

Two decades ago, nuclei at low excitation were thought to have a single, well-defined shape that would gradually change as a function of excitation energy. The book provides ample evidence that many different shapes can coexist in one nucleus and that minor changes in excitation energy may result in drastic changes of shape. These studies demonstrate the increasing analytical power that systematic data on nuclear structure for a long sequence of isotopes or isotones provide.

The remainder of the book deals mainly with studies of highly exotic nuclei. These nuclei have such large decay energies or abnormal compositions that they are at the limit where a bound nuclear system breaks up instantly into two components. Consequently, their short and precarious existence is spent under considerable "strain," which results in some unusual features. For example, it has been found that adding neutrons to an already neutron-rich light nucleus results in a ballooning of its size, with the excess neutrons forming a thick skin outside the nuclear core. Studies of exotic nuclei have also resulted in the discovery of previously unknown modes of radioactive decay such as beta-delayed multiparticle decays, proton radioactivity, and the emission of clusters of nucleons. All these new or unusual decay modes have provided us with opportunities to study new nuclear properties or with additional means of obtaining information on already known properties.

This book comes at an opportune time. The study of nuclei far from stability has made significant advances in the past few years, and there is an abundance of interesting discoveries to digest. At the same time, the book demonstrates that this exciting epoch is not near its end and that technological improvements already in progress promise more discoveries down the road.

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## Books Received

**ADP-Ribose Transfer Reactions.** Mechanisms and Biological Significance. Myron K. Jacobson and Elaine L. Jacobson, Eds. Springer-Verlag, New York, 1989. xvi, 527 pp., illus. \$80.

**AIDS.** Social Representations, Social Practices. Pater Aggleton, Graham Hart, and Peter Davies, Eds. Falmer (Taylor and Francis), Philadelphia, 1989. viii, 276 pp. \$42; paper, \$20.

**The American Prison.** Issues in Research and Policy. Lynne Goodstein and Doris Layton MacKenzie, Eds. Plenum, New York, 1989. xiv, 298 pp. \$45. Law, Society, and Policy, vol. 4.

**An Ancient Egyptian Herbal.** Lise Manniche. British Museum Publications and University of Texas, Austin, 1989. 176 pp., illus. Paper, \$19.95.

**Archaeological Thought in America.** C. C. Lamberg-Karlovsky, Ed. Cambridge University Press, New York, 1989. viii, 357 pp., illus. \$39.50.

**Artificial Intelligence Techniques in Language Learning.** R. W. Last. Horwood, Chichester, U.K., and Halsted (Wiley), New York, 1989. 173 pp. \$64.95. Ellis Horwood Series in Computers and Their Applications.

**Asymptotic Methods in Equations of Mathematical Physics.** B. R. Vainberg. Gordon and Breach, New York, 1989. viii, 498 pp. \$169. Translated from the Russian edition (Moscow, 1982) by E. Primrose.

**At the Edge of the Universe.** Alan Wright and Hilary Wright. Horwood, Chichester, U.K., and Halsted (Wiley), New York, 1989. x, 236 pp., illus. \$41.95. Ellis Horwood Library of Space Science and Space Technology.

**Atom and Void.** Essays on Science and Community. J. Robert Oppenheimer. Princeton University Press, Princeton, NJ, 1989. xii, 155 pp. Paper, \$8.95. Revision of *Science and the Common Understanding*.

**Bacteria in Nature.** Vol. 3, Structure, Physiology, and Genetic Adaptability. Jeanne S. Poindexter and Edward R. Leadbetter, Eds. Plenum, New York, 1989. xiv, 391 pp., illus. \$69.50.

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**Basic Corrosion Technology for Scientists and Engineers.** Einar Mattsson. Horwood, Chichester, U.K., and Halsted (Wiley), New York, 1989. 193 pp., illus. \$59.95. Ellis Horwood Series in Corrosion and Its Prevention.

**Basic Principles and Techniques of Molecular Quantum Mechanics.** Ralph E. Christoffersen. Springer-Verlag, New York, 1989. xiv, 686 pp., illus. \$79. Springer Advanced Texts in Chemistry.

**Biotech 90.** Into the Next Decade. G. Steven Burrill with the Ernst and Young High Technology Group. Libert, New York, 1989. 247 pp., illus. Paper, \$80.

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**Brain Organization of Language and Cognitive Processes.** Alfredo Ardila and Peggy Ostrosky-Solis, Eds. Plenum, New York, 1989. xx, 256 pp. \$39.50. Critical Issues in Neuropsychology.

**Catastrophic Episodes in Earth History.** Claude C. Albritton, Jr. Chapman and Hall (Routledge, Chapman and Hall), New York, 1989. xviii, 221 pp., illus. \$29.95. Topics in the Earth Sciences, vol. 2.

**Cell and Molecular Biology of Artemia Development.** Alden H. Warner, Thomas H. MacRae, and Joseph C. Bagshaw, Eds. Plenum, New York, 1989. x, 453 pp., illus. \$95. NATO Advanced Science Institutes Series A, vol. 174. From a workshop, Montreal, Quebec, Aug. 1988.

**Defending Deterrence.** Managing the ABM Treaty Regime Into the 21st Century. Antonia Handler Chaves and Paul Doty, Eds. Pergamon-Brassey's, McLean, VA, 1989. xiv, 286 pp. \$32.

**The Diverted Dream.** Community Colleges and the Promise of Educational Opportunity in America, 1900-1985. Steven Briant and Jerome Karabel. Oxford University Press, New York, 1989. xii, 312 pp. \$24.95.

**Economic Evaluations in Exploration.** Friedrich-Wilhelm Wellmer. Springer-Verlag, New York, 1989. xiv, 163 pp., illus. Paper, \$25. Translated from the German edition (1986).

**Einstein as Myth and Muse.** Alan J. Friedman and Carol C. Donley. Cambridge University Press, New York, 1989. xiv, 224 pp., illus. Paper, \$19.95. Reprint, 1985 ed.

**The Elements of Nuclear Power.** D. J. Bennet and J. R. Thomson. 3rd ed. Longman Scientific, Harlow, U.K., and Wiley, New York, 1989. xxiv, 293 pp., illus. Paper, \$39.95.

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**Exemplar-Based Knowledge Acquisition.** A Unified Approach to Concept Representation, Classification, and Learning. Ray Bareiss. Academic Press, San Diego, CA, 1989. xii, 169 pp., illus. \$24.95. Perspectives in Artificial Intelligence, vol. 2.

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**Genetics and Molecular Biology of Industrial Microorganisms.** Charles L. Hershberger, Stephen W. Queener, and George Hegeman, Eds. American Society for Microbiology, Washington, DC, 1989. x, 377 pp., illus. \$54; to ASM members, \$39. Based on a conference, Bloomington, IN, 1988.

**Geological Maps.** Their Solution and Interpretation. T. Bolton. Cambridge University Press, New York, 1989. viii, 144 pp., illus. \$47.50.

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**Linus Pauling.** A Man and His Science. Anthony Serafini. Paragon, New York, 1989. xxii, 310 pp. + plates. \$22.95.

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ASME members, \$49. From a meeting, Chicago, IL, Nov.-Dec. 1988.

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**Mechanisms of Drug Action on the Nervous System.** Ronald W. Ryall. 2nd ed. Cambridge University Press, New York, 1989. xx, 232 pp. \$49.50; paper, \$19.95. Cambridge Texts in the Physiological Sciences, vol. 1.

**Mesoamerica After the Decline of Teotihuacan, A.D. 700-900.** Richard A. Diehl and Janet Catherine Berlo, Eds. Dumbarton Oaks Research Library and Collection, Washington, DC, 1989. viii, 244 pp., illus. \$60. Based on a seminar, June 1984.

**Methodological Aspects of the Development of Low Temperature Physics 1881-1956.** Concepts out of Context(s). Kostas Gavroglu and Yorgos Goudaroulis. Kluwer, Norwell, MA, 1988. xiv, 178 pp. \$67. Science and Philosophy.

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**Molecular Dynamics in Restricted Geometries.** Joseph Klafter and J. M. Drake, Eds. Wiley-Interscience, New York, 1989. x, 437 pp., illus. \$75.

**Neutrino Astrophysics.** John N. Bahcall. Cambridge University Press, New York, 1989. xxiv, 567 pp., illus. \$75; paper, \$24.95.

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**Reductionism and Systems Theory in the Life Sciences.** Some Problems and Perspectives. Paul Hoyningen-Huene and Franz M. Wuketits, Eds. Kluwer, Norwell, MA, 1989. vi, 188 pp., illus. \$64. Theory and Decision Library Series A, vol. 10.

**Regions of the Mind.** Brain Research and the Quest for Scientific Certainty. Susan Leigh Star, Stanford University Press, Stanford, CA, 1989. xviii, 278 pp. \$29.50.

**Regular Variation.** N. H. Bingham, C. M. Goldie, and J. L. Teugels. Cambridge University Press, New York, 1989. xx, 494 pp. Paper, \$34.50. Encyclopedia of Mathematics and Its Applications, vol. 27. Reprint, 1987 ed.

**Renewing a Scientific Society.** The American Association for the Advancement of Science from World War II to 1970. Dael Wolfe. American Association for the Advancement of Science, Washington, DC, 1989. x, 337 pp. Paper, \$24.95; to AAAS members, \$19.95.

**Resolution of Equations in Algebraic Structures.** Vol. 2, Rewriting Techniques. Hassan Ait-Kaci and Maurice Nivat, Eds. Academic Press, San Diego, CA, 1989. x, 379 pp., illus. \$64.95.

**The Right and Left Hemispheres of the Animal Brain.** Cerebral Lateralization of Function. Vsevolod L. Bianki. Gordon and Breach, New York, 1988. xvi, 422 pp., illus. \$84. Monographs in Neuroscience, vol. 3. Translated from the Russian edition (Leningrad, 1985) by T. A. Endeke.

**Science Between the Superpowers.** Yakov M. Rabkin. Priority Press, New York, 1988 (distributor, Unwin Hyman, Winchester, MA). viii, 119 pp. Paper, \$8.95.

**Sedimentology and Petroleum Geology.** Knut Bjørlykke. Springer-Verlag, New York, 1989. xii, 363 pp., illus. Paper, \$49.90. Translated from the Norwegian edition (Oslo, 1984).

**The Semantic Conception of Theories and Scientific Realism.** Frederick Suppe. University of Illinois Press, Champaign, 1989. xvi, 475 pp. \$34.95.

**Separations Using Aqueous Phase Systems.** Applications in Cell Biology and biotechnology. Derek Fischer and Ian A. Sutherland, Eds. Plenum, New York, 1989. xviii, 504 pp., illus. \$95. From a conference, Oxford, U.K., Aug. 1987.

**Sexual Selection.** James L. Gould and Carol Grant Gould. Scientific American Library, New York, 1989 (distributor, Freeman, New York). x, 277 pp., illus. \$32.95.

**Shape from Shading.** Berthold K. P. Horn and Michael J. Brooks, Eds. MIT Press, Cambridge, MA, 1989. x, 577 pp., illus. \$49.95. Artificial Intelligence.

**Short Protocols in Molecular Biology.** A Compendium of Methods from *Current Protocols in Molecular Biology*. Frederick M. Ausubel et al., Eds. Greene and Wiley-Interscience, New York, 1989. xxii, 387 pp., illus. Spiral bound, \$39.95.

**Sickness, Recovery and Death.** A History and Forecast of Ill Health. James C. Riley. University of Iowa Press, Iowa City, 1989. xvi, 295 pp., illus. \$27.50.

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**Sites and Bytes.** Recording Aboriginal Places in Australia. Josephine Flood, Ian Johnson, and Sharon Sullivan, Eds. Australian Government Publishing Service, Canberra, 1989. xiv, 311 pp., illus. Paper, \$A19.95. Special Australian Heritage Publication Series, no. 8.

**Social Causes of Psychological Distress.** John Mirowsky and Catherine E. Ross. Aldine de Gruyter, Hawthorne, NY, 1989. x, 214 pp., illus. \$31.95; paper, \$16.95. Social Institutions and Social Change.

**The Society of Text.** Hypertext, Hypermedia, and the Social Construction of Information. Edward Barrett, Ed. MIT Press, Cambridge, MA, 1989. x, 459 pp., illus. \$37.50. Information Systems.

**The Sociopolitical Structure of Prehistoric Southwestern Societies.** Steadman Upham, Kent G. Lightfoot, and Roberta A. Jewett, Eds. Westview, Boulder, CO, 1989. xxvi, 682 pp., illus. Paper, \$55. Investigations in American Archaeology.

**Strengthening Collaboration in Biotechnology.** International Agricultural Research and the Private Sector. J. I. Cohen, Ed. Agency for International Development, Washington, DC, 1989 (distributor, Winrock International, Arlington, VA). xii, 480 pp. Paper, \$24.50. From a conference, Rosslyn, VA, April 1988.

**Supercritical Fluid Science and Technology.** Keith P. Johnston and Johannes M. L. Penninger, Eds.

American Chemical Society, Washington, DC, 1989. x, 550 pp., illus. \$99.95. ACS Symposium Series, vol. 406. From a symposium, Washington, DC, Nov.-Dec. 1988.

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**Techno-Diplomacy.** US-Soviet Confrontations in Science and Technology. Glenn E. Schweitzer. Plenum, New York, 1989. xiv, 320 pp. \$22.95.

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**Time Frames.** The Evolution of Punctuated Equilibria. Niles Eldredge. Princeton University Press, Princeton, NJ, 1989. 240 pp., illus. Paper \$8.95. Princeton Science Library. Reprint, 1985 ed.

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**Water Sampling.** Jaromil M. Krajča, Ed. Jeremy Joseph, trans. ed. Horwood, Chichester, U.K., and Halsted (Wiley), New York, 1989. 212 pp., illus. \$89.95. Ellis Horwood Brooks in Water and Wastewater Technology.

**What Children Can Tell Us.** Eliciting, Interpreting, and Evaluating Information from Children. Jossey-Bass, San Francisco, 1989. xxx, 373 pp. \$24.95. Jossey-Bass Social and Behavioral Science Series.

**Where No Man Has Gone Before.** A History of Apollo Lunar Exploration Missions. William David Compton. National Aeronautics and Space Administration, Washington, DC, 1989 (available from the Superintendent of Documents, Washington, DC). xiv, 415 pp., illus. Paper, \$19. NASA History Series.

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**Wild Plants of America.** A Select Guide for the Naturalist and Traveler. Richard M. Smith. Wiley, New York, 1989. xx, 267 pp., illus. Paper, \$12.95. Wiley Nature Editions.

**The World Bank and the Environmental Challenge.** Philippe Le Prestre. Susquehanna University Press, Selinsgrove, PA, 1989 (distributor, Associated University Presses, Cranbury, NJ). 263 pp. \$36.50.

**Yeast Genetic Engineering.** Philip J. Barr, Anthony J. Brake, and Pablo Valenzuela, Eds. Butterworths, Stoneham, MA, 1989. xviii, 354 pp., illus. \$65. Biotechnology, vol. 13.

## Products & Materials

### Program for Drawing Chemical Structures

ChemWindow, a Microsoft Windows application, allows the user to draw a chemical structure and transfer it to a word-processing document without leaving the word processor. The program has tools for drawing symbol strings, ten bond types, and five straight arrows, which include reaction, equilibrium, resonance, dashed, and retrosynthetic. It has an undo facility and on-line help. The program runs on IBM-compatible computers and requires 512K random access memory, a hard disk drive, mouse, and graphics adapter. Softshell International. Circle 459.

### Monoclonal Antibodies

A new panel of monoclonals is available for labeling human leukocytes for flow cytometry and histology. More than 70 monoclonals to different rat antigens, many of which are available as direct conjugates of fluorescein and *R. phycoerythrin*. Serotec. Circle 454.

A new monoclonal antibody specific for HTLV-I envelope does not cross-react with HTLV-II- or HIV-I-infected cells. Other monoclonals available are specific for HTLV-I core proteins, HIV-1 core and envelope proteins, interleukin-2 receptor (CD25),  $\beta_2$ -microglobulin, human lymphocyte antigens, human cytokines, and T4 (CD4). Circle 455.

