia, PA 19406-0939. We are an equal opportunity employer, M/F/H/V.

SK&F
A SmithKline Beckman Company

FACULTY POSITIONS IN RADIOLOGICAL SCIENCES DEPARTMENT OF NUCLEAR ENGINEERING

The Department of Nuclear Engineering at MIT requests applications for two positions in the area of radiological sciences. The positions will be on a tenure track with a 3-year appointment as assistant or associate professor to be determined by the qualifications of the successful candidates. These successful candidates will be members of the Radiation Science and Technology program of the Nuclear Engineering Department and may also have adjunct appointments in the Whitaker College of Health Sciences, Technology and Management depending on their interests and qualifications. Candidates should hold a Ph.D. or Sc.D. in an engineering or physical sciences specialty and should have experience in radiation production, detection, dosimetry and/or application. Candidates for one of the positions should have a broad interest in the physics and engineering of radiation therapy including systems for radiation delivery, dosimetry, treatment planning and related computer applications. Candidates for the other position should be interested in a broad range of topics dealing with medical imaging and diagnostic applications of radiation.

Independent of the area of research, the candidates should be capable of mounting an extensive research program and obtaining support. The program should interact with and expand other activities in the Nuclear Engineering Department involving nuclear reactions. The candidates should be capable of teaching a wide range of courses in the academic areas of radiation science and technology including radiation and radioisotope applications and experimental nuclear physics and should be able to assist in the radiation health physics curriculum. The teaching activities will form an integral part of the radiological sciences program and the successful candidates will have responsibilities for the supervision of student research including master's and doctoral research.

Candidates for both positions are strongly encouraged to include utilization of the MIT Research Reactor in the formulation of their proposed teaching and research activities. Both candidates should also be able to integrate their research and teaching with other aspects of the department's radiological sciences program such as biomedical imaging and diagnosis. Effective collaboration with other relevant groups in the Boston area is important. MIT is a non-smoking environment.

Please submit curriculum vitae to: Professor Gordon L. Brownell, Massachusetts Institute of Technology, Whitaker College of Health Sciences, Technology and Management, Room E25-330B, Cambridge, Massachusetts 02139.

MIT is an Equal Opportunity/Affirmative Action Employer

A COMMUNITY AT WORK

MIT

POSITIONS OPEN

REPRODUCTIVE BIOLOGIST. Tenure-track position at the assistant professor rank to begin August 1988. Candidates must have a Ph.D., with postdoctoral research and teaching experience preferred. Successful candidate expected to develop an active research program. Collaborative research possible in both reproductive biology and in an in vitro fertilization program. Teaching duties include an introductory anatomy and physiology course and a graduate course in neurophysiology. Send curriculum vitae, names and addresses of four references and description of research interests to: **H. G. Marshall, Ph.D., Chairman, Department of Biological Sciences, Old Dominion University, Norfolk, VA 23529.** Application deadline 15 February 1988. *Old Dominion University is an Affirmative Action/Equal Opportunity Institution and requires compliance with the Immigration Reform and Control Act of 1986.*

RESEARCH BIOCHEMIST, Ph.D.

Position now available for outstanding investigator in thyroid hormone effect on mitochondrial oxidative phosphorylation. Columbia University appointment paying over \$32,000 plus fringes. Salary depends on experience and previous productivity. Applicant *must* have publications on mitochondrial bioenergetics, and should be U.S. citizen. Send résumé, bibliography, and reprints to: **Kenneth Sterling, M.D., VA Medical Center, 130 West Kingsbridge Road, Bronx, NY 10468.**

RESEARCH SCIENTIST—Preparation and characterization of materials for high Tc superconductors and high energy magnets. Devise theories to explain observed effects. Improve and maintain specialized measuring equipment. Extensive experience required in measurements and characterization of magnets materials. Familiarity with high Tc superconductors, powder metallurgy, SQUID magnetometry, and electronics and computer control techniques. Ph.D. in physics required. \$38,119 per year. Send résumé to: **Job Service East, 6206 Broad Street, Pittsburgh, PA 15206.** Refer to Job Order No. 3971043.