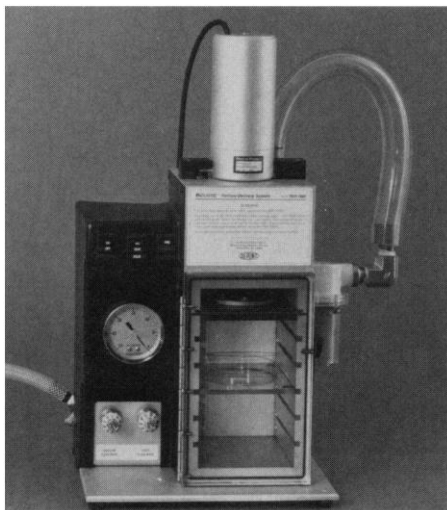
An hCG $\beta$  monoclonal antibody displays low cross-reactivity with human leutenizing hormone, follicle-stimulating hormone, and thyroid-stimulating hormone. Fitzgerald Industries International. Circle 456.

Monoclonal mouse antibody to human immunoglobulin E (IgE) is intended for the detection of IgE-forming plasma cells, atopic mast cells with bound IgE, and IgE-secreting multiple myeloma. Anti-IgE reacts with the heavy ( $\epsilon$ ) chain present in all types of human IgE. Dako Corp. Circle 457.

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

### Delivery System for Cell Injection

The "Biolistic" PDS-1000 particle delivery system inaugurates the next generation of instruments for injecting genetic or biological substances directly into cells and tissues. The process has been used in transformation of agricultural and nonagricultural



plants, yeast, algae, organelles, and mammalian cells. The Biolistic system delivers microcarriers coated with a biological substance. The carriers are accelerated at high velocity inside a vacuum chamber so they penetrate thousands of cell walls and membranes simultaneously with an even distribution of the substance. Actual entry into cells takes place in less than 1  $\mu$ s. The model has several new features, including a better initiator mechanism, an interlock safety device, vacuum flow valves, and push-button action controls. Du Pont. Circle 451.

### Plastic Slide Case

The Delton Slide Case protects slide specimens. The lightweight, polypropylene case features a fingertip cavity for safe insertion and removal of the slide and four clasps to enclose it. Inside ribs suspend the slide, preventing the specimen from contacting the interior walls of the case. Delton Scientific. Circle 464.

### Data Acquisition and Analysis Software

PATCH (for IBM PC-AT or compatibles) is a software package that can acquire and analyze data that is repetitive in form but varies in shape, size, and time correlation (for example, single-channel patch

clamp data, postsynaptic potentials, extracellular signals, and electrocardiograms). PATCH can stimulate, record, and digitize incoming data. It can analyze data, fit curves, and display and print publication-quality graphics. Medical Systems Corp. Circle 458.

### Genome Qualified Restriction Enzymes

Genome Qualified Restriction Enzymes offer a new level of quality assurance and application guidance for scientists requiring the highest quality restriction enzymes in the mapping of chromosomal DNA. The manufacturer has tested the enzymes for optimal performance on bacterial and *Neurospora* chromosomal DNA templates embedded in agarose. Chromosomal DNA preparation, digestion, and gel separation parameters have been optimized to guarantee clean digestion products free of degraded background. Promega. Circle 461.

### Literature

*Kewaunee Silhouette Series* describes the Silhouette Series of wood laboratory furniture, featuring a variety of finish colors and a contoured look with machined, recessed pulls on drawers and doors. Kewaunee Scientific Corp. Circle 440.

The fall 1989 *PC Data Acquisition Systems Handbook for Scientists and Engineers* contains many new products for data acquisition and instrument control. Included in this edition are multiport serial boards, IEEE-488 interfaces, digital oscilloscope boards, and PC expansion chassis for use with IBM-compatible, IBM Micro-Channel, and Macintosh computer systems. CyberResearch. Circle 490.

*Charge-Coupled Devices for Quantitative Electronic Imaging* is a 30-page booklet that describes the theory and application of charge-coupled device (CCD) imagers for applications demanding high linearity and dynamic range. CCD performance limitations are fully discussed, together with calibration and noise-reduction techniques. Photometrics. Circle 491.

*Extech Instruments 1990* is a catalog of test and measurement instruments. Complete specifications, pricing, and full descriptions are given for many new hand-held and benchtop meters for water-quality testing in the field or laboratory. The line includes thermometers, pH meters, pH and oxidation-reduction potential electrodes, viscometers, and refractometers. Extech Instruments. Circle 498.

# Personnel Placement

**SCIENCE** publishes each Friday, except the last Friday of the year, and is mailed on issue date. Personnel advertising is accepted only with the understanding that the advertiser does not discriminate among applicants on the basis of race, sex, religion, age, color, national origin, handicap, or sexual preference. **SCIENCE** reserves the right, in its discretion, to decline to publish advertisements submitted to it.

## LINE CLASSIFIED ADVERTISEMENTS

**DEADLINE:** Thursday, 10 a.m., 2 weeks prior to issue date. Advertising is accepted only in writing.

**POLICIES:** All classified ads will be edited and typeset according to **SCIENCE** style guidelines. NO ABBREVIATIONS. Any deadline for applications stated in ad must be at least 2 weeks after date of issue in which ad appears.

**CLASSIFICATION:** **SCIENCE** publishes line classified ads under the following headings: **Positions Open, Employment Agencies, Fellowships, Situations Wanted, Courses and Training, Meetings, Announcements, and Marketplace.** Advertisers should specify classification desired; however, **SCIENCE** reserves the right to decline classification requests which it believes may be misleading to readers.

**RATE:** \$41 per line, \$410 minimum, per week. One line equals 52 characters and spaces; centered headings equal 32 characters and spaces per line. No charge for use of blind box number. No agency commission for ads less than 40 lines. No cash discount. Prepayment required for all foreign ads. Purchase orders required for all other advertising.

To ESTIMATE ad cost, structure ad copy on a 52-character line; include any desired heading on 32-character lines. Each line of heading, one line of white space between heading and body of ad, and all partial lines (including centered reply information, if desired) are counted as full lines. Multiply total number of lines  $\times$  \$41 = approximate cost of ad, per week. (This is an approximate cost ONLY. Allow for variation between estimated lines and actual typeset lines and resulting final cost. Purchase orders must allow for some degree of flexibility and/or adjustment. **SCIENCE** cannot provide proofs of typeset ads.)

**BOXES AND LOGOS:** Any 1-column line classified ad can be boxed and/or published with logo. No extra production charge for use of box or logo. For boxed ads, one line equals 48 characters and spaces; two additional lines will be added to cost of ad to allow for top and bottom box rules. Logos are billed according to number of lines needed to accommodate logo.

**SITUATIONS WANTED ADS:** As a service to AAAS members in good standing, **SCIENCE** offers free placement of Situations Wanted ads for individuals seeking full-time or part-time employment. A blind box may be used. Ads must be submitted in writing with text of 20 words or less, not including address or box number, and are limited to two insertions per member in each calendar year. Please enclose **SCIENCE** mailing label including AAAS membership number when submitting ad.

**CANCELLATIONS:** Deadline for cancellations is 10 a.m. Tuesday, 10 days prior to issue date.

Address ad copy or requests for information to:

**SCIENCE Classified Advertising**  
1333 H Street, NW, Room 940  
Washington, DC 20005  
Telephone: 202-326-6555  
FAX: 202-682-0816

## MARKETPLACE AND DISPLAY PERSONNEL ADVERTISEMENTS

For rates, deadlines, and other information about fractional display ads (1/6 page and larger) and all **Marketplace** listings of available products and services, contact:

**Scherago Associates, Inc.**  
1515 Broadway  
New York, NY 10036  
Telephone: 212-730-1050  
FAX: 212-382-3725

## RESPONSES TO EMPLOYMENT ADS

Applicants should read Positions Open ads carefully in order to submit all required material when responding, and should especially check for any stated deadline for receipt of applications.

**SCIENCE** encourages applicants for positions to investigate employment laws, nondiscrimination policies, visa requirements, and cultural differences in the country advertising for employees.

To reply to a blind box ad, address correspondence to:

Box (give number)  
**SCIENCE Classified Advertising**  
1333 H Street, NW, Room 940  
Washington, DC 20005

## POSITIONS OPEN

### ANIMAL PHYSIOLOGIST

Applications are invited for a tenure-track **ASSISTANT PROFESSORSHIP** beginning 1 September 1990. Candidates should have postdoctoral training in animal physiology, experience using molecular/cellular techniques, and a commitment to establishing an externally funded research program. A willingness to participate in both undergraduate and graduate training programs is expected. Teaching responsibilities will include an introductory course in human physiology and the development of an advanced course in the applicant's area of specialization.

Review of applications will begin 1 February 1990 and continue until the position is filled. Candidates should submit a letter of application, curriculum vitae, and names of three references to: **Dr. Daniel D. Jones, Department of Biology, University of Alabama at Birmingham, UAB Station, Birmingham, AL 35294.**

*The University of Alabama at Birmingham is an Equal Opportunity/Affirmative Action Employer.*

### ASSISTANT CURATOR DEPARTMENT OF EDUCATION AMERICAN MUSEUM OF NATURAL HISTORY

The Department of Education invites applications for a tenure-track curatorial position. Primary responsibility will be teaching adults, including presenting college-level courses for teachers and lecture series to the lay public. Will assist in the preparation and editing of written materials. May lead occasional weekend field study trips. Other projects as assigned.

Salary commensurate with qualifications and experience. The successful applicant must have completed all requirements for the Ph.D. by time of appointment, with a strong practical background in the natural sciences, especially vertebrate zoology fields. Should have participated in field studies, and have at least 2 years of teaching experience at the college level.

Applicants should submit by 1 March 1990: a letter of application with a brief statement of objectives, curriculum vitae, complete bibliography, and names, addresses and telephone numbers of at least three professionals acquainted with the applicant's qualifications and accomplishments. Submit to:

**Dr. Malcolm Arth, Chairman**  
Education Department Search Committee  
American Museum of Natural History  
Central Park West at 79th Street  
New York, NY 10024-5192  
*An Equal Opportunity Employer.*

**ASSISTANT PROFESSOR.** Applications are invited for a position at the level of assistant professor (tenure track) in the Department of Chemistry at Stanford University, with primary research and teaching interests in the general area of inorganic chemistry. Applicants must be strongly motivated toward creative research and have a commitment to teaching at the undergraduate and graduate levels. In applying, please send curriculum vitae, list of publications, a brief statement of research interests (three pages or less), and, in addition, have three letters of recommendation sent to: **Professor Harden M. McConnell, Chairman, Department of Chemistry, Stanford University, Stanford, CA 94305.** *Stanford is committed to Equal Opportunity through Affirmative Action in employment, and we are especially eager to identify minority persons and women with appropriate qualifications.* Applications should be received by 19 January 1990.

**ASSISTANT PROFESSOR.** Tenure-track position starting August 1990 in environmental toxicology. Postdoctoral experience is desirable. The Zoology Department has a strong emphasis in toxicology with specialists doing research in a variety of areas. The faculty member will be expected to develop a strong research program. New faculty are assigned one course per semester during their first year and three courses per year during subsequent years. During the first year, the faculty member would be expected to teach principles of biology in fall and pharmacology in spring. Send statements of teaching and research interests, résumé, and transcripts, and request three individuals familiar with your work to send letter of reference directly to: **Search Committee, Department of Zoology, Oklahoma State University (OSU), Stillwater, OK 74078** before 15 February 1990. *OSU is an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

**ASSISTANT PROFESSOR, ECOLOGY.** The Biology Department seeks a terrestrial ecologist trained in population, community, and/or ecosystem ecology for a tenure-track assistant professorship beginning 1 September 1990. The successful candidate will teach ecologically oriented courses at the undergraduate and master's level and participate in the college's interdisciplinary environmental science program. Establishment of an active, field-oriented research program involving students is expected. Ph.D. required; postdoctoral research and teaching experience plus knowledge of computer applications is desirable. Please submit curriculum vitae, transcripts, and three letters of reference to: **Dr. Edith Wallace, Chairperson, Biology Department, Drawer XX, William Paterson College (WPC), 300 Pompton Road, Wayne, NJ 07470** by 30 January 1990. *WPC is an Affirmative Action/Equal Opportunity Employer.*

**ASSISTANT PROFESSOR, ENVIRONMENTAL CHEMISTRY.** Tenure-track, academic year position in the Department of Natural Resources Science beginning 1 July 1990. Teach undergraduate and graduate courses in applied soil and water chemistry and advise undergraduate and graduate students. Develop an active research program focused on the fate and dynamics of non-point source chemical pollutants in ecosystems. Ph.D. in soil and water chemistry, environmental chemistry, or related discipline with specialization in dynamics and fate of chemicals in soil, water, and biota. Demonstrated effectiveness in teaching and research highly desirable. Submit letter of application, résumé, official transcripts, and three letters of reference (sent directly to address below) by 1 February 1990 (applications will be accepted until position is filled): **Dr. William R. Wright, Search Committee Chair, Assistant Professor, Environmental Chemistry (190331) Position, The University of Rhode Island, P.O. Box G, Kingston, RI 02881.** *An Affirmative Action/Equal Opportunity Employer.*

### ASSISTANT PROFESSOR OF BIOLOGY PLANT BIOLOGIST WITH ENVIRONMENTAL INTERESTS

The Department of Biology at Texas Christian University (TCU) invites applications for a tenure-track position which will be available starting August 1990. Candidates should have a Ph.D. and postdoctoral experience is preferred. Development of a strong research program, capable of obtaining extramural funding, and involving undergraduate and graduate students is expected. The candidate's research may be either applied or basic. Teaching responsibilities include participation in introductory biology, botany, and environmental science courses. Candidates should submit curriculum vitae, selected reprints, transcripts of academic work, brief descriptions of their teaching and research interests, and letters of reference from three persons knowledgeable of the candidate's research and teaching abilities by 2 February 1990 to: **Dr. Glenn Kroh, Search Committee Chair, Biology Department, Box 32916, Texas Christian University, Fort Worth, TX 76129.** *TCU is an Equal Opportunity/Affirmative Action Employer.*

### ASSISTANT PROFESSOR FISHERIES ECOLOGY

We seek an individual with interests and training in fish population biology, fisheries ecology, and aquatic food webs. Teaching responsibilities include fisheries biology, ichthyology, and occasional participation in introductory biology and graduate courses.

The research area of the candidate should complement existing fish-related programs in aquaculture, aquatic ecology, food web dynamics, genetics, and immunology. The opportunity exists for a joint research appointment at the university's Center for Great Lakes Studies, where significant resources will be made available for laboratory and shipboard research.

A Ph.D. is required with postdoctoral experience preferred. Please submit curriculum vitae, a statement of teaching and research objectives, and a selection of reprints, and have three letters of recommendation sent by 15 February 1990 to:

**Chair, Fisheries Search Committee**  
Department of Biological Sciences  
University of Wisconsin-Milwaukee  
P.O. Box 413  
Milwaukee, WI 53201

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

## POSITIONS OPEN

Tenure-track position as **ASSISTANT PROFESSOR** in the Department of Internal Medicine, Section of Hematology/Oncology, Bone Marrow Transplant Program. Individuals will be expected to conduct research (clinical and/or basic) and care for patients, with emphasis on autologous bone marrow transplantation. Research interests may include, but are not limited to, pharmacology of drug resistance, use of hematopoietic growth factors, and studies of immunologic restoration. Excellent clinical and laboratory facilities are available. Applicants should submit their curriculum vitae and letters of recommendation to: **William Dalton, M.D., Arizona Cancer Center, 1515 North Campbell Avenue, Tucson, AZ 85724.** Closing date is 28 February 1990, or until filled. *The University of Arizona is an Equal Employment Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

### LEAVE REPLACEMENT MICROBIOLOGY AND MOLECULAR GENETICS

Two-year position available for a **VISITING ASSISTANT PROFESSOR**, beginning 1 September 1990. The successful candidate will offer a combination of introductory and advanced courses in microbiology and genetics and collaborate in offering an introductory course in cell biology. The normal teaching load consists of a lecture/laboratory course (or its equivalent) in each fall and spring term, a seminar or lecture course in either term, and a course of choice during the short winter term. Applicants are encouraged to describe the range of courses they could offer in this format. Ph.D. or A.B.D. required. The completed application will include statements of teaching and research interests, curriculum vitae, undergraduate and graduate transcripts, and three letters of recommendation. Personal material and letters of recommendation (mailed under separate cover) should be addressed to: **Christopher Watters, Chair, Department of Biology, Middlebury College, Middlebury, VT 05753.** Postmark deadline: 29 January 1990. *Middlebury College is an Equal Opportunity Employer. Women and minorities are encouraged to apply.*

### ASSISTANT PROFESSOR MOLECULAR IMMUNOLOGY

The Department of Microbiology and Immunology, Baylor College of Medicine, invites applications for a tenure-track faculty position in molecular immunology. We seek an individual of exceptional capabilities with a strong postdoctoral training record and substantial research productivity in molecular biology and/or molecular immunology. The candidate should be determined to establish a strong independent research program and should welcome collaborative interactions with departmental colleagues in T lymphocyte immunoregulation, MHC structure, function, and genetics. Interested applicants should send curriculum vitae, a brief description of research plans, and names of three references to: **Dr. Robert R. Rich, Department of Microbiology and Immunology, M929, Baylor College of Medicine, Houston, TX 77030.** Applications received before 15 February 1990 will receive preference in review. *Baylor College of Medicine is an Equal Opportunity/Affirmative Action Employer.*

### UNIVERSITY OF HAWAII DEPARTMENT OF ZOOLOGY

The Department of Zoology invites applications for a tenure-track position for an **ASSISTANT OR ASSOCIATE PROFESSOR**. The applicant must be qualified to teach biometry at the graduate level and provide statistical consulting to graduate students and staff. The applicant will be expected to develop an active and original research program in his/her area of specialization. A Ph.D. degree is required; preference will be given to applicants with postdoctoral experience. Position will be available 1 August 1990. Applicants should send statement of experience and philosophy in teaching biometry and applying statistical methods to biological problems, statement providing details of past research accomplishments and direction of future research, curriculum vitae, sample publications, and names and addresses of at least three references to: **Dr. Fred I. Kamemoto, Chairman, Department of Zoology, Edmondson Hall, 2538 The Mall, University of Hawaii at Manoa, Honolulu, HI 96822.** Deadline for application is 31 January 1990. *The University of Hawaii is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

## POSITIONS OPEN

**ASSISTANT PROFESSOR IN RESIDENCE**, University of California, San Diego. Research faculty position available for well-trained investigator with Ph.D. in biochemistry, physiology, or related discipline to generate a research program in glucose and insulin metabolism. Experience in whole animal physiologic studies as well as modern in vivo techniques of investigation are preferred. Opportunities to collaborate with other faculty interested in insulin resistance and insulin action exist. This position is at a junior faculty level, but associate professor appointments are possible if commensurate with the candidate's experience and background. The primary appointment will be in the Department of Surgery with collaborative interactions and secondary appointments in other departments as appropriate. Closing date: 31 March 1990. Salary per published scale. Send letter of inquiry and curriculum vitae to: **Dr. Jerrold Olefsky, University of California, San Diego, Department of Medicine (V-111G), La Jolla, CA 92093.** *The University of California is an Equal Opportunity/Affirmative Action Employer.*

**ASSISTANT RESEARCH BIOCHEMIST/MOLECULAR BIOLOGIST.** Position available in the Cancer Center, University of California, San Diego (UCSD), to study mechanisms of resistance to cancer drugs. Ph.D. in the biological sciences required. Experience in molecular biological techniques, and in the development and transfection of expression vectors. Salary commensurate with experience and within UCSD pay scales. Apply by 31 January 1990 to: **Stephen B. Howell, M.D., Department of Medicine, T-012, UCSD, La Jolla, CA 92093.** *An Equal Opportunity/Affirmative Action Employer.*

**ASSISTANT RESEARCH ENDOCRINOLOGIST.** Position available in endocrinology and metabolism. (Level of appointment equivalent to **ASSISTANT PROFESSOR**.) Ph.D. in molecular biology/biochemistry/cell biology or relevant biological sciences. Minimum of 2 years of postdoctoral experience in molecular and/or cell biology; expertise in techniques of cell biology, molecular cloning, in vitro mutagenesis, and protein biochemistry. Research will focus on molecular and cellular mechanisms of insulin action. Salary established within University of California, San Diego (UCSD), salary scale. Reply by 15 February 1990 to: **Jerrold M. Olefsky, M.D., University of California, San Diego, Department of Medicine, M-023E, La Jolla, CA 92093.** *An Equal Opportunity/Affirmative Action Employer.*

**ASSISTANT RESEARCH ENDOCRINOLOGIST.** Ph.D. in the biological sciences required. Experience in cDNA cloning, cloning, expression vectors, DNA sequencing, receptor biology, and a background in the field of neuroendocrine research. Particular emphasis on definition of the mechanisms of binary decisions in the development of mammalian cell phenotypes. Experience with supervision and instruction of students and full-time personnel preferred. Salary per established University of California, San Diego (UCSD), research series. Apply by 12 January 1990 to: **Dr. Michael G. Rosenfeld, Department of Medicine, M-013, UCSD, La Jolla, CA 92093.** *An Equal Opportunity/Affirmative Action Employer.*

### BIOLOGY

Yeshiva College, the men's undergraduate liberal arts college of Yeshiva University, seeks a full-time, tenure-track **ASSISTANT/ASSOCIATE PROFESSOR** for September 1990. Required are an earned doctorate, successful teaching experience, a strong commitment to undergraduate education, and the ability to conduct an active, independent research program. Teaching may include general biology, comparative anatomy, cell biology, developmental biology, and animal physiology. Please send a letter of application with statement of technical research interests, curriculum vitae (including bibliography), and names and addresses of three references to: **Dean Norman Rosenfeld, Yeshiva College, 500 West 185th Street, New York, NY 10033.** *Equal Opportunity Employer.*

**BONE HISTOLOGY LABORATORY.** Ph.D. or M.D. to direct activities of well-established histomorphometry laboratory. Training in bone histology, pathology, and physiology required. Minimum experience: 3 years. Contact: **H. H. Malluche, M.D., Division of Nephrology, Bone and Mineral Metabolism, University of Kentucky Medical Center, Lexington, KY 40536-0084.**

## POSITIONS OPEN

### SIMON FRASER UNIVERSITY CHAIR OF THE DEPARTMENT OF BIOLOGICAL SCIENCES

Applications and nominations are sought for the position of **CHAIR** of the Department of Biological Sciences at Simon Fraser University (SFU). The department has 35 faculty members whose teaching and research interests cover all the modern areas of biological sciences. There is a graduate enrollment of some 160 students, and external research grant support in 1988-89 was \$2.4 million. A departmental chair appointment is for up to 5 years and is renewable; the salary is negotiable. The appointment would normally carry tenure. Candidates should have an excellent recording research and a demonstrated ability as an academic leader.

Applications or nominations should be forwarded by 15 January 1990 to: **The Dean of Science, Simon Fraser University, Burnaby, B.C. V5A 1S6.**

*This advertisement is directed to people who are eligible for employment in Canada at the time of application. SFU offers Equal Employment Opportunities to qualified applicants.*

**COORDINATOR OF NATURAL RESOURCES MANAGEMENT PROGRAM (NRMP).** Tenure-track. NRMP is a multi-discipline program with equitable consideration of scientific, economic, and social factor interdependence. Duties include coordination of the undergraduate program, teaching, advising, and research. Earned doctorate required with expertise in management combined with natural resources, environmental education, wildlife/marine biology, or hydrology. Mail letter of application, curriculum vitae, official transcripts, and three reference letters by 28 February 1990 to: **Chair, NRMP Coordinator Search Committee, 0220 Symons Hall, University of Maryland, College Park, MD 20742.**

**LABORATORY DIRECTOR FOR A MOLECULAR BIOLOGY RESOURCES FACILITY.** Ph.D. or M.S. degree in biochemistry or organic chemistry, preferably with training and several years of experience in analytical biochemistry. The director supervises the operation of a laboratory that performs amino acid analysis, peptide synthesis, peptide sequencing, and oligonucleotide synthesis for researchers in the biological sciences. Supervise one full-time and two part-time technicians. Send résumé and names and addresses of three references to: **Dr. Raymond W. Beck, Biology Consortium, M-303 Walters Life Sciences Building, University of Tennessee-Knoxville (UTK), Knoxville, TN 37996.** Application review begins 1 February 1990. *UTK is an Equal Opportunity/Affirmative Action/Title IX/Section 504 Employer.*

### MARINE CENTER DIRECTOR

The Louisiana Universities Marine Consortium, an organization of Louisiana's public universities, invites applications and nominations for the newly created position of **DIRECTOR** of the Louisiana Universities Marine Center. Duties for the position include guiding research and educational programs and administering operations of the Marine Center in Cocodrie, Louisiana, and two field stations. The Marine Center Director will report to the Executive Director of the Consortium and will also serve as the Consortium's Associate Director. The successful candidate is encouraged to maintain a program of independent research dealing with some aspect of the coastal ocean. Adjunct appointment to the faculty of one or more member universities is expected. The Marine Center contains 30,000 square feet of research and teaching laboratories and, at present, has a resident faculty of eight doctoral-level scientists. Research and teaching facilities are also used by faculty and students from member universities. Two specially built research vessels, *Pelican* (105 feet) and *Acadiana* (57 feet), are based at the Marine Center. Applicants should be marine scientists with a strong record of accomplishment in research and preferably with some experience in administration of research and education programs. Applicants should send a letter of application, résumé and names, addresses, and telephone numbers of three individuals familiar with their qualifications by 31 January 1990 to: **Dr. Donald F. Boesch, Executive Director, Louisiana Universities Marine Consortium, Chauvin, LA 70344.**

*Louisiana Universities Marine Consortium is an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

**ASSISTANT PROFESSOR OF PHYSIOLOGY AND BIOPHYSICS.** A tenure-track faculty position in human physiology and biophysics. Experience beyond the Ph.D./M.D. is required. Successful applicant will be expected to participate in innovative teaching in a problem solving medical school curriculum and to establish a strong and independent research program in the area of speciality. Rank and salary negotiable, depending on qualifications and experience. Starting date: 1 July 1990. Send curriculum vitae and three letters of recommendation to: **Dr. Panayotis G. Iatridis, Northwest Center for Medical Education, Indiana University School of Medicine, 3400 Broadway, Gary, IN 46408.** *Indiana University is an Equal Opportunity/Affirmative Action Employer.*

**ARNOLD RESEARCH EDITOR.** The Arnold Arboretum of Harvard University invites applications for a research editor for the *Flora of China* project. Responsibilities include: editing English translations of Chinese botanical descriptions and taxonomic treatments; herbarium verifications of written descriptions with actual specimens and testing of keys; original research in related fields. Qualifications will include: Ph.D. in Asian flora and geography. Familiarity with an Asian language will be helpful. The position will be renewed annually, pending funding, and will remain open until a suitable candidate is found. Send résumé, letter of interest, and the names of three references to: **Dr. David Boufford, Arnold Arboretum, 22 Divinity Avenue, Cambridge, MA 02138.**

**ARNOLD RESEARCH DIRECTOR.** The Arnold Arboretum of Harvard University invites applications for a director to manage a new program of botanical inventory in tropical Southeast Asia. Responsibilities will include: day-to-day management of Arnold Arboretum collaborations with Asian botanical institutions for mounting inventory expeditions; coordination with other botanical/conservation organizations; budgetary planning and implementation; database management; supervisory responsibility for all personnel; original research in fields related to program goals. Qualifications will include: Ph.D. in plant systematics with knowledge of Malaysian flora; proven leadership and managerial skills; experience with the organization of field expeditions in tropical Southeast Asia; knowledge of computer database management. Send résumé, letter of interest, and the names of three references to: **Dr. Robert E. Cook, Arnold Arboretum, 125 Arborway, Jamaica Plain, MA 02130.**

### FACULTY POSITION DEPARTMENT OF MEDICAL BIOCHEMISTRY AND GENETICS

The Department of Medical Biochemistry and Genetics invites applications for a tenure-track faculty position. Salary and rank are open and dependent upon qualifications. An endowed chair is a possibility for an exceptional candidate. As part of an expanding research community, candidates are expected to establish or maintain a vigorous research program and participate in medical and graduate instruction. Applications from individuals with research interests in any area of biochemistry, molecular biology, or molecular genetics are encouraged. Submit curriculum vitae, description of research interests, and names of three references to: **Dr. Garret Ihler, Department of Medical Biochemistry and Genetics, Texas A&M College of Medicine, College Station, TX 77843-1114.** *Equal Opportunity/Affirmative Action Employer.*

**PHYSIOLOGIST: ASSISTANT PROFESSOR.** The Department of Biology, State University of New York (SUNY) College at Fredonia invites applications for a tenure-track position available August 1990. Qualifications include a Ph.D. in biological sciences and a commitment to undergraduate instruction and research. Experience in animal physiology is required. The college has a student population of about 4500 undergraduates and is located near Lake Erie, 40 miles from Buffalo. The department has 10 faculty and about 250 undergraduate majors in biology, medical technology, and recombinant gene technology. M.S. degrees are offered in biology and biology education. Applications should include curriculum vitae, three letters of recommendation, and a letter explaining teaching and research interests. Send applications to: **Search Committee, Department of Biology, SUNY College at Fredonia, Fredonia, NY 14063.** Application deadline is 2 February 1990. *SUNY College at Fredonia is an Equal Opportunity/Affirmative Action Employer. Women and minorities are strongly encouraged to apply.*

## POSITIONS OPEN

**BIOCHEMIST** sought for new tenure-track **ASSISTANT OR ASSOCIATE PROFESSOR** of chemistry position for September 1990 to develop biochemistry/molecular biology emphasis and provide leadership toward achieving ACS-approved program. Salary negotiable. Ph.D. required with primary interest in teaching within liberal arts setting and commitment to continued scholarship. North Central College (NCC) is a United Methodist-related comprehensive college of 2500 students located 30 miles west of Chicago. Send application, curriculum vitae, undergraduate and graduate transcripts, and three letters of recommendation to: **Meredith Russell, Secretary to Chemistry Search Committee, North Central College, P.O. Box 3063, Naperville, IL 60566-7063.** Applications reviewed from 19 January 1990 and accepted until position filled. *NCC actively seeks women and minority candidates. Applicants must be able to lawfully accept United States employment at time of employment offer. Equal Opportunity Employer.*

### BIOLOGIST

Gettysburg College, a highly selective liberal arts institution, invites applications for a one-year sabbatical replacement for 1990-91 at the **ASSISTANT PROFESSOR** level. Teaching duties include developmental biology or immunology and participating in the introductory biology course. Course load permits time for research. Please submit curriculum vitae and three letters of recommendation by 2 February 1990 to: **Dr. Sherman S. Hendrix, Department of Biology, Gettysburg College, Gettysburg, PA 17325.** Recommendations should speak to teaching competence.

*Gettysburg College is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.*

### CELL BIOLOGY/GENETICS

The Department of Biology, Hamilton College, invites applications for a one-year leave replacement position at the **ASSISTANT PROFESSOR** level, effective 1 July 1990. Applicants must have a Ph.D. degree; teaching experience is desirable. The successful applicant will team-teach an introductory course in cell chemistry and structure (cell structure part), team-teach an introductory course in genetics and development (genetics part), and offer an upper-level specialty. Interested individuals should send curriculum vitae, statements of teaching and research interests, and a list of three references to: **David Gapp, Chair, Biology Department, Hamilton College, Clinton, NY 13323.** Applications must be received by 9 February 1990. *Women and members of minorities are encouraged to apply. Hamilton College is an Equal Opportunity/Affirmative Action Employer.*

**NEPHROLOGY FULL-TIME FACULTY.** Veterans Administration Medical Center. **ASSISTANT PROFESSOR.** Board-eligible in nephrology. Demonstrated ability to conduct research with emphasis on applying molecular biological techniques to membrane transport. Contact: **Dr. Robert Alpern, Department of Internal Medicine, University of Texas Southwestern Medical Center, 5323 Harry Hines Boulevard, Dallas, TX 75235-8856.** *VA Medical Center is an Equal Opportunity Employer.*

### TEACHING OVERSEAS

The Department of Biology at the American University of Beirut in Beirut, Lebanon (AUB) invites applications for faculty positions at the level of **ASSISTANT PROFESSOR** or above, available 1 October 1990. Candidates with specializations in the following fields are sought: zoology and comparative vertebrate anatomy, and plant taxonomy and ecology.