POSITIONS OPEN

RESEARCH ENGINEER to investigate the fabrication of polymeric materials via melt and solution spinning techniques to form high performance fibers that will perform in demanding environments; plan, direct, and coordinate research activities in the laboratory to develop new or improved polymeric materials and methods for improving fiber performance; plan research programs and initiate and direct experiments to improve fiber performance; explore possibilities of new theories in developed, improved or new instrumentation for melt and solution techniques; direct and coordinate activities concerned with design, building, and testing of experimental instruments and maintenance and repair of laboratory instruments; prepare reports of findings to management personnel and research supervisor. Ph.D. in chemical engineering required with the ability to conduct research in polymer fiber processing including melt techniques as demonstrated through doctoral or postdoctoral research and/or publication. Forty hours, M/F, 9:00 a.m. to 5:00 p.m., \$45,500 per annum. Send résumé and social security number to: **Illinois Department of Employment Security, 401 South State Street 3-South, Chicago, IL 60605.** Attention: **Marie Ninneman, Ref #7671-N.** An Employer Paid Ad.

SENIOR RESEARCH ASSOCIATE

Genentech, Inc., a leader in the field of biotechnology, has a position available for a senior research associate to conduct virus tests on mammalian cell lines, and to participate in research on the expression of endogenous retrovirus genes. The qualified candidate will hold a B.S. in microbiology, biology, or chemistry, and have more than 5 years of experience in virology and cell biology. Candidates with a Master's degree in a relevant field and/or significant experience in retrovirology will be given special consideration. Genentech offers an excellent salary and benefits package coupled with an opportunity for personal growth and advancement. Please send résumé to: **Eric Mankuta, Department 1112, Genentech, Inc., 460 Port San Bruno Boulevard, South San Francisco, CA 94080.** An Equal Opportunity Employer.

GENENTECH, INC.

POSITIONS OPEN

RESEARCH ASSOCIATE for medical clinic located in northern Ohio to conduct independent research within a nationally recognized interdisciplinary program on the Neurobiology of Cardiovascular Systems. Proposed studies will require expertise in neural surgery, neural pharmacology and clinical disorders of circulatory function. Must be able to implement new biochemical techniques to study and evaluate hormones in endothelial cells and body fluids. Will participate in teaching programs. A demonstrated ability to interact profitably with colleagues in the Research Program and The Departments of Cardiology, Neurology, and Neurosurgery is desirable. Requires M.D. with cardiovascular research training and a minimum of 2 years of training in biomedical science or engineering. Forty hours per week, 8:00 a.m. to 5:00 p.m. Salary level to be determined consistent with candidate's qualifications and pay scales approved by the Institution and The National Heart, Lung and Blood Institutes. Qualified applicants only send résumé with this ad to: **P.O. Box 130, Ransomville, NY 14131.**

SURGICAL PATHOLOGIST

A Senior Surgical Pathologist is currently needed to direct the Surgical Pathology programs at the UMDNJ-Robert Wood Johnson Medical School and University Hospital. Board certification and at least 5 years of experience in an Academic Health Center required.

Applicants should submit curriculum vitae and references to: **Robert L. Trelstad, M.D., Professor and Chairman, Department of Pathology, UMDNJ-Robert Wood Johnson Medical School, 675 Hoes Lane, Piscataway, NJ 08854-5635.** An Equal Opportunity/Affirmative Action Employer M/F/H/V.

VIROLOGIST

Hands-on bench position working with HIV and other viruses. Research involves quantitating the destruction of infectious virus by chemical disinfection. Good industrial opportunity. Salary is \$35,000 to \$40,000 (commensurate with experience). Send a detailed résumé with a letter of application to: **Microgen, Inc., 122 Fairfield Road, Fairfield, NJ 07006.**

Visiting Scientist/ Molecular Biology and Protein Chemistry

Postdoctoral Visiting Scientists positions are available within the Medical Products Department at Du Pont's Glenolden Laboratory in Pennsylvania. The successful candidate will be involved in the cloning, expression and/or characterization of novel proteins involved in immunoregulation, with a particular emphasis on lymphokine receptors. Candidates should possess a Ph.D. with experience in molecular biology or receptor purification and characterization. The appointment will be for two years.