Applicants should hold the Ph.D. degree and are expected to teach undergraduate and graduate courses and to conduct a research program. Postdoctoral experience is preferred.

Appointments are normally made for a 3-year period. Interested persons may send their curriculum vitae and three letters of recommendation before 31 March 1990 to: **The Dean of Arts and Sciences, c/o New York Office of the American University of Beirut, 850 Third Avenue, New York, NY 10022.**

U.S. passports are presently invalid for travel to, in, or through Lebanon, and for residence in Lebanon, by order of the Department of State, and therefore applications from individuals who would travel to or reside in Lebanon on a U.S. passport cannot at this time be considered. *AUB is an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

### PENN STATE BIOLOGY FACULTY POSITIONS

The Department of Biology, The Pennsylvania State University Commonwealth Educational System, invites applications for five tenure-track positions available August 1990.

Altoona Campus, Altoona, Pennsylvania: position requires teaching general biology, zoology, and introductory-level courses in anatomy and physiology. Berks Campus, Reading, Pennsylvania: duties include teaching general biology and botany; microbiology or agronomy background desirable. Hazleton Campus, Hazleton, Pennsylvania: duties include teaching general biology and basic human anatomy, physiology, and microbiology for allied health majors. Schuylkill Campus, Schuylkill Haven, Pennsylvania: position requires teaching general biology and botany; microbiology background desirable. Wilkes-Barre Campus, Wilkes-Barre, Pennsylvania: position requires teaching general biology and introductory-level courses in ecology, genetics, or physiology; microbiology background desirable.

Candidates must have Ph.D. degree. Continuing scholarly activity, including research and publication, will be required. Salary and rank commensurate with qualifications. Application deadline: 31 January 1990 or until suitable applicants are found. Separate application materials are required for each position. Send curriculum vitae, transcripts, and three letters of reference to: **Dr. William Neff, Box G, 208 Mueller Laboratory, University Park, PA 16802.** *An Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.*

### FACULTY POSITION ANALYTICAL CHEMISTRY

The Department of Chemistry at Indiana University, Bloomington, invites applications from analytical chemists for a tenure-track faculty position at the **ASSISTANT PROFESSOR** level. Beginning date August 1990. Applicants must show exceptional promise of establishing a vigorous, independent research program in an academic setting. To apply, please submit curriculum vitae and publication list, a short résumé of ideas for the development of research programs, and arrange to have three letters of recommendation forwarded. Deadline for applications is 1 February 1990. Please apply to:

**Professor Paul A. Grieco  
Chairman's Office  
Department of Chemistry  
Indiana University  
Bloomington, IN 47405**

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

### FACULTY POSITION IN PHYSIOLOGY

The Department of Physiology at Rush University seeks outstanding candidates for an entry-level **ASSISTANT PROFESSOR OR INSTRUCTOR** position. Applicants must have earned or completed all the requirements for a Ph.D. in either physiology or biophysics and have a strong background in membrane biophysics, especially patch clamp and reconstitution studies of ion channels. Applicants must have the ability to conduct an active, ongoing research program in excitation contraction coupling, using double-vaseline gap voltage clamp of single muscle fiber and planar bilayer reconstitution of Ca channels. The position includes responsibility for teaching medical and graduate students. Candidates should submit by 30 January 1990: curriculum vitae, a brief statement summarizing their past and present research experience and their future research interests and objectives, and have three letters of reference sent to: **Robert Eisenberg, Chairman, Department of Physiology, Rush University, 1750 West Harrison, Chicago, IL 60612.** *The Rush University is an Affirmative Action/Equal Opportunity Employer.*

**DEPUTY DIRECTOR, EXHIBITS AND EDUCATIONAL PROGRAMS,** California Museum of Science and Industry. Direct all aspects of exhibit development and maintenance, and educational programs at major science center. Ph.D. (preferred) or masters degree in scientific or technological field; 5 years of academic administration or museum management experience is required. Starting salary: \$58,944. Send letter and résumé to: **Elizabeth Sims, Personnel Officer, California Museum of Science and Industry, 700 State Drive, Los Angeles, CA 90037.** *Equal Opportunity Employer.*

# Biomolecular Discovery

## Postdoctoral Scientist

SmithKline Beecham Pharmaceuticals, a leader in Pharmaceutical Research, has two openings for Postdoctoral Scientists to participate in the discovery of novel antineoplastic agents utilizing specific mechanism-based screens for natural products from marine organisms, terrestrial plants and microbial sources. One of the candidates will be involved in development of specific bioassays to detect inhibitors of targets such as topoisomerases, enzymes in recombination and DNA damage repair pathways, specific proteases and receptors. This individual will also participate in biological characterization of compounds discovered in the screens.

The other candidate will be responsible for fractionation of extracts to isolate and purify active components and will collaborate with members of the Department of Physical and Structural Chemistry in structural elucidation. In addition, this individual will be responsible for chemical modification of novel compounds when necessary for structure elucidation and for subsequent SAR studies. The Department of Biomolecular Discovery is an established group of biologists and chemists committed to the discovery of novel natural products using specific mechanism-based screens for receptor antagonists and enzyme inhibitors relevant to a broad spectrum of therapeutic areas.

Candidates for the biology position will have:

- A Ph.D. in pharmacology, biochemistry or related field.
- Expertise in biochemistry and/or receptor biology.
- Skills in yeast genetics and molecular biology are highly desirable.

Candidates for the chemistry position will have:

- A Ph.D. in organic chemistry with 1-2 years experience in natural products.
- Extensive knowledge of modern isolation and separation techniques and the ability to interpret spectral data.
- Demonstrated productivity as evidenced by publications in the scientific literature.

Publications of research findings in leading journals and full interaction with the scientific community are strongly encouraged.

Our state-of-the-art research facility is located in suburban Philadelphia, near Valley Forge, PA. SmithKline Beecham Pharmaceuticals provides a stimulating and challenging work environment with opportunity for professional growth. We offer an attractive compensation and benefits package. For confidential consideration, send your C.V. and the names of three references to: **Nancy Hasson, H0127, SmithKline Beecham Pharmaceuticals, Research & Development, P.O. Box 1539, King of Prussia, PA 19406-0939.** We are an Equal Opportunity Employer, M/F/H/V.



**SmithKline Beecham**  
Pharmaceuticals

### U.S. ENVIRONMENTAL PROTECTION AGENCY'S 1990 VISITING SCIENTISTS AND ENGINEERS PROGRAM

The Environmental Protection Agency's (EPA) Office of Research and Development is accepting applications to its 1990 Visiting Scientists and Engineers Program. Applicants must have a minimum of five years experience beyond the Ph.D. Those selected will conduct research at one of the following EPA laboratories (or office) for up to three years on a full or part-time basis. Applications will be accepted through May 31, 1990, on the following topics:

#### HEALTH EFFECTS RESEARCH LABORATORY, RESEARCH TRIANGLE PARK, NC

- In Vitro Approaches for Neurotoxicity Assessments
- Subcellular In Vitro Approaches for Neurotoxicity Assessments
- Application of Mechanistic Information and/or Mathematical Models to Improve Low Dose and Interspecies Extrapolations in Developmental Toxicity Risk Assessments
- Studies in Experimental Dosimetry Involving Exposure Via the Respiratory, Dermal, and Oral Routes
- Development of Physiologically Based Models to Predict the Pharmacokinetic Behavior of Environmental Chemicals
- Investigation of the Health Effects of Inhaled Pollutants on Human Pulmonary Cells In Vivo and In Vitro

#### RISK REDUCTION ENGINEERING LABORATORY, CINCINNATI, OH

- Basic Research into the Physics and Chemistry of Binding Interactions Between Contaminants (Organics, Inorganics, Metallic) and Soil Particles

#### ROBERT S. KERR ENVIRONMENTAL RESEARCH LABORATORY, ADA, OK

- Measurement of Multiphase Fluids in Laboratory Soil Columns

#### ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, CINCINNATI, OH

- Development of Analytical Methods for Organic Disinfection By-Products in Drinking Water

#### ENVIRONMENTAL RESEARCH LABORATORY, CORVALLIS, OR

- Improved Statistical Methods for Evaluating Ecological Monitoring Data
- Effect of Ozone on Woody Plants
- Ecological Indicators of Landscape-Level Environmental Stress
- Indicators of the Ecological Health of Wetlands
- Spatial Analysis of a National Environmental Database
- Effects of Airborne Toxic Chemicals Ecosystems
- Cumulative Effects of Wetland Loss on Hydrologic Functions of Watersheds
- Ecoinicators Using Biological Community or Assemblage Measures
- Changes in Below-Ground Processes in Woody Plants in Response to Natural and Anthropogenic Environmental Stress
- Environmental Biotechnology Risk Assessment
- Effects of Multiple Stresses on Biodiversity
- Biogenic Emissions as Feedback Processes to Climate Change
- Ecological Effects of Global Climatic Change

- Research into Population Parameters Sensitive to Stress
- Development of DNA Probes to Identify and Track Fungi, Viruses, and Bacteria in Populations

#### ATMOSPHERIC RESEARCH & EXPOSURE ASSESSMENT LABORATORY, RESEARCH TRIANGLE PARK, NC

- Development of Human Exposure Models to Accurately Predict Exposures to Environmental Pollutants
- Management and Assessment of Quality Assurance Data from Large Air Pollution Monitoring Programs
- Laboratory Simulation of Buoyant Plume Penetration of Elevated Inversions

#### ENVIRONMENTAL MONITORING SYSTEMS LABORATORY, LAS VEGAS, NV

- Use of Remote Sensing Digital Imagery, in Conjunction with Geographic Information Systems (GIS), to Delineate, Map, and Monitor Ecosystems

#### HUMAN HEALTH ASSESSMENT GROUP (HHAG), OFFICE OF HEALTH AND ENVIRONMENTAL ASSESSMENT, WASHINGTON, DC

- Research into the Application of Biostatistical and Mathematical Modelling Approaches to Reproductive and Developmental Toxicity Data for Human Health Risk Assessment
- Research in Methods Development and Risk Assessment Approaches to Evaluate Female Reproductive Toxicity
- Pharmacokinetics Modeling: Development of Appropriate Models for Incorporation of Available Relevant Metabolism and PK Data into Risk Assessment
- Implications of Rat Kidney Tumor Response for Cancer Risk Assessment in Humans
- Prediction of Cancer Risk on the Basis of Epidemiological Data

For an instruction booklet containing detailed application requirements and other important information, write to:

**Alvin Edwards**  
1990 Visiting Scientists and Engineers Program  
Office of Exploratory Research, RD-675  
U.S. Environmental Protection Agency  
401 M Street, S.W., Room NE306  
Washington, D.C. 20460  
Phone: (202) 382-7663

*EPA is an equal opportunity employer*

## POSITIONS OPEN

### HENDRIX COLLEGE BIOLOGY DEPARTMENT

Two **FACULTY POSITIONS**: Developmental biologist to teach zoology, anatomy, and embryological development; microbiologist to teach general microbiology and advanced course(s) in candidate's specialty. Both positions are tenure-track **ASSISTANT PROFESSOR**, entry-level, and require participation in teaching introductory biology, direction of undergraduate research (start-up funding is available), student advising, and faculty governance. Apply by 1 February 1990 to: **Dr. Bruce Haggard, Chairman, Biology Department, Hendrix College, Conway, AR 72032.**

*An Equal Opportunity/Affirmative Action Employer.*

### TENURE-TRACK FACULTY POSITION UCR/UCLA PROGRAM IN BIOMEDICAL SCIENCES CELL BIOLOGY/HISTOLOGY

The UCR/UCLA Program in Biomedical Sciences, which offers an accelerated M.D. curriculum jointly between the University of California, Riverside (UCR), and the University of California, Los Angeles (UCLA) School of Medicine, has a tenure-track faculty position open in the Division of Biomedical Sciences at UCR available 1 July 1990.

Primary teaching responsibilities will be one-half of a 12-week lecture and laboratory course in histology for 24 first-year medical students. Prior medical school teaching experience is strongly preferred. The successful candidate will also be expected to actively participate in graduate student training.

The committee welcomes applications from those with research interests in any area of cell biology who would enjoy working within a multidisciplinary environment.

The prospective level of appointment for candidates, who must possess the Ph.D. and/or M.D. degree, may be at the **ASSISTANT ASSOCIATE, OR FULL PROFESSOR** level. Junior applicants must have postdoctoral research experience and the potential to develop a strong, extramurally funded research program. Senior applicants should have a clearly demonstrable record of research productivity, success in obtaining extramural funding, and demonstrated teaching effectiveness. *The University of California is an Affirmative Action/Equal Opportunity Employer.* The deadline for application is 15 February 1990. Applicants should send curriculum vitae, representative reprints, a statement of present and future research goals, and summary of teaching experience, and arrange to have three letters of recommendation sent to:

**Dr. Ameae M. Walker**  
Cell Biology/Histology Search Committee  
Division of Biomedical Sciences  
University of California  
Riverside, CA 92521-0121

### MICROBIOLOGIST OR BIOGEOCHEMIST.

The Colorado School of Mines, Department of Environmental Sciences, invites applications for a tenure-track position at the **ASSISTANT OR ASSOCIATE PROFESSOR** level, depending on qualifications.

The applicant should possess a Ph.D. in microbiology, biochemistry, or a related field. A minimum of 2 years of experience in research and teaching is required. Research interests related to microbial processes in geochemistry, transformation of organic or inorganic pollutants, and waste management would be appropriate. The candidate must have a commitment to excellence in teaching and to the development of a successful graduate research program.

Teaching duties will include courses in applied microbiology and biogeochemistry. The person occupying this position should be able to work cooperatively in building an interdisciplinary graduate research program combining microbiology, geochemistry, and environmental science. A joint appointment with the Department of Chemistry and Geochemistry is an option.

Applications will be accepted until 15 January 1990 or until such time as the position is filled. Candidates should send résumé, statement of professional goals, and at least three letters of reference to:

**Colorado School of Mines**  
Environmental Science Search Committee  
P.O. Box 69  
Golden, CO 80401

*An Equal Employment Opportunity/  
Affirmative Action Employer.*  
*Females and minorities encouraged to apply.*

## POSITIONS OPEN

### FACULTY POSITIONS MEMORIAL SLOAN-KETTERING CANCER CENTER CELL BIOLOGY AND GENETICS PROGRAM

The Memorial Sloan-Kettering Cancer Center invites applications for several tenure-track junior and senior faculty positions in the Cell Biology and Genetics Program. This research program is one of four in the institute, and is expanding in the areas of cell cycle control, differentiation, cell structure, intercellular recognition, and morphogenesis. The Cell Biology and Genetics Program is located in a new research building which also houses advanced facilities for protein and nucleic acid microchemistry, transgenic mice, and automated mammalian cell micromanipulation. The members of the Cell Biology and Genetics Program faculty are affiliated with the Cell Biology Graduate Program at Cornell University Medical College. The positions offered are highly competitive with regard to start-up funds, laboratory space, salary, and housing.