At the world renowned Du Pont Company, you'll find a highly stimulating scientific environment in addition to an excellent salary. To be considered, please send resume, bibliography and references by March 31, 1988 to: **Dr. Richard Robb, Glenolden Laboratory, E. I. du Pont de Nemours and Company, 500 S. Ridgeway Avenue, Glenolden, PA 19036.**



U.S. Citizenship or Permanent Visa required
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PROFESSOR IN BIOCHEMISTRY

The Institute of Biochemistry, Odense University, Denmark, invites applications for a tenured position as Professor in Biochemistry to be filled August 1, 1988.

The Institute is developing a new programme in biotechnology and wants to strengthen research in the area of eukaryotic cells in culture with emphasis on factors regulating growth, development and metabolism. Applicants having extensive research experience in this area will be preferred.

The successful applicant is expected to participate in the development and teaching of advanced courses in the biotechnology programme, and in cooperation with the existing groups of the department to develop a dynamic research programme within the above area.

Further information is available from the Institute of Biochemistry, Odense University, Campusvej 55, DK-5230 Odense M, Denmark, Telephone 09 158600, extension 2441.

Following a transitional period it is expected that the successful applicant will be able to teach in Danish.

Salary and conditions of employment: The salary will be at the 37th increment of the Danish Civil Service Scale (D.kr. 326,239.07) plus a special supplement of D.kr. 32,550.49, totalling D.kr. 358,789.56 p.a. Appointment will be within the Ministry of Education and its associated Institutions of Higher Education. Until further notice the appointee will be based at Odense University.

Applications will be evaluated by a Selection Board. The entire evaluation will in due course be sent to all applicants.

Research material to be considered by the Selection Board must be submitted in five copies. Additionally, a list of all enclosures must be attached and marked with the applicant's name.

Letters of application in five copies with enclosures, marked "Post no 0021" containing information on academic as well as teaching qualifications should be addressed to the Queen and sent to the Personnel office, Odense University, Campusvej 55, 5230 Odense M, Denmark not later than the 30th March 1988 at twelve noon.



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CIBA-GEIGY Corporation, a world leader in pharmaceuticals research, is seeking an innovative scientist to join its Atherosclerosis Research Department.

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We offer an excellent salary, benefits and relocation package. For prompt and confidential consideration, please forward a resume with salary history, to: Mr. Al Aronson, Senior Staffing Specialist, Dept. 312, CIBA-GEIGY Corporation, 556 Morris Avenue, Summit, NJ 07901.

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POST-DOCTORAL POSITION Division of Neonatology

A Post-doctoral position is available immediately to study the molecular basis of cellular interactions during mammalian lung development (se: - Biol. Chem. **260**, 2265-2267; **261**, 2179-2185).

Experience in either molecular biology, protein chemistry or developmental biology preferred. Position with potential for advancement.

Send Curriculum Vitae and three letters of references to: **Dr. Martin Post**



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Sorin Biomedica S.p.A. (FIAT Group) a leading biotechnology company located in Italy has an opening for a senior scientist with a Ph.D. in Biochemistry or Biological Sciences.

The successful candidate will manage a research program directed toward the development of gene-probe diagnostic test kits. The program will be carried out jointly between Sorin and a university located in Northern Italy (Brescia) where the individual will be located. The candidate must be thoroughly familiar with problems related to the development of diagnostic reagents and gene-probe technology. Responsibilities of the position include program definition, achievement of strategic product objectives, technical program management, manpower and resource allocation and maintaining effective communications with the parent company.

The compensation package includes relocation expenses and a performance related bonus.

Write in confidence, including a detailed CV to:
Ufficio Personale, Sorin Biomedica S.p.A., 13040 Saluggia (Vercelli) Italy.

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AND
**THE UNIVERSITY OF MEDICINE AND
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The Graduate Programs of Rutgers University and UMDNJ-Robert Wood Johnson Medical School are seeking outstanding applicants for this interdisciplinary curriculum. Successful applicants will be awarded a fellowship providing an annual stipend of \$10,000 plus tuition. Students will take a program of interdisciplinary courses, seminars, and research laboratory rotations. Research opportunities in Molecular and Cell Biology exist in all participating graduate programs of both universities, including the New Jersey Center for Advanced Biotechnology and Medicine, Waksman Institute of Microbiology, and Institute for Biomolecular Research in Agriculture and the Environment. Students will obtain the Ph.D. degree from the program in which they do their research project.

Students interested in applying or receiving further information should write to:

Michael J. Leibowitz, M.D., Ph.D.
Director, Core Curriculum in Molecular and Cell
Biology
Department of Molecular Genetics and
Microbiology
UMDNJ-Robert Wood Johnson Medical School
675 Hoes Lane
Piscataway, New Jersey 08854-5635

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Applications are invited for a number of two-year positions. Scientists in this program will start or join work in basic aspects of plant biology relevant to ongoing applied research. They will be encouraged to interact with the academic community and expected to produce and publish significant research results. Areas of interest include:

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- Identification and isolation of agriculturally important genes
- Protein targeting
- Mechanisms of gene transfer and integration
- Developmental biology
- Plant biochemistry

Calgene is a leading plant biotechnology company where an interdisciplinary team of 90 scientists is working in an open and exciting scientific environment. Applicants who wish to propose specific areas of investigation should contact: Luca Comai or Robert Goodman at (916) 753-6313 before sending proposal. To apply, arrange for three reference letters to be sent and send application information to: CALGENE FELLOWS PROGRAM, 1920 Fifth Street, Davis, CA 95616. EOE

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NMR SPECTROSCOPIST

The Eastern Regional Research Center, Wyndmoor, PA, is seeking a chemist, NMR spectroscopist, to provide NMR expertise and service to research scientists. The Eastern Regional Research Center is a major research center of the Agricultural Research Service located in a suburban environment just outside the city limits of Philadelphia. The incumbent will serve as a specialist in NMR spectroscopy, responsible for developing methods and adapting current NMR theory and principles to the various research programs of the Center; carry out NMR experiments on samples of interest; collaborate with Center scientists in solving research problems; provide technical guidance in the use and application of NMR spectroscopy; and oversee the operation and maintenance of the Center NMR facility which will house a 60 MHz and 400 MHz solution spectrometer as well as a 300 MHz wide bore solids NMR. Ample opportunity exists to participate in research leading to publications. The successful candidate will have graduate level knowledge of NMR theory and application, equivalent to that required for a Ph.D. degree specializing in NMR, graduate level experience in the operation of one or more NMR spectrometers and in the use of advanced NMR techniques, excellence in oral and written communications, and interpersonal skills as required to effectively manage an NMR instrument facility.

Ph.D. is desirable. Must be a U.S. citizen. Salary is commensurate with experience (salary range is \$27K to \$42K). For further information on the position, contact Dr. James R. Cavanaugh, Eastern Regional Research Center (215) 233-6611. For information on application procedures and forms contact Mr. Lee Triplett (301) 344-1863 by January 29, 1988. Applications in response to the advertisement should be marked 7NA0884 and must be received by February 19, 1988.

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For confidential consideration, please forward your C.V. and a list of three references to IDEON CORPORATION, Attn: R&D Department, 515 Galveston Drive, Redwood City, CA 94063.

FACULTY POSITIONS

The San Diego State University Department of Chemistry invites applications for up to two tenure-track positions, at any rank, for the 1988-1989 academic year. The highest priority is in the area of analytical chemistry, but applications will be accepted from established individuals in other areas as well.

ANALYTICAL CHEMISTRY - electrochemistry, analytical biochemistry, environmental science, separations science, mass spectroscopy, biosensors.

MOLECULAR LIFE SCIENCES - bioanalytical, bioorganic, bioinorganic, or biophysical chemistry; protein engineering, immunocatalysis.

COMPUTATIONAL CHEMISTRY - molecular design, molecular graphics, theoretical chemistry, quantum mechanics, rational drug design.