Eligible candidates should have a doctoral degree, postdoctoral experience, and demonstrate potential and ability to develop an independent, imaginative research program. Formal applications are invited from junior as well as established investigators. Applications should include curriculum vitae, a list of publications, a summary of research activities and research plan, and three letters of recommendation. Applications should be addressed to: **Dr. Joan Massague, c/o Christine Brohme, Box #135, Memorial Sloan-Kettering Cancer Center, 1275 York Avenue, New York, NY 10021.**

*Equal Opportunity/Affirmative Action Employer.*

### ECOTOXICOLOGY LABORATORY GROUP HEAD

Exxon Biomedical Sciences, Inc., has an immediate opening for a qualified individual to lead the operation of our Ecotoxicology Laboratory. The state-of-the-art laboratory includes facilities to culture and test marine and freshwater organisms. Acute and chronic tests of products and effluents are conducted in accordance with GLP and appropriate regulatory guidelines. The position requires the individual to act as a study director with full responsibility for the study design, development of protocols, review and evaluation of the data, and final review and approval of reports. In addition, the position also involves administrative duties including preparation and monitoring of budgets, expenses and revenues; monitoring and documenting performance of personnel; scheduling of studies, etc. The successful candidate will have a masters or Ph.D. in environmental toxicology or a related field, and also have 2+ years of experience in the supervision of an aquatic testing facility. Please forward résumé to:

**Christine Ramos, Human Resources**  
**EXXON BIOMEDICAL SCIENCES, INC.**  
Mettlers Road, CN 2350  
East Millstone, NJ 08875-2350

*Equal Opportunity Employer, M/F/V/H.*

**HEMATOLOGIST-ONCOLOGIST** at the **INSTRUCTOR AND ASSISTANT PROFESSOR** level. Full-time faculty appointment at the University of Texas, M. D. Anderson Cancer Center. Applicant must qualify for licensure in Texas and be B.C.-B.E. in medical oncology or hematology. A strong interest in clinical research and commitment to patient care is essential. Research laboratory experience desirable but not mandatory. The focus of the department is on the use of biological agents (interferons, interleukins, hematopoietic growth factors) in the therapy of human malignancies. Please send curriculum vitae, including names and addresses of references, to:

**Jordan U. Gutterman, M.D.**  
Professor and Chairman  
Department of Clinical Immunology  
and Biological Therapy, Box 41  
M. D. Anderson Cancer Center  
1515 Holcombe Boulevard  
Houston, TX 77030  
Attention: **Debra Mouton**

*An Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

**PROFESSOR AND HEAD**, Department of Anatomy and Physiology. Kansas State University, College of Veterinary Medicine, seeks a professor and head, Department of Anatomy and Physiology. The research and instructional programs of the department include anatomy, cell biology, neurosciences, physiology, pharmacology, physiological chemistry, and veterinary nutrition. The department has 14 full-time faculty, 25 graduate students in M.S. and Ph.D. degree programs, and 12 support staff. Candidates should possess the D.V.M. degree (or equivalent) and/or the Ph.D. degree in one of the disciplines relevant to the departmental instructional and research responsibilities, veterinary professional and graduate teaching experience, and research accomplishments sufficient to warrant appointment to the rank of professor. Detailed position description is available upon request. Applications accepted until 15 January 1990 or until a suitable applicant is selected. Applicants should submit a letter of application, curriculum vitae, a summary of professional goals and administrative philosophy, and names and addresses of three references. Address applications, inquiries, and nominations to: **Dr. Joseph E. Smith, Chairman, Search Committee, College of Veterinary Medicine, Kansas State University, Manhattan, KS 66506-5605.**

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

### GENE EXPRESSION/VACCINE FORMULATION ENGINEER

BIOSTAR Inc. has immediate openings for staff scientists in its vaccine development program.

**Bacterial Gene Expression:** One staff position is available for an individual experienced in heterologous gene expression in bacteria. This position will involve the development of novel expression/secretion systems for Gram negative bacteria. Applicants should have at least 2 years of relevant postdoctoral experience and an interest in mechanisms of protein secretion.

**Formulation:** One staff position for an individual experienced in downstream processing, purification of antigens from eukaryotic and prokaryotic expression systems, vaccine formulation, and adjuvant technology.

BIOSTAR Inc., in conjunction with the Veterinary Infectious Disease Organization (VIDO), provides a stimulating atmosphere with the opportunity to collaborate with other scientists in the fields of virology, bacteriology, immunology, and molecular biology. Successful applicants will be expected to operate as an integral part of a research team and should have good communicative skills. For consideration, please forward your curriculum vitae and names of three references to:

**L. A. Babiuk**  
**BIOSTAR Inc.**  
Box 1000, Sub P.O. #6  
Saskatoon, Saskatchewan  
S7N 0W0 Canada

### ARIZONA STATE UNIVERSITY THREE FACULTY POSITIONS

The Department of Zoology at Arizona State University invites applications for three tenure-track positions at the level of **ASSISTANT PROFESSOR**: (i) **ANIMAL PHYSIOLOGIST** to complement departmental strengths in comparative and environmental physiology; (ii) **AQUATIC ECOLOGIST** to complement strengths in the ecology of inland waters; (iii) **TERRESTRIAL ECOLOGIST** to establish a research program in terrestrial ecology and have a strong commitment to teaching and service in departmental conservation biology program. Earned doctorate required.

Successful candidates will be expected to excel in research and teaching. Submit curriculum vitae, statement of research and teaching interests, selected reprints, and three letters of recommendation to either: (i) **Dr. Jeffrey Hazel, Chair, Physiology Search Committee**; (ii) **Dr. Anton Lawson, Chair, Aquatic Ecology Search Committee**; or (iii) **Dr. Stanley Faeth, Chair, Terrestrial Ecology Search Committee**, at:

**Department of Zoology**  
**Arizona State University**  
Tempe, AZ 85287-1501

Deadline is 22 January 1990, or the 15th of each month thereafter until the position is filled. Projected starting date is 16 August 1990. Applications from two individuals for a single shared appointment will be considered. *Arizona State University is an Equal Opportunity/Affirmative Action Employer.*

## SMITH COLLEGE DEPARTMENT OF PHYSICS

The Smith College Physics Department invites applications for a tenure-track position in experimental physics at the Associate or Assistant Professor level. The candidate should have a Ph.D., an interest in teaching, and research interests amenable to collaboration with undergraduates. Preference will be given to persons with an established experimental program. Funds are available to start or extend a research project. Women and minorities are encouraged to apply. Located in Western Massachusetts, Smith College is a leader in the education of women and has an outstanding record in the number of professional women physicists who are alumnae. The Five College Consortium, comprised of Smith, Amherst, Mt. Holyoke, and Hampshire Colleges and the University of Massachusetts, provides a rich intellectual and cultural life for faculty and students as well as additional collegial opportunities in teaching and research. **A curriculum vita, statement of teaching and research interests and experience, and three letters of reference should be sent to: Professor Bruce Hawkins, Chair, Department of Physics, Clark Science Center, Smith College, Northampton, MA 01063. Preference will be given to applications received before February 15, 1990. Smith College is an Equal Opportunity/Affirmative Action Employer.**



## CHAIR IN GEOLOGY (STRUCTURAL GEOLOGY/REGIONAL GEOLOGY).

Department of Geology, section A, University of Bergen, Norway invites applications for a vacant chair in geology (structural geology/regional geology).

Salary is on the scale 35, Nkr. 276 792, p.a. gross, of which Nkr. 5,333 p.a. are paid in pension contributions.

The chair will be appointed on the understanding that any changes in scientific duties, pension or retiring age made by law or by the King with the agreement of Parliament are to be accepted without compensation.

Applicants should submit 5 copies of scientific work—published or unpublished—which they wish to be considered for the appointment as well as 6 copies of a list of all scientific contributions with information on where they were published. Scientific contributions are to be submitted, in numbered order and in 5 groups, to the science faculty of the University of Bergen within one month of the closing date for applications. Scientific manuscripts in preparation may be submitted within 3 months of the closing date for applications provided notice of intent is given on submitting the other publications. Applicants are otherwise referred to the current rules for the procedure to be followed in the appointment of professorships and readerships. A resume of the vacant chair can be obtained on request from: Sekretariatet for Det matematisk-naturvitenskapelige fakultet, Postboks 25,—Universitetet, 5027 Bergen, Norway.

Should the evaluation committee find several applicants to be equally well qualified for the position, the University Board will adhere to the regulations in the University of Bergen Equal Employment Opportunities agreement (Seravtale om likestilling).

Applications, which must include a complete curriculum vitae, should be addressed to the Senate of the University of Bergen and be sent together with relevant certificates and one copy of a list of publications to Det matematisk-naturvitenskapelige fakultet, Postboks 25,—Universitetet, 5027 Bergen, Norway, by February 1, 1990.

## Opportunities In Science

### San Francisco Bay Area

SyStemix, Inc. is an exciting new company developing revolutionary technology for the study of human disease processes and treatments.

Positions will be part of our new laboratory facility currently dedicated to the evaluation of HIV/AIDS studies.

### Pharmacologist

Position will interact with our research team as well as industry and government institutions in the evaluation of new treatments. Must have in-depth knowledge of pharmacological principles and techniques with 2-5 years of post-doctoral experience.

### Research Associates

Candidates must have experience in Biochemistry, Virology and/or Immunology. A background in tissue culture, BSL3 or animal handling is desirable.

### SYSTEMIX

SyStemix offers competitive compensation and advancement opportunities.

Our full range of benefits include tuition reimbursement and 3 weeks of vacation a year. Interested candidates should send resumes to: **SyStemix, Inc., 3400 West Bayshore Road, Palo Alto, CA 94303. An Equal Opportunity Employer.**



## ANALYTICAL SCIENCES

Fisons Pharmaceuticals, a multinational Research and Development organization, is recruiting for two newly created positions at its US facility in Rochester, NY. Analytical Sciences is responsible for documenting the purity, potency and biological fate of Fisons' pharmaceuticals. These positions offer challenging opportunities to innovative candidates with proven scientific expertise, a doctorate (or lesser degree with equivalent work experience) in a relevant discipline, and effective communication and organizational skills.

### Head of Development Analysis

This experienced scientist will provide the analytical expertise to develop research formulations used in pre-clinical and clinical trials of new drugs. Leading a versatile, interdisciplinary group, the successful candidate will develop assays and specifications to document drug and formulation purity, degradation and impurity profile; formulation potency and stability; and release raw materials and finished supplies for use. Prior supervisory experience in a GLP, GMP or QC environment and familiarity with fulfilling regulatory documentation is expected.

### Senior Bioanalyst

This scientist will develop, validate and implement novel methods for quantitating new chemical entities in biological fluids. The successful candidate will have developed original and sensitive chromatographic methods for a variety of drugs and related metabolites, using appropriate extraction, separation and detection systems. Immunoassay experience would be an asset. This position will require both hands-on and supervisory effort to achieve objectives, and will demand creative solutions. Since this section's activities are governed by GLP, industrial experience is preferred.

**For consideration, send resume and salary requirements, in confidence, to Mr. Bill VanBuskirk at Fisons Pharmaceuticals, P.O. Box 1710, Rochester, NY 14603.**

# FISONS

An Equal Opportunity Employer M/F.  
Fisons is a smoking-restricted company.

**St. John's University**  
New York

# FACULTY POSITIONS

The Department of Biological Sciences, St. John's University, New York, seeks energetic candidates for two tenure-track positions with expertise in molecular, cell, developmental biology or developmental neurobiology. Rank and salary are open and depend on qualifications. Postdoctoral experience and evidence of good research productivity are required. Successful applicants will be expected to conduct an externally funded research program and to teach a course in their specialties in the doctoral program. Candidates should submit curriculum vitae with a list of publications, a brief statement of research interests, and names of at least three references by 1 January 1990, to: **Dr. Richard Lockshin, Chair, Department of Biological Sciences, St. John's University, Jamaica, NY 11439.** An Equal Opportunity Employer — M/F.

## FACULTY POSITIONS IN BIOLOGICAL SCIENCES

The Department of Biological Sciences, San Jose State University, invites applications for two tenure-track positions to begin August, 1990. Applicants must have earned doctorate and teaching experience. Post-doctoral research experience desired. Significant professional contributions and development of active research program will be expected. Both positions include teaching general education science, advising undergraduate and/or graduate students and participation in the M.A. degree program. Candidates shall have an awareness and sensitivity to the educational goals of a multicultural population. Cross cultural experience and/or training preferred. (1) **TOXICOLOGIST/CELL BIOLOGIST.** Assistant or Associate Professor. Candidate must be able to teach introductory and advanced courses in toxicology, course(s) in cell biology for biology majors, and/or introductory biology courses. (2) **MICROBIOLOGIST.** Assistant Professor. Candidate should have a broad spectrum of knowledge in microbiology, preferably with competence in immunology and/or virology, and must be able to teach introductory and advanced microbiology courses. Applications are also invited for a one year, temporary faculty position as **COORDINATOR OF MEDICAL TECHNOLOGY PROGRAM**, to begin Spring semester, 1990. Candidate must have a Master's degree in biological science and a California License in Medical Technology, in-depth knowledge of the rules and regulations for licensure of Medical Technologists in the State of California, and teaching experience in undergraduate microbiology courses. The University is committed to increasing the diversity of its faculty so our disciplines, students and community can benefit from multiple ethnic and gender perspectives. **Completed applications**, with transcripts, curriculum vitae, statement of professional goals, and three current letters of reference must be sent by January 20, 1990 to: **Dr. Wayne Savage, Chairman, Department of Biological Sciences, San Jose State University, San Jose, CA 95192.** SJSU is an Equal Opportunity Affirmative Action, Title IX Employer.

## POSITIONS OPEN

The Department of Biology, College of St. Thomas, invites applications for a full-time, temporary (1-year) **FACULTY POSITION** to begin September 1990. Rank and salary are negotiable. Duties will include lectures and some laboratory sections for a nonmajors course in general biology and an elective course for majors in either general botany or animal diversity.

The College of St. Thomas is a coeducational, Catholic liberal arts college committed to the total development of the individual student. The successful candidate will have the Ph.D. or substantial progress toward the Ph.D. and a strong commitment to teaching at the undergraduate level and in a liberal arts context.

Send letter of application, curriculum vitae, and have three letters of recommendation sent directly, to: **Ms. Penny M. Pease, Mail #4050, College of St. Thomas, 2115 Summit Avenue, St. Paul, MN 55105.** All materials must be received by 1 February 1990.

*The College of St. Thomas is an Equal Opportunity/Affirmative Action Employer.*

**MASS SPECTROSCOPIST.** Rice University Department of Biochemistry announces the availability of a scientific staff position for an experienced bioorganic mass spectroscopist to operate GC-MS units and to participate in research on sterol biosynthesis, sterol metabolism, and the chemistry of complex lipids. Salary dependent on qualifications and experience. Position available immediately. Interested persons should send résumé and names of three references to: **G. J. Schroepfer, Jr., Department of Biochemistry, Rice University, P.O. Box 1892, Houston, TX 77251.** Rice is an Equal Opportunity/Affirmative Action Employer.

## MICROBIOLOGIST ASSISTANT, ASSOCIATE, OR PROFESSOR

The Department of Microbiology, University of California at Davis, invites applications for an 11-month, tenure-track, open rank position from candidates who have demonstrated excellence in microbiological research. The candidate will join a strong, supportive, and growing department with strength in diversity, physiology, and genetics. Teaching responsibilities include graduate and/or undergraduate courses in bacterial physiology and genetics. Please send curriculum vitae, selected publications, a statement of proposed research, a description of teaching experience and interests, and the names of three references to: **Dr. J. C. Meeks, Chair, Physiology/Genetics Search Committee, Department of Microbiology, University of California, Davis, CA 95616.** The position will remain open until filled; however, to be assured of consideration, applications should be received by 1 February 1990. *The University of California is an Affirmative Action/Equal Opportunity Employer. Women and minorities are encouraged to apply.*

**MOLECULAR BIOLOGIST/VIROLOGIST.** Kansas State University College of Veterinary Medicine has an available tenure-track position as an **ASSISTANT OR ASSOCIATE PROFESSOR** of molecular virology. Duties: 60 to 80% research, 20 to 40% instruction. This faculty member must develop independent and collaborative research and participate in graduate instruction. Some instructional responsibilities in the D.V.M. curriculum may be assigned. A Ph.D. with training and experience in modern molecular biology/virology required. A D.V.M. or evidence of training or experience with viral diseases of domestic animals preferred. Submit curriculum vitae, a statement of career goals, and names and addresses of three references regarding your professional capabilities to: **Dr. Wayne E. Bailie, Department of Laboratory Medicine, VMS Building, Manhattan, KS 66506.** Application deadline is 15 January 1990. *Kansas State University is an Equal Opportunity/Affirmative Action Employer. Minorities, women, and other protected group members are encouraged to apply.*

**POSTDOCTORAL RESEARCH.** The Research Triangle Institute, a not-for-profit research organization located in Research Triangle Park, North Carolina, has an opportunity in an interdisciplinary group working toward developing catalytic antibodies for the treatment of drug abuse. Preference will be given to applicants with experience in molecular biology. To apply, forward curriculum vitae, description of research interests, and names of three references to: **Dr. C. E. Cook, Vice President, The Center for Chemistry and Life Sciences, Research Triangle Institute, P.O. Box 12194, Research Triangle Park, NC 27709.** An Affirmative Action/Equal Opportunity Employer.