CHEMICAL EDUCATION - theory and practice of chemical education at the post-secondary level.

A successful candidate will have postdoctoral experience and will be expected to develop a vigorous, focused research program. Applicants at advanced ranks should have established, funded research programs. Participation in the department's instructional program is expected (BS, MS, and PhD levels). For full consideration, curriculum vitae, letters from three references, representative publications, and research plans should be received by Feb. 15, 1988, and be addressed to: Search Committee Chair, Department of Chemistry, San Diego State University, San Diego, CA 92182-0328. SDSU is an Affirmative Action/Equal Opportunity/Title IX employer. Women and minorities are especially encouraged to apply.

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THE DIVISION: The CSIRO Division of Plant Industry conducts research on problems fundamental to plant biology and agricultural production. Prominent among the research activities are programs concerned with gene transfer and expression, cell culture, herbicide biology and synthesis, photosynthetic processes and biological nitrogen fixation. The prime objective of this research is to develop the capacity for the genetic manipulation of crop plants to improve productivity.

THE JOB: The appointee will undertake research into nucleic acid sequences that can interfere with infection of plants by specific luteoviruses such as potato leaf roll virus, beet western yellow virus and subterranean clover red leaf virus and manipulate cloned cDNA sequences to produce synthetic resistance genes active against the viruses in transgenic plants.

THE PERSON: Applicants should possess a Ph.D. degree or equivalent qualification with research achievement in plant virology and plant transformation and/or molecular biology. Experience in recombinant DNA techniques is essential.

CONDITIONS: Appointment will be for a term of three years with Australian Government Superannuation benefits available.

MORE INFORMATION: Prospective applicants are invited to telephone Dr. Wayne Gerlach on (6162) 46.5204 for further information. A copy of the detailed duty statement and selection criteria may be obtained by telephoning (6162) 46.5357.

APPLICATIONS: Applications should be submitted by Friday February 5, 1988 and quote reference number M8435. They should be framed against the selection criteria, and should state relevant personal particulars including details of qualifications and experience. Applicants should nominate at least two professional referees, and address their applications to:

The Chief,
CSIRO Division of Plant Industry,
G.P.O. Box 1600,
CANBERRA A.C.T. 2601.
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The Graduate School at BAYLOR COLLEGE OF MEDICINE has created a new graduate program of CELL AND MOLECULAR BIOLOGY stressing basic research in the above areas. Students accepted for studies leading to the Ph.D. will receive financial support. For further information contact

Dr. Savio Woo, Director
Graduate Program in Cell and Molecular Biology
Baylor College of Medicine
One Baylor Plaza
Houston, Texas 77030

Career in Scientific Computing and Information Processing

Smith Kline & French Laboratories, an international leader in the health care industry, is seeking scientific data processing professionals to support our state-of-the-art computing environment. The following positions are presently available:

SCIENTIFIC EDP MANAGERS: BIOLOGY, CHEMISTRY AND PRE-CLINICAL — We have three openings for senior scientists with experience in computing to plan and oversee the application of advanced computing technologies in the areas of Biological, Chemical, and Pre-Clinical Research. The role of these positions is to work with senior managers in their respective areas of R&D to develop broad-based computer strategies for these areas, and to propose and coordinate the implementation of associated projects in the Information Sciences (EDP) department. Together with analogous positions in the Clinical and Operations areas, these positions will have a major influence on the overall direction of R&D computing.

As interaction with scientists and appreciation of both scientific and computing issues are crucial, strong experience in scientific computing is mandatory, and an advanced degree (Ph.D.) in a relevant scientific discipline is highly desirable. Especially of interest are individuals with backgrounds in molecular biology, pharmacology, medicinal chemistry, synthetic chemistry, analytical chemistry, drug metabolism, pharmacokinetics, or pathology/toxicology. Supervisory skills & project management experience are strongly preferred. These are senior positions in a rapidly growing department and offer considerable growth potential for qualified candidates.