## POSITIONS OPEN

### IMMUNOLOGIST

The Department of Microbiology at Colorado State University invites applications and nominations for a tenure-track faculty position. Qualifications include the Ph.D., D.V.M./Ph.D., or equivalent degrees and advanced training in the application of modern, cellular, genetic, molecular, and/or structural approaches to study the immune system. Preference will be given to individuals whose research interests and expertise complement ongoing programs in infectious diseases. The successful candidate will be expected to establish an independent research program and to contribute to departmental teaching responsibilities in immunology.

An application letter including a statement of research interests and goals, curriculum vitae, and three letters of recommendation should be sent to:

**Barry J. Beaty**  
Search Committee Chairman  
Department of Microbiology  
Colorado State University  
Fort Collins, CO 80523  
Telephone: 303-491-6794

Applications will be accepted until 28 February 1990 or until a suitable candidate is identified. Salary and rank will be commensurate with experience. *CSU is an Equal Opportunity/Affirmative Action Employer.*

### UNITED STATES DEPARTMENT OF COMMERCE (USDOC) MARINE ECOLOGIST

The National Marine Fisheries Service, Alaska Region, is seeking a marine ecologist to serve as damage assessment studies coordinator within the Office of Oil Spill Damage Assessment and Restoration, located in Juneau, Alaska. This office was recently established to manage the National Oceanic and Atmospheric Administration's (NOAA) programs regarding the Exxon Valdez oil spill in Prince William Sound and the Gulf of Alaska. Incumbent will be responsible for coordination of the NOAA damage assessment studies program being conducted to determine natural resource injuries as a result of the oil spill. Minimum requirements are a B.S. in the biological sciences and 2 or 3 years of professional experience in marine-related science. Graduate education in marine ecology or marine biology may be substituted for experience. This is a term appointment, not to exceed 4 years. Salary is a GS-12, starting at \$35,825 plus 25% COLA. *U.S. citizenship required.* Contact: **Lori Budbill, telephone: 206-526-6066**, for announcement and application forms by 8 January 1990. *USDOC is an Equal Opportunity Employer.*

**EMINENT SCHOLAR, FLORIDA.** Funding for an endowed chair has been received by the University of Florida College of Dentistry through matching funds of the Eminent Scholar Program of the state of Florida. Primary sponsorship was provided by the Academy 100, the premier support group of the college. A distinguished dentist/clinician/scholar is sought for this position at the rank of **PROFESSOR**. Salary is negotiable. Requirements include the D.D.S. or D.M.D. degree and a superior record of teaching, research, and service. Postdoctoral training is desirable, as well as a research record which includes extramural funding or the capacity to attract such support. Expertise related to clinical dentistry in an interdisciplinary area is preferred. Applicants should be willing to share their knowledge and expertise through continuing education or other appropriate extramural endeavors.

Inquiries, nominations, and applications may be directed to: **Dr. Frank J. Vertucci, Chairman Search Committee, Box J-436, JHMHSC, Gainesville, FL 32610-0436**, by 15 February 1990.

**OREGON Tenure-track position** in Department of General and Oral Pathology. Applicants should have doctorate in dentistry, medicine, or a Ph.D. with training in molecular biology, molecular genetics and/or immunopathology. Candidates with funded research grants or with an established record or demonstrated potential for funded research will receive highest consideration. Limited teaching responsibilities have main emphasis on graduate level education. Rank and salary commensurate with qualifications. *An Equal Opportunity/Affirmative Action Employer.* Position is open and available. Applications accepted until position filled. Send curriculum vitae and letter of personal goals to: **M. H. Bartley, DMD, Ph.D., Department of General and Oral Pathology, School of Dentistry, Oregon Health Sciences University, 611 S.W. Campus Drive, Portland, OR 97201.**

## POSITIONS OPEN

### PHARMACOLOGY AND TOXICOLOGY FACULTY POSITION

The Department of Pharmacology and Toxicology at the Medical College of Virginia invites applications for a tenurable faculty position at the rank of **ASSISTANT PROFESSOR**. A doctorate degree, or its equivalent, and at least 2 years of relevant postdoctoral experience are required. We are seeking an outstanding scientist studying the biochemical or molecular pharmacology of drugs or toxicants, capable of establishing a funded independent research program and contributing to the teaching of graduate and professional students in the area of pharmacology or toxicology. The primary focus of the search is for an individual with an interest in using the methods of modern molecular biology or cellular electrophysiology to study basic mechanisms of cell function and/or drug action, although individuals with other areas of interest at the cellular or molecular level will also be considered. A complete job description and desired qualifications will be sent on request. Send curriculum vitae and the names of three references by 1 February 1990 to: **Dr. Robert L. Balster, Department of Pharmacology and Toxicology, Medical College of Virginia, Virginia Commonwealth University (VCU), Richmond, VA 23298-0613. VCU is an Equal Opportunity/Affirmative Action Employer.**

### FACULTY POSITION UNIVERSITY OF CALIFORNIA, IRVINE

The Department of Physiology and Biophysics is seeking a faculty member with research interest in the molecular and electrophysiological aspects of lymphocyte activation at the **ASSISTANT PROFESSOR** (tenure-track) level commencing winter 1990. The successful candidate will be expected to have postdoctoral experience in molecular biology, electrophysiology, and immunology; preference will be given to candidates with relevant clinical experience. Send curriculum vitae, a brief description of research interests, and the names of three referees before deadline date of 15 January 1990 to: **Dr. Scott E. Fraser, Acting Chairman, Department of Physiology and Biophysics, University of California, Irvine, CA 92717.**

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

### FACULTY POSITION IN CELLULAR AND MOLECULAR BIOLOGY NATIONAL JEWISH CENTER FOR IMMUNOLOGY AND RESPIRATORY MEDICINE

The Division of Basic Sciences at the National Jewish Center for Immunology and Respiratory Medicine is seeking four outstanding scientists to complement existing strengths in transmembrane signalling and immunology. Research interests may include developmental biology, gene transcription, protein processing and transport, growth regulation including oncogene and proto-oncogene function, or cell membrane biophysics. The National Jewish Center for Immunology and Respiratory Medicine is a private, nonsectarian research institute and is affiliated with the University of Colorado Health Sciences Center. Applicants should have M.D., Ph.D., or both, and submit curriculum vitae, names and addresses of three references, and a statement regarding present and future interests to:

**John Cambier, Ph.D.  
Chair, Search Committee  
Division of Basic Sciences  
National Jewish Center for Immunology  
and Respiratory Medicine  
1400 Jackson Street  
Denver, CO 80206**

*National Jewish Center for Immunology and Respiratory Medicine is an Equal Opportunity Employer.*

**OPHTHALMOLOGY RESEARCHER** to perform genetics research to determine underlying causes of retinoblastoma and clinically related tumors, and role of retinoblastoma gene in cancer development. Analyze and compare structural changes and deletions in DNA. Develop and test methods of prevention. Assist in preparation of articles for publication. Must have M.D. degree or equivalent and 3 years of experience in this job. \$621 per week, 40 hours per week. Job site and interview in Los Angeles, California. Send ad and résumé to: **Job #SS-10766, P.O. Box 9560, Sacramento, CA 95823-0560, no later than 8 January 1990.**

## CAMBRIDGE NEUROSCIENCE RESEARCH, INC.

Cambridge Neuroscience Research, Inc. is a leading research and development company focusing on Neurobiology and its applications. We have a position available for a Director of Molecular Biology in our newly expanded state-of-the-art laboratory located in Cambridge, Massachusetts, close to M.I.T. and Harvard University.

### DIRECTOR - MOLECULAR BIOLOGY

The Director of Molecular Biology will manage the Company's program in the discovery of protein neuroprotective agents. In addition, he/she will lead an in-house research group and will play a leading role in interfacing with the Company's interdisciplinary staff, and with corporate and academic collaborators.

The candidate should have an international reputation with at least five years of professional experience after post-doctoral work, and should also have recent experience in running a productive laboratory. Previous involvement with growth factor research and/or exposure to the development side of protein therapeutics is highly desirable.

Cambridge Neuroscience Research, Inc. can offer the appropriate candidate a stimulating research environment in which the publication of important research findings is encouraged.

We are offering an excellent salary and benefits which include founders' stock.

**Please send curriculum vitae and names of three references to: Cambridge Neuroscience Research, Inc., One Kendall Square, Building 700, Cambridge, MA 02139. Attn: Director of Human Resources.**

An equal opportunity employer



## THE LUDWIG INSTITUTE FOR CANCER RESEARCH

Middlesex Hospital/University College Branch  
Neurotrophic Factor Program

### POSTDOCTORAL FELLOWSHIPS STAFF SCIENTISTS

The Ludwig Institute for Cancer Research has initiated a collaboration with **CAMBRIDGE NEUROSCIENCE RESEARCH, INC.**, a research and development company focusing on neurobiology and its applications, to discover neurotrophic factors with therapeutic potential in the treatment of human neurodegenerative diseases and cancer. With this collaboration, we are offering Postdoctoral Fellowships and Staff Scientist opportunities under the direction of Dr. M.D. Waterfield.

Candidates should have a Ph.D. or equivalent with experience in Protein Chemistry or Cell Biology/Tissue Culture. Experience in growth factor research would be highly desirable.

Candidates who are selected to participate in this joint venture will benefit from the resources made available by the merging of technical, academic and industrial research environments that this collaboration allows. These resources include the proven capabilities of the Institute's advanced bioreactor facility to purify and characterize large quantities of growth factors from cell lines and tissue as well as its advanced downstream processing capabilities. Candidates will interact with highly specialized staff and will use the state-of-the-art technology of the Institute's sophisticated protein sequencing facility.

**Please send curriculum vitae (2 copies) and names of three references to: Secretary to the Administrator, Ludwig Institute for Cancer Research, 91 Riding House Street, London W1P8BT, England.**

An equal opportunity employer

# LICR

# Senior Physicist

## ELECTRO-STATIC & HIGH VOLTAGE PHENOMENON

We are a progressive R & D unit of a Fortune 500 corporation located in a beautiful north suburb of Chicago. Our current search is for a dynamic scientist with 5-10 years of hands-on experience in electro-static and high voltage phenomenon, and excellent project leadership ability. We require at least an MS degree in Physics with a PhD preferred. Candidates with less practical experience (3-5 years) but with impressive academic/professional credentials will also be considered.

When you join us, you can look forward to an excellent salary/benefits program with relocation assistance, and career advancement in a state-of-the-art environment. For immediate, confidential consideration, send resume and salary history to: Director of Human Resources.

**TW TECHNOLOGY CENTER**  
3650 W. Lake Ave.  
Glenview, IL 60025

An Equal Opportunity Employer

## ELECTRON MICROPROBE ANALYST

and

## TRANSMISSION ELECTRON MICROSCOPIST

The University of Alabama is seeking an **electron microprobe analyst** to operate a new JEOL 8600 electron microprobe (EMP) and a **transmission electron microscopist** to operate a new Hitachi H-8000 transmission electron microscope (TEM). The EMP is equipped with 5 wavelength dispersive spectrometers, TN 5600 automation, a TN 5402 energy dispersive X-ray analyzer, and a TN 5702 digital image analysis system. The TEM is equipped with a STEM attachment, a TN 5502 X-ray detector, and a signal processing system. Both instruments are located in the central analytical facility of the new Tom Bevill Energy, Mineral, and Material Science Research Building which houses a variety of electron optical, X-ray, spectrographic, and chromatographic analytical equipment.

The EMP analyst and TEM microscopist will supervise operation of the instruments, perform analyses for researchers, and train users in routine analytical procedures. Experience in the following areas is considered an asset for the EMP analyst: 1) microprobe techniques and X-ray data correction methods for geological materials, 2) mineral chemistry and petrology, 3) computer programming, and 4) EMP maintenance. Experience in the following areas is considered an asset for the TEM microscopist: 1) TEM/STEM techniques for materials science, 2) thin-film research, 3) quantitative analytical microscopy, and 4) high-resolution microscopy. The EMP analyst and TEM microscopist are expected to participate in on-going research projects and will be encouraged to carry-out their own research.

The EMP analyst should have a M.S. in Geology, but candidates with expertise in some or all of the above fields will be considered. The TEM microscopist should have a degree in Natural Sciences or Metallurgy; work experience in a research environment is desirable. Salaries will be commensurate with experience. Applications must be received before February 1, 1990; appointments begin March 1, 1990. Send a letter of application, vitae, and the names of three references to Dr. Jen-Ho Fang, Chairman, Department of Geology, Box 870338, University of Alabama, Tuscaloosa, Alabama 35487.

*The University of Alabama is an equal opportunity/affirmative action employer.*

WE'RE CHANGING  
MILLIONS OF LIVES.  
NOW IT'S YOUR TURN.

**A**t Praxis Biologics, a wholly owned subsidiary of American Cyanamid Company, we're pioneering the design, manufacture and marketing of vaccines so sophisticated, they're changing lives—right now.

At Praxis, you'll help improve the quality of a lot of lives. Including your own. Our Rochester, New York research facility is located within easy reach of some of New York State's most attractive cultural, educational and recreational resources.

### RESEARCH SCIENTIST Immunology

We need an Immunologist to develop and monitor cytotoxic T cell responses to various candidate vaccine antigens in experimental animals. You should have a Ph.D. in Immunology or Microbiology with 2-5 years' experience in evaluating cell-mediated immunity.

At Praxis, you'll enjoy a professional atmosphere and the kind of salary and benefits package you'd expect from an industry leader. Please send your resume to: **Human Resources Department, 300 East River Road, Rochester, NY 14623.** An Equal Opportunity Employer M/F.

P R A X I S  
B I O L O G I C S

## AAAS MASS MEDIA SCIENCE AND ENGINEERING FELLOWS PROGRAM

The American Association for the Advancement of Science (AAAS) invites outstanding students in the natural and social sciences and engineering, preferably those at the graduate level, to apply for the 1990 Mass Media Science and Engineering Fellows Program. Students majoring in English, journalism, or other nontechnical fields are not eligible for these fellowships.

Fellows will work as reporters, researchers, production assistants, and script consultants for 10 weeks during the summer at newspapers, news magazines, and radio and television stations across the country. Fellows will have the opportunity to participate in the news making process, to increase their understanding of editorial decision making, and to develop skill in conveying to the public a better understanding and appreciation of science and technology.

AAAS pays a \$350 weekly stipend and travel expenses. Deadline for receipt of applications is 2 February 1990. *Minorities and persons with disabilities are especially encouraged to apply.*

For further information and applications, write:

**Mass Media Science and Engineering  
Fellows Program  
AAAS  
1333 H Street, NW  
Washington, D.C. 20005**

Department of Biology UCLA

# Graduate Training Course

# Marine Molecular Biology

Sponsored by the Office of Naval Research  
We are pleased to announce the second annual graduate course in  
Marine Molecular Biology

**When**  
April 2–June 11, 1990

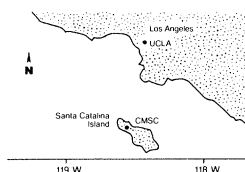
**Where**  
Catalina Island Marine Science Center  
Two Harbors, Catalina Island, CA 90704

**Faculty**  
Drs. David Chapman  
Elma Gonzalez  
James Morin  
Leonard Muscatine  
Nicolas Neckelmann  
[Emory University]

**Fees**  
Tuition (UCLA credit 12 units)  
\$470 (California resident)  
\$1902 (non-resident)  
Room and board at CMSC  
\$1150

**ONR Fellowships**  
available on a competitive basis.

The Catalina Marine Science Center is owned and operated by the University of Southern California. Facilities include lecture hall, wet/dry labs, dormitory, cafeteria, apartments, boats, dive locker. There is immediate access to a rich marine flora and fauna. A fast commercial boat serves the island from San Pedro, CA.



## Intensive Hands-on Laboratory Experience

This intensive 10-week course is intended to train marine biologists to become versatile in techniques of cell and molecular biology and biochemistry. Preference will be given to graduate students in marine sciences.

## Intended for Beginners

No previous experience in molecular biology is required or expected, but basic background in cell biology and biochemistry is assumed. The course will include lectures, seminars, field and laboratory exercises and independent research projects. Emphasis will be placed on learning advanced techniques. These will include aseptic inoculation, growth rate measurement, nutrient analyses, gas fluxes, chromatography, HPLC, FPLC, mRNA isolation, *in vitro* translation, immunoprecipitation, gel electrophoresis, enzyme assays, ultracentrifugation, protein purification, antibody preparation, western blotting, immunostaining, fluorescent antibody detection, isolation of organelles and nucleic acids, restriction endonuclease analysis, Southern blotting and hybridization, nucleotide sequencing, preparation of gene probes and construction of genomic libraries. Techniques will be applied exclusively to marine organisms.

**For Applications & Information**  
contact Dr. L. Muscatine or Dr. D. Chapman

UCLA  
Department of Biology  
Los Angeles, CA 90024-1606  
(213) 825-1771, or 825-3481  
Application deadline: January 13, 1990  
Late applications may be reviewed

## POSTDOCTORAL FELLOWSHIP

Two-Year Postdoctoral Fellowship in Animal Behavior at the National Zoological Park (Smithsonian Institution) and the Laboratory of Comparative Ethology (National Institute of Child Health and Human Development, National Institutes of Health).

### Senior Postdoctoral Fellowship

Is offered to a scholar who has held the degree for more than seven years. Stipend is \$25,000 per year plus allowances.

### Postdoctoral Fellowship

Is offered to a scholar who has held the degree for less than seven years. Stipend is \$19,000 per year plus allowances.

Applicant must submit a detailed proposal including a justification for conducting the research in residence at the Smithsonian/NIH. Areas of interest include mammalian and avian communication, developmental behavior, comparisons of behavior in lab, field, and exhibit settings, and cross-species compatibility.

### For information contact:

Dr. Edwin Gould, Curator of Mammals  
National Zoological Park,  
Washington, D.C. 20008

or

Dr. Stephen J. Suomi, Chief  
Laboratory of Comparative Ethology  
Bldg. 31/B2B15  
NICHD/NIH  
9000 Rockville Pike  
Bethesda, MD 20892



DEADLINE FOR POSTDOCTORAL FELLOWSHIPS, JANUARY 15, 1990.

The National Zoological Park and NIH are Equal Opportunity Employers



COMMONWEALTH DEPARTMENT OF  
EMPLOYMENT, EDUCATION AND  
TRAINING

## Australian Research Council Research Fellowships Scheme

The Australian Government has established a new fellowships scheme to encourage research by scientists of exceptional promise and/or proven capacity for original work.

### AUSTRALIAN POSTDOCTORAL RESEARCH FELLOWSHIPS:

50 annually, for a maximum of 3 years

### AUSTRALIAN RESEARCH FELLOWSHIPS:

30 in 1991, for a maximum of 5 years

### AUSTRALIAN SENIOR RESEARCH FELLOWSHIPS:

25 in 1991, for 5 years, renewable subject to the competitive process

Fellowships may be taken up in industry, higher education institutions or government research organisations in Australia. Fellows are expected to accept within 3 months of notification and commence by 31 December, 1991.

Fellows are strongly advised to apply for ARC or other appropriate project grants.

Preference will be given to Australian citizens.

### Australian Postdoctoral Research Fellowships:

**Qualifications:** A PhD or equivalent qualification. An excellent academic record. Written agreement of the proposed institution to accommodate the fellow and host the project.

**Eligibility:** Fellowships will be awarded on merit to suitably qualified persons.

**Salary:** Within the range \$A29,388–\$A32,599. Commencing salary will be dependent on qualifications and experience.

**Travel expenses:** Necessary travel expenses to take up duty will be reimbursed.

**Research Support Grants:** A supporting grant of \$A3500 per annum will be provided to help cover research and development costs.

### Australian Research Fellowships:

**Qualifications:** PhD or equivalent qualification with at least 2 years post-doctoral experience at the time of application. Evidence of innovative research. An excellent academic record. Agreement of the proposed institution to host the project.

**Eligibility:** Fellowships will be awarded on merit to suitably qualified persons.

**Salary:** Within the range \$A31,259–\$A39,284. Commencing salary will be dependent on qualifications and experience.

**Travel Expenses:** Necessary travel expenses to take up duty will be reimbursed.

**Research Support Grant:** A supporting grant of \$A5500 per annum will be provided to help cover research and development costs.

### Australian Senior Research Fellowships:

These Fellowships are intended to encourage outstanding international researchers who are proven leaders in their field to undertake innovative research of potential benefit to Australia.

**Qualifications:** PhD or equivalent qualification. International Recognition as a leader in research. Guaranteed funding for research project/s for the duration of the fellowship.

**Eligibility:** Fellowships will be awarded on merit.

**Salary:** Within the range \$A41,459–\$A63,919. Commencing salary will be dependent on qualifications and experience.

**Travel Expenses:** Necessary travel expenses will be reimbursed.

**Applications:** persons interested in applying for any of the above fellowships should obtain application forms and a statement of the Conditions of Award from:

The Director  
Research Training Section  
Research Policy and Grants Branch  
Department of Employment, Education and Training  
GPO Box 9880  
CANBERRA ACT 2601 AUSTRALIA.

The closing date for applications is 14 March, 1990. Applications received after this date will not be considered. Successful applicants will be announced in November, 1990.

## POSITIONS OPEN

**PHYSICS.** Seek broadly trained physicist for one-year nonrenewable faculty position. Prefer candidate with interest and experience in teaching physics in interdisciplinary context which includes historical, philosophical, and social aspects. Persons with substantive multicultural experience/expertise and ability to incorporate it into teaching strongly urged to apply. For application procedures, write: **Faculty Hiring, The Evergreen State College, Olympia, WA 98505**, or call, **telephone: 206-866-6000, ext. 6861**. Review will begin 15 January 1990.

**POPULATION GENETICIST.** Tenure-track ASSISTANT/ASSOCIATE PROFESSOR position open 20 August 1990. Ph.D. required; postdoctoral experience desirable. Expected to interact with strong coastal ecology and molecular genetics groups in the department and develop active research program. Application of molecular methodology to field populations is of particular interest. Teaching duties at graduate and undergraduate levels. Review of applications begins 1 February 1990. Send résumé; summary of research and teaching interests; list of relevant publications, and names, addresses, and telephone numbers of three references to: **Dr. Takeru Ito, Chair, Search Committee, Department of Biology, East Carolina University, Greenville, NC 27858-4353. Telephone: 919-757-6302**. As an Equal Opportunity/Affirmative Action Employer, we encourage minorities and women to apply. Federal law requires proper documentation of identity and employability at the time of employment.

**POSTDOCTORAL POSITION** available now to study myeloid membrane structure/function. Research projects involve granulocyte membrane protein purification and characterization, protein phosphorylation, and characterization of molecules recognized by myeloid-specific monoclonal antibodies. Send curriculum vitae and three names or letters of reference to: **Dr. Keith Skubitz, Department of Medicine, Box 325 UMHC, University of Minnesota Medical School, Minneapolis, MN 55455. Equal Opportunity Employer.**

**POSTDOCTORAL POSITION.** Molecular mechanisms of ion pumps and cation/proton exchangers in bacteria. Individuals with a Ph.D. in membrane biochemistry or molecular biology should send a résumé and names of three references to: **Dr. Barry P. Rosen, Chairman, Department of Biochemistry, Wayne State University School of Medicine, 540 East Canfield, Detroit, MI 48201. Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITIONS** available for studying the molecular mechanisms of olfactory and taste transduction. Second messenger mechanisms are being examined using biochemical, biophysical, and molecular biological approaches. Experience in pharmacology, biochemistry, or cell physiology desired. Send curriculum vitae and names of three references to: **Dr. Lynn Kalinski, Monell Chemical Senses Center, 3500 Market Street, Philadelphia, PA 19104. Monell is an Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITION** available for membrane transport studies and studies on structure-function analysis of a membrane transport protein. Salary negotiable, commensurate with experience. Send letter of application, curriculum vitae, and three references to: **Dr. Ada Elgavish, Department of Comparative Medicine, University of Alabama at Birmingham School of Medicine, Birmingham, AL 35294. An Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITIONS IN MOLECULAR NEUROBIOLOGY AND PHARMACOLOGY** are available to researchers interested in a multidisciplinary approach to the regulation and neuromodulation of receptor-operated ion channels. Receptor systems under investigation include the GABA/benzodiazepine, glycine, and adenosine receptors. Some of the techniques in use are gene cloning, northern and southern blots, radioligand binding, photoaffinity labeling, SDS-PAGE, ion flux, and whole-cell, patch-clamp, and oocyte electrophysiology. Salary: \$20,000 to \$25,000. Send curriculum vitae and references to: **Dr. David Farb, Chairman, Department of Pharmacology and Experimental Therapeutics, Boston University School of Medicine, 80 East Concord Street, Boston, MA 02118. Equal Opportunity/Affirmative Action Employer.**

## POSITIONS OPEN

The Environmental Protection Agency (EPA), Environmental Research Laboratory (ERL), Duluth, Minnesota, is accepting applications for a 2-year **POSTDOCTORATE POSITION** in assessing ecological effects of pesticides in natural aquatic systems. Current research program involves determining ecological effects of pesticides and other organic compounds in natural aquatic systems. Included projects are the development and refinement of field testing systems and protocols, field testing of high priority pesticides, and development of comprehensive data bases for testing ecosystem effects models.

Requirements include a Ph.D. with a major degree in aquatic ecology or related field. This position will be available in early 1990, at a salary rate of \$29,891 per year, in Duluth, Minnesota. Further information may be obtained by contacting: **Richard Siefert, telephone: 218-720-5552; or Richard Anderson, telephone: 218-720-5616.**

Write: **U.S. EPA, 6201 Congdon Boulevard, Duluth, MN 55804, Attention: Sherry Linder**, to request application forms. Application forms must be requested and returned to the Duluth laboratory no later than 19 January 1990.

*Position only open to U.S. citizens.  
The U.S. EPA is an Equal Opportunity Employer.*

## POSTDOCTORAL POSITIONS

**DNA REPLICATION.** Positions are available to participate in one or more of the following programs. **Enzymology:** The DNA polymerase III holoenzyme of *E. coli* will be studied to establish the salient features of natural replicative complexes. Particular attention will be given to the role of auxiliary proteins. **Structure:** The structure of the replicative complex will be investigated by the use of chemical and biophysical techniques including chemical and photo crosslinking and fluorescence energy transfer. **Regulation:** The regulation of the synthesis of DNA replication enzymes will be investigated with particular attention to how replication protein synthesis is coordinated with the overall regulation of cell growth and division. For a review, see *Annual Review of Biochemistry* 57, 519-550 (1988).

**ENZYMOLOGY OF RETROVIRAL AND RETROTRANSPOSON REPLICATION.** Positions are available to participate in an ongoing program aimed at development and study of a complete in vitro system for the replication and integration of retroviruses (HIV) and retrotransposons (yeast Ty). The projects will emphasize cloning of the genes for necessary proteins into expression vectors, production of templates using T7 RNA polymerase in vitro, developing assays for other necessary factors, and protein purification. The approaches used do not include infectious particles or complete viral genomes. For a review, see Ch. 5 in *Molecular Biology of Chromosome Function*, K. Adolph, Ed. (Springer-Verlag, New York, 1989).

Motivated individuals are sought who desire a training experience in a rigorous laboratory in preparation for an independent research career. To apply, please send curriculum vitae, a list of three references, and a description of career goals to: **Charles McHenry, Ph.D., Director, Program in Molecular Biology, University of Colorado School of Medicine, B-121, 4200 East 9th Avenue, Denver, CO 80262. Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITION.** Battelle, Pacific Northwest Laboratories (PNL), is seeking a postdoctoral fellow to conduct two-dimensional NMR studies on nucleic acids. Research will involve structural studies on DNA oligonucleotide sequences that are being analyzed for sensitivity to interaction with mutagenic chemicals. The appointee will conduct research both at PNL and with faculty members at the University of Washington in Seattle. PNL is one of five national multiprogram energy laboratories operated by the Battelle Memorial Institute under a contract with the U.S. Department of Energy. A staff of approximately 3000 personnel conduct research in physics, chemistry, materials, engineering, mathematics and computer science, earth and environmental sciences, and the life sciences.

Applicants should send a résumé, reprints of publications, and the names of four references to: **Dr. T. S. Tenforde, Chief Scientist, Life Sciences Center (K1-50), Battelle, Pacific Northwest Laboratories, P.O. Box 999, Richland, WA 99352.** Deadline for receipt of applications is 16 February 1990. Battelle is an Equal Opportunity Employer.

## POSITIONS OPEN

### THE SALK INSTITUTE POSTDOCTORAL POSITION IN ANALYTICAL BIOCHEMISTRY

The Clayton Foundation Laboratories for Peptide Biology of the Salk Institute for Biological Studies is seeking a postdoctoral fellow to perform characterization of new bioactive peptides and proteins using gas phase sequencing. The ideal candidate will have experience in protein chemistry and enzymology.

Interested individuals may submit curriculum vitae and a statement of research experience and interests to:

**The Salk Institute for Biological Studies  
Personnel/Research Chemist  
P.O. Box 85800  
San Diego, CA 92138-9216  
Equal Opportunity Employer, M/F/V/H.**

**POSTDOCTORAL POSITION** available immediately in molecular virology/immunology to study pathogenic mechanisms of Simian Immunodeficiency Viruses (SIV) in nonhuman primates under the direction of Dr. Jonathan S. Allan. The AIDS program is comprised of five investigators currently funded in immune mechanisms, vaccine development, chemotherapeutics, pathogenesis and molecular biology. Southwest Foundation is a nonprofit biomedical research facility supported, in part, by NIH funded research. We have a large colony of nonhuman primates, some of which are currently on AIDS studies. Candidates are expected to have an M.D., D.V.M. and/or Ph.D. and training in molecular biology. Basic expertise in molecular cloning and DNA sequencing techniques is preferred. Annual salaries range between \$21,694 and \$30,139, commensurate with relative experience. Interested individuals should send curriculum vitae and the names and phone numbers of three references to: **Personnel Director (51), Southwest Foundation for Biomedical Research, P.O. Box 28147, San Antonio, TX 78284. An Equal Opportunity Employer Male/Female.**

**RESEARCH ASSISTANT PROFESSOR.** To conduct theoretical studies in plasma physics, focusing on magnetic fusion confinement, applying turbulence theory in fluids and magnetohydrodynamics (MHD), minimum dissipation theory, Direct-Interaction Approximation (DIA) theory, and knowledge of computational methods in nonlinear processes in plasmas and multiphase fluids with emphasis on lattice-gas automata modeling and decimation methods; 40 hours per week; 9 a.m. to 5 p.m.; \$30,000 per year. Ph.D. in physics and 2 years of experience in job offered or as postdoctoral fellow. Résumé to: **New Hampshire Department of Employment Security, Attention: Job Order #90-22, Employment Service Bureau, 32 South Main Street, Concord, NH 03301-4857.**

### RESEARCH ASSISTANT PROFESSOR

The Department of Physiology at Temple University School of Medicine invites applications for a nontenure-track position at the level of research assistant professor. Ph.D. in physiology and 1 to 2 years of postdoctoral training required. Candidate must have laboratory experience in experimental physiology, protein biochemistry, and handling of radioactive materials. Applicant will be expected to conduct a variety of experiments involving in vivo thrombosis models, which require microvascular surgery. Skill in ligand-receptor binding studies, polyclonal antibody production, human venopuncture, radiolabeling of proteins, and protein purification also beneficial. Primary research area will involve the purification of various snake venom peptides and the evaluation of their potential antithrombotic activity in biological systems. Opportunity also available for participation in research focused on the localization of specific binding epitopes for plasma proteins on platelet membrane glycoproteins.