CHEMICAL DATA SYSTEMS MANAGER — This opening is for a senior chemical scientist with experience in chemical information DBMS to manage the R&D Chemical Data Systems (CDS) group in the Information Sciences

Department. This position is responsible for coordinating the chemical information DBMS activities of the CDS group and for providing strategic direction for the integration of chemical information into R&D research applications. The supervised CDS activities include: registration of new chemical entities; chemical nomenclature; development, support, and maintenance of chemical information DBMS software systems and databases; and instruction and assistance to R&D scientists and managers in use of the R&D chemical information system. This position also involves planning and implementation of systems to facilitate interfacing of R&D chemical information systems with other biological and chemical DBMS systems. This manager will also be responsible for the development of systems to integrate chemical information with R&D research computing systems.

Because interactions with scientists and appreciation of both chemical information DBMS and scientific issues are crucial, strong experience in scientific computing and chemical information DBMS are mandatory, as is an advanced degree (Ph.D.) in an appropriate field of chemistry. Experience with the MACCS software system, as well as FORTRAN and VAX/VMS DCL programming skills, are highly desirable. A knowledge of organic chemical nomenclature and supervisory skills are strongly preferred.

Smith Kline and French Laboratories is located near Valley Forge, PA. We offer an excellent compensation and benefits package and an opportunity for personal and professional growth. Please submit resume and salary requirements to: George P. Kissell, Jr., Manager, Personnel Relations, G0136, SK&F Laboratories; P.O. Box 1539, King of Prussia, PA 19406-0939. We are an equal opportunity employer. M/F/H/V. NO PHONE CALLS PLEASE.

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POSITIONS OPEN

TENURE-TRACK JUNIOR FACULTY POSITION IN THEORETICAL PHYSICS THE JOHNS HOPKINS UNIVERSITY

The Department of Physics and Astronomy at The Johns Hopkins University invites applications for a tenure-track faculty position at the assistant professor level in high energy particle theory to begin in July 1988. Requirements include a Ph.D., demonstrated research accomplishments and good teaching ability. Applicants should send their curriculum vitae, the names of at least three references, and a brief description of their research interests to: **Professor J. C. Walker, Chairman, Department of Physics and Astronomy, The Johns Hopkins University, Charles and 34th Streets, Baltimore, MD 21218.** The deadline for applications is 15 March 1988. *The Johns Hopkins University is an Equal Opportunity/Affirmative Action Employer.*

The Department of Microbiology, University of Minnesota, invites applications for **TWO TENURE-TRACK POSITIONS** (assistant professor) available after 1 April 1988. Candidates are expected to develop independent research programs and to obtain extramural support; to develop and teach graduate/undergraduate courses in relevant areas; to supervise and train Ph.D. students; and to participate in appropriate departmental and collegiate activities. Candidates will have the Ph.D. or M.D. degree and at least 2 years of postdoctoral experience. Closing date for receipt of applications is 30 September 1988, but earlier applications are encouraged and will be considered promptly.

Candidates should submit curriculum vitae, summary of research interests, and the names of three references to: **Martin Dworkin, Ph.D., Professor, Department of Microbiology, University of Minnesota Medical School, Box 196 UMHC, 420 Delaware S.E., Minneapolis, MN 55455.**

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

VISITING ASSISTANT PROFESSORSHIP

A 1-year temporary replacement position to teach a one-semester introductory course in biology for non-majors; to assist in the teaching of a one-semester introductory biology course for majors; and to teach an upper-level course in some aspect of invertebrate zoology. Send curriculum vitae and three letters of reference by 1 February 1988 to:

**Tom Brady, Chairman
Biology Department
Hamilton College
Clinton, NY 13323**

Hamilton College is an Equal Opportunity Employer. Women and minorities are encouraged to apply.

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A 1-year temporary replacement position to teach a one-semester course in microbiology; to assist in the teaching of a one-semester introductory biology course for majors; and to teach an upper-level course in biochemistry, immunology, or virology. Applicants should send curriculum vitae and three letters of reference by 1 February 1988 to:

**Tom Brady, Chairman
Biology Department
Hamilton College
Clinton, NY 13323**

Hamilton College is an Equal Opportunity Employer. Women and minorities are encouraged to apply.

VISITING PROFESSOR. The Energy and Resources Group, University of California, Berkeley, seeks applicants with background in the social sciences, humanities, or law as visiting faculty (rank open) for research and instruction on the special aspects of resources, environment, energy, technology, and/or development. Appointment(s) will be for one or two semesters during the 1988 to 1989 academic year. Send inquiries, with curriculum vitae, recent publications, and three references to: **R. Sawyer, Chair, Energy and Resources Group, Building T-4, University of California, Berkeley, CA 94720** by 1 March 1988. *Women and minorities are particularly encouraged to apply.*

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Director: **Daniel Stein**, Physics, University of Arizona.

Contact: **Ginger Richardson**, Santa Fe Institute, 1120 Canyon Road, Santa Fe, NM 87501; Telephone: 505-984-8800.

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIPS—The Reproductive Endocrinology Center at the University of California, San Francisco has positions available for postdoctoral fellows (Ph.D. and/or M.D.) in reproductive biology. The activities of the faculty are focused on the regulation and mechanisms of action of gonadal, pituitary and hypothalamic hormones in the control of differentiation, growth and regulation of target cells. The genomic control of cell growth and differentiation is being pursued during fetal development as well as in hormone-dependent cancers of the pituitary and breast. The faculty include: **Drs. G. Cunha, D. Friend, R. Glass, P. Goldsmith, D. Gospodarowicz, M. Jacobs, R. Jaffe, R. Kuhn, M. Martin, S. Mellon, S. Monroe, H. Papkoff, J. Roberts, P. Siiteri, R. Taylor and R. Weiner.** Send letter of interest, curriculum vitae, and names of three referees to: **Richard I. Weiner, Director, Reproductive Endocrinology Training Program, University of California, San Francisco, CA 94143.** *An Equal Opportunity/Affirmative Action Employer.*

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Salary: NIH scale.

Interested applicants with previous skills in any one of these areas are invited to submit their résumés to:

**E. Martin Spencer, M.D., Ph.D.
Director**

**Laboratory of Growth and Development
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3700 California Street—OPR #520
San Francisco, CA 94118**

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GRADUATE STUDY IN ANALYTICAL NEUROCHEMISTRY. GRADUATE ASSISTANTSHIPS are available for research in bioanalytical chemistry, with special emphasis in the development and application of modern methods of neurochemical analysis. Areas of research include computer modeling of neurotransmitter chemistry, in vivo voltammetric, HPLC and GC/MS methods, and applications to the chemistry and pharmacology of behavior. Opportunities exist for students to conduct interdisciplinary research in the Departments of Psychology and Chemistry. Research assistantships at the Centers for Disease Control involving neurochemistry and the environment are also available. Interested students with backgrounds in chemistry, biology, or psychology should contact: **Dr. Joseph B. Justice, Department of Chemistry, Emory University, Atlanta, GA 30322.** Telephone: 404-727-6585. *Emory University is an Equal Opportunity Employer.*

COURSE

GENETICS SHORT COURSE 18 to 29 JULY 1988

29th Annual Short Course in Medical and Experimental Mammalian Genetics. Conducted by Johns Hopkins University School of Medicine and The Jackson Laboratory at Bar Harbor, Maine. Morning and evening lectures covering the entire field are supplemented by workshops, tutorials, and demonstrations. Inquiries, applications to: **Dr. V. A. McKusick, 292 Carnegie Building, Johns Hopkins Hospital, 600 North Wolfe Street, Baltimore, MD 21205; or Dr. T. H. Roderick, c/o Training and Education Office, The Jackson Laboratory, 600 Main Street, Bar Harbor, ME 04609-0800.**

SYMPOSIUM

ALEXANDER HOLLAEENDER MEMORIAL SYMPOSIUM BIOLOGY DIVISION, FORTIETH YEAR GATLINBURG CONFERENCE

A symposium on Transposable Elements in Mutagenesis and Regulation of Gene Expression will be held 11 to 14 April 1988, at the Riverside Motor Lodge in Gatlinburg, Tennessee, to review mechanisms of action and use of transposable elements to investigate the genetic and molecular biology of the *Drosophila*, mouse and human genome. For further information, please contact:

**Raymond A. Popp
Biology Division, P.O. Box Y
Oak Ridge National Laboratory
Oak Ridge, TN 37831
Telephone: 615-574-1227/FTS 624-1227**

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NEUROSCIENCE

The Neuroscience Training Program at the University of Colorado Health Sciences Center provides multidisciplinary training leading to the Ph.D. or M.D./Ph.D. degree. Participating faculty have established research programs in the areas of behavioral, developmental, medical, and molecular neurobiology, as well as neuroanatomy, neurochemistry, neurophysiology, and neuropharmacology. Tuition plus a generous stipend are provided. For further information, contact: **Dr. Greg Rose, Department of Pharmacology, Box C-236, UCHSC, 4200 East 9th Avenue, Denver, CO 80262.** *Equal Opportunity/Affirmative Action Employer.*

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Director/ Professor

NATIONAL NANOFABRICATION FACILITY AT CORNELL UNIVERSITY

Applications and nominations are invited for the position of Director, National Nanofabrication Facility (NNF) at CORNELL UNIVERSITY. The directorship is a dual appointment, half-time as the Chief Executive Officer of the facility and half-time as a Professor in one of the academic departments associated with the facility. Administrative and technical support for the Director is provided by a Deputy Director to whom 20 staff members report. A 5-year grant from the National Science Foundation that began October 1, 1987 provides approximately 50% of the current support for the facility with the balance coming from industry and other sources.

The NNF (formerly the National Research and Resource Facility for Submicron Structures) is a national research center for fabrication of structures with feature sizes down to 25 nm. The national user research program brings students and faculty from universities as well as scientists and engineers from industrial and federal laboratories to CORNELL to use the resources of NNF. Approximately 200 M.S./Ph.D. students representing 14 academic disciplines are exploring the science and technology of nanometer structures fabrication and applications. Research topics range from plant pathology to astronomy with emphasis on electrical engineering and applied physics. Approximately half of the current 100 research projects deal with silicon and compound semiconductor device physics and circuit issues.

Candidates should have an earned doctorate and an outstanding record of achievement in research and technical management. The new Director must provide innovative leadership in research program initiatives that will keep the facility at the forefront of nanofabrication science and technology and supported from a broad funding base. The Director will also teach and carry out research relevant to the facility in the department to which he or she is appointed. The position is expected to be filled by July 1, 1988.

Please send letters of application with complete resume to: Professor John Nation, Chairman; Search Committee

Cornell University

224 Phillips Hall
Ithaca, New York 14853

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Opportunities in Histology/Pathology

Genentech, Inc., a leader in the field of biotechnology, has the following opportunities available.

Research Assistants/Associates

We are seeking experienced Research Assistants/Associates in histology to participate in studies using in situ hybridization and immunohistochemistry. The successful candidates will be experienced in cryosectioning, standard histological staining, immunohistochemistry, and/or in situ hybridization. A background in molecular biology, cell biology or pathology would be helpful. Individuals with a BS/MS and experience as well as recent Ph.D. graduates are encouraged to apply.

Associate Research Scientists

We are also seeking experienced Associate Research Scientists in pathology/histology to participate in a broad range of studies using in situ hybridization and/or immunocytochemistry in our Cardiovascular Research Department. The successful candidates will apply these techniques to a variety of collaborative projects designed to understand the function of newly discovered proteins and how they relate to clinical diseases such as atherosclerosis and arthritis. A recent Ph.D. with postdoctoral experience in histology and/or pathology is desired. Experience in molecular biology, cell biology, histological procedures, in situ hybridization, or clinical medicine would be very helpful.

Genentech, Inc. offers an excellent salary and benefits package, coupled with the opportunity to make a significant contribution to our organization. Please send resume to: Sherrie Wilkins, Dept. C.W., Genentech, Inc., 460 Point San Bruno Blvd., South San Francisco, CA 94080. An equal opportunity employer.

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