Responsibilities will include the coordination of laboratory activities and the supervision of students and technical personnel, as well as independent and collaborative research. Applicant must present evidence of excellent verbal and written communication skills and the ability to obtain research funding. Please send curriculum vitae and three letters of reference to:

**Dr. Peter R. Lynch, Chairman  
Temple University  
School of Medicine  
Department of Physiology  
3420 North Broad Street  
Philadelphia, PA 19140**

## POSITIONS OPEN

**POSTDOCTORAL POSITIONS.** Available summer/fall 1990 to participate in the identification, isolation, and molecular cloning of neurotransmitter reuptake proteins. A background in membrane biochemistry, protein chemistry, or molecular genetics is desirable, but not essential. Send curriculum vitae and names of three references to: **Dr. Gary Rudnick, Department of Pharmacology, Yale University School of Medicine, P.O. Box 3333, New Haven, CT 06510.**

**RESEARCH ASSOCIATE** for state university in northwestern Ohio. Research in photochemistry (inducement of chemical reactions by use of light), chemical kinetics (study of rates of chemical reactions), and spectroscopy (study of absorption of light) as these subjects relate to photodynamic therapy (use of light and chemicals to kill tumors). Ph.D. in chemistry and 18 months of experience in the job described required; 40 hours per week; 8 a.m. to 5 p.m., Monday to Friday; \$25,000 per year. Send résumé (no calls) to: **G. Maugans, JO#1204532, Ohio Bureau of Employment Services, P.O. Box 1618, Columbus, OH 43216.**

### RESEARCH ASSOCIATE

Cedars-Sinai Medical Center, a leading acute-care, research, and teaching institution, is recruiting at the research associate level for a biomedical research scientist.

As a member of the Department of Obstetrics and Gynecology's Division of Gynecology Oncology, this position will be responsible for tissue culturing, DNA/RNA isolation, and hybridization; immunohistochemistry; and processing specimens for tumor bank. This position requires postdoctoral M.D. or Ph.D., a minimum of 2 years of experience in molecular biology technology and tissue culture, and certification to handle radioactive materials.

We offer an attractive compensation/benefit package. For immediate consideration send curriculum vitae to: **Cedars-Sinai Medical Center, Employee Relations, The Brown Building, 8700 Beverly Boulevard, Los Angeles, CA 90048, Attention: Rebecca Chandler.**

**RESEARCH ASSOCIATE PROFESSOR OF PHARMACOLOGY.** To work on the isolation of insulin mediator and anti-mediator substances and elucidate their structure, mechanism of action, and biosynthesis. Candidates should have a strong chemical background in the isolation and identification of biological components; knowledge of physico-chemical techniques such as mass spectrometry; monospectroscopy would be an advantage. Competence and biological assay is essential. Applicant should be well informed in the mechanism of insulin action. Previous experience with insulin mediator would be an advantage.

Send curriculum vitae to: **Dr. Joseph Lerner, Department of Pharmacology, University of Virginia, Charlottesville, VA 22908.** An Equal Opportunity/Affirmative Action Employer.

**RESEARCH MANAGER, DIABETES.** Duties: manage and direct activities of a group of senior scientists responsible for the discovery and development of drugs for the treatment of diabetes mellitus and its complications; coordinate all research activities of the group with other research and development activity with the company in the area of diabetes research; develop and implement research programs and tests, including methodology and procedures, for development and discovery of drugs for the treatment of diabetes mellitus and its complications; establish scientific goals, budgeting, and personnel for group; develop and identify staffing needs, establish schedule and objectives; review scientific results to ensure accuracy and scientific integrity; prepare and deliver status reports and research results to corporate supervisors; coordinate scientific collaboration with academia in area of diabetes mellitus.

Requirements: broad knowledge of diabetes mellitus, its etiology, pathophysiology and current therapeutic modalities; experience in handling laboratory animals; radio-isotope labeling techniques, spectrophotometry, chromatography of lipids and carbohydrates, immunochemical techniques, protein purification, enzyme assays, electrophoresis and metabolic studies in animals, both in vivo and in vitro.

Minimum education: Ph.D. in biochemistry. Minimum experience: 5 years in scientific research relating to diabetes. \$58,475 per year; Monday to Friday; 8 am. to 4:30 pm. **Job Order # NC 3090681, DOT Code 189.117-030.** Interested persons apply to: **Job Service, 516 North Mangum Street, Durham, NC 27701** or nearest Job Service Office (résumés must be submitted).



COMMONWEALTH DEPARTMENT OF  
EMPLOYMENT, EDUCATION AND  
TRAINING

## AUSTRALIAN RESEARCH COUNCIL RESEARCH FELLOWSHIPS SCHEME

### Queen Elizabeth II Fellowships

The Australian Government established the Queen Elizabeth II Research Fellowships to encourage research by scientists of exceptional promise and/or proven capacity for original work.

15 Awards are offered annually.

Fellowships may be taken up in industry, higher education institutions or government research organisations in Australia and are for three years. Fellows are expected to accept within 3 months of notification and to commence before 31 December, 1991.

**Qualifications:** A PhD or equivalent. An excellent academic record with above average distinctions. Publications in international refereed journals. An established research program with 3-6 years post-doctoral research experience, preferably at an institution other than where the PhD was obtained.

**Eligibility:** Fellowships will be awarded on merit to suitably qualified persons, irrespective of nationality. There are no quotas for particular subjects.

**Salary:** Within the range \$A37,946-\$A40,622. Commencing salary will be dependent on qualifications and experience. Outstanding successful applicants in 1991 in the areas of Computer-Aided Engineering or Information Technology will receive a 15% loading.

**Travel Expenses:** Necessary travel expenses are payable.

**Research Support:** A supporting grant of \$A5500 per annum will be provided to help cover research and development costs, and an additional grant of \$A5000 per annum is available for additional research costs in cases where these costs are well justified.

Persons who are eligible to apply for an ARC project grant may do so. If successful, the Research Support Grant will lapse.

**Applications:** Persons interested in applying for the above fellowships should obtain application forms and a statement of the Conditions of Award from:

**The Director  
Research Training Section  
Research Policy and Grants Branch  
Department of Employment, Education and Training  
GPO Box 9880  
CANBERRA ACT 2601 AUSTRALIA**

The closing date for applications is 14 March, 1990. Applications received after this date will not be considered. Successful applicants will be announced in November 1990.

## Group Leader

### Metabolism Research

The Medical Research Division of American Cyanamid Company is seeking a Group Leader with considerable experience to lead a team of dedicated professionals in our Pearl River, NY facility.

The successful candidate will design, conduct and supervise studies determining the metabolism of drugs including profiling, isolation and positive identification of metabolites. The candidate will also be responsible for conducting ADME studies of drugs, as well as supervising the development of analytical methods for the analysis of drugs and metabolites in biological matrices, including radioimmunoassays.

To qualify, you must possess 9-11 years' experience in classical drug metabolism with at least 5 of those years in an industrial environment. A Ph.D. in drug metabolism, or in a related science with a strong medicinal chemistry background is required.

We offer a competitive starting salary, excellent benefits and the chance to work with the best in the industry. Lederle Laboratories is located on a 580-acre site in Rockland County, NY—just north of New York City. For immediate and confidential consideration, send your resume with salary requirements to: **Professional Employment Representative, Dept. DD, Lederle Laboratories, N. Middletown Road, Pearl River, NY 10965.** An Equal Opportunity Employer.



## CANCER EPIDEMIOLOGY AND BIostatISTICS FELLOWSHIP PROGRAM

NATIONAL CANCER INSTITUTE  
NATIONAL INSTITUTES OF HEALTH  
PUBLIC HEALTH SERVICE

### PROGRAM INFORMATION

Fellowship applications from epidemiologists, biostatisticians and geneticists are being solicited by the Epidemiology and Biostatistics Program, Division of Cancer Etiology, National Cancer Institute, National Institutes of Health. This Program is the major research arm of the U.S. government for epidemiologic and biostatistical research in cancer etiology. It includes research on the distribution, causes, natural history and means of prevention of cancer, employing a variety of epidemiologic and multidisciplinary approaches to study environmental and host risk factors.

A Fellow may elect a temporary assignment to one of the laboratory-based programs in the Institute for training in experimental techniques relevant to epidemiologic studies having biochemical or molecular components. Fellows are accepted for one to three years of training. Positions will become available from May 1 through September 1, 1990. The awards range from \$17,000 to \$39,000 per annum, depending on the experience and qualifications of the applicant. Benefits include participatory health insurance, and selected relocation and travel expenses.

### QUALIFICATIONS

The Cancer Epidemiology and Biostatistics Fellowship Program is available to highly qualified applicants with a variety of academic and research backgrounds including:

1. Physicians interested in epidemiologic and/or biostatistical research, particularly as it pertains to cancer etiology.
2. Ph.D. scientists interested in epidemiologic and/or biostatistical research in cancer. The doctoral degree should be in epidemiology, biostatistics, genetics, nutrition or other related disciplines.
3. Ph.D. candidates in doctoral programs in epidemiology, statistics or related areas, whose research at NCI could become the basis of dissertations. Approval of the candidates' university department would be required.
4. Masters-level scientists with a degree related to epidemiology or statistics, and who intend to pursue doctoral-level education in this field.

This program is limited to applicants whose last academic degree was awarded within three years, and who are U.S. citizens or resident aliens eligible for citizenship within four years. For more experienced investigators, a limited number of fellowships with a higher stipend range are available.

### HOW TO APPLY

Please submit CV's with bibliography, SF-171 form, and three letters of recommendation to:

Joseph F. Fraumeni, Jr., M.D.  
Epidemiology and Biostatistics Program  
Division of Cancer Etiology  
National Cancer Institute  
Executive Plaza North, Room 543  
Bethesda, MD 20892



Questions concerning the fellowship program should be directed to Dr. Michael Alavanja at (301) 496-1611

*Deadline for receipt of applications: March 1, 1990*

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# ENVIRONMENTAL SCIENCE AND ENGINEERING FELLOWSHIPS

## SUMMER 1990

### Applications Invited

The American Association for the Advancement of Science (AAAS) invites applications for ten environmental science and engineering fellowships available for summer 1990. The Fellows will work at the U.S. Environmental Protection Agency (EPA), with the Office of Research and Development, in Washington, DC, to assist in identifying and assessing the significance of long-range environmental problems and opportunities. The ten-week fellowships will run June 4 through August 10, 1990.

Applicants must be postdoctoral to mid-career scientists and engineers. Candidates may be from the physical, biological, or behavioral sciences, or any field of engineering or other relevant professional fields. Fellows are expected to be critical thinkers, articulate, adaptable, and able to work with a variety of people from different professional backgrounds. Applicants must be residents of the U.S.

The 1990 Environmental Fellows will receive a stipend of \$800 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 the Fellow and 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; global climate; municipal waste water and spills; drinking water; hazardous waste; chemical testing and assessment; pesticides; radiation; and energy.

Deadline for applications is March 1, 1990. The awards will be announced by April 30, 1990. The continuation of this program, now in its 10th year, is contingent on the availability of funds. For further information and specific application requirements contact:

**Environmental Science and Engineering Fellows Program**  
**American Association for the Advancement of Science**  
1333 H Street, NW, Washington, DC 20005  
202/326-6600

Senior Scientists

### CARDIOVASCULAR/PULMONARY PHARMACOLOGY

### GENERAL PHARMACOLOGY (NEUROSCIENCE)

### REPRODUCTIVE TOXICOLOGY/TERATOLOGY

**Battelle**, a leading contract research and professional services organization in Columbus, Ohio, has an immediate need for a few uniquely skilled senior scientists in the areas headlined above for our Health and Environment Group. These positions involve leading or participating in multidisciplinary teams studying pharmaceutical efficacy, product development, and safety. These laboratory studies include the use of *in vitro* and *in vivo* models.

The positions require a PhD and/or equivalent. A minimum of 3 years of experience since the PhD is expected. The experience should include laboratory research including written results. Demonstrated skills in project leadership and line management are desirable.

Battelle offers competitive salaries, comprehensive benefits, and opportunities for professional development. Please send your resume to: **Mr. Richard Shaw, Battelle, Dept. C-6, 505 King Avenue, Columbus, OH 43201-2693.** An Equal Employment/Affirmative Action Employer M/F/H/V.



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**Applied Sciences**  
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◆ 12-month awards renewable for up to 3 years

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◆ Funds for relocation and professional travel; health insurance program provided

◆ 3 annual award competitions

For application materials and information on participating laboratories contact:

Associateship Programs GR 430/S4



**NATIONAL  
RESEARCH COUNCIL**  
2101 Constitution Avenue, N.W.  
Washington, D.C. 20418  
FAX: (202) 334-2759

Deadlines for application:  
January 15 (December 15 for NASA),  
April 15 and August 15

## Molecular Genetics Senior Scientist

Crop Genetics International, a leading agricultural biotechnology company located in suburban Baltimore/Washington is seeking an energetic, innovative scientist to advance our proprietary technology in crop protection. The InCide™ approach uses genetically engineered bacteria, which colonize the vascular systems of major crop plants, to deliver agents effective against plant pests.

The successful candidate will have a Ph.D. in Molecular Biology or a related discipline. Experience in bacterial gene expression and physiology is required, as well as expertise in recombinant DNA technology.

To apply, forward a curriculum vitae in confidence and the names of three professional references to Dept. MB7.



**Crop Genetics  
International**  
7170 Standard Drive  
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An equal opportunity employer.

The Centers for Disease Control, Division of Vector-Borne Viral Diseases, is now accepting applications for Chief, Dengue Branch in San Juan, Puerto Rico.

Applications are invited from persons with experience and expertise in epidemiology, microbiology, virology, or medical entomology. A medical, veterinary or other doctorate level degree is preferred. The person selected for this position will be responsible for planning, developing, and directing a broad based program which includes laboratory and field research on arboviral diseases of public health importance, community based programs of prevention and control and providing reference services and research capabilities to national and international agencies on arbovirus diseases. Also responsible for supervising Branch personnel and providing technical and consultative services to local, state, and other Federal agencies in the investigation and control of diseases. Supervises a staff of approximately 35 employees, including 5-7 doctorate level professionals. This position is offered at a GM-15 level (salary range \$57,158-\$74,303, depending on training and experience; with an additional cost of living allowance and comparability allowance for physicians). The position may be filled at equivalent levels under commissions in the U.S. Public Health Service. Interested candidates should submit a Curriculum Vitae, a statement of research interests, and three letters of recommendation to:

**Director, DVBVD, CDC**  
P.O. Box 2087  
Ft. Collins, CO 80522

by January 31, 1990.

CDC is an equal opportunity employer and provides a smoke-free work environment.

## POSITIONS OPEN

**RESEARCH ASSOCIATE.** Ph.D. in immunoparasitology with 3 years of postdoctoral experience. Candidate should show evidence to become an independent investigator of a research program, develop an extramural funded research project, and be willing to work on parasitic infections in AIDS patients. Teaching experience desirable. Submit curriculum vitae, three references, and statement of research interest. For a complete job description write to: **Dr. Richard J. Duma, Box 49, MCV Station, Richmond, VA 23298**, by 22 January 1990. *Virginia Commonwealth University is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

**RESEARCH APPOINTMENTS** at the Bureau of Engraving and Printing in Washington, D.C. Several positions available for postgraduates, faculty, and graduate students to participate in research projects involving physical sciences, engineering, computer sciences, and artificial intelligence. Contact: **Research Participation Program/BEP, Science/Engineering Education Division, Oak Ridge Associated Universities, Box 117, Oak Ridge, TN 37831-0117. Telephone: 615-576-3190.** Please indicate if interested in postgraduate, faculty, and/or student program.

The Salk Institute Government Services Division, engaged in the production of biologics in northeastern Pennsylvania, has the following openings:

### SENIOR SCIENTIST

We are seeking an experienced molecular biologist with a Ph.D. in microbiology/biochemistry, to organize and head a laboratory devoted to developing human use vaccines and vaccine-related products. This individual and the team will work closely with the production and QC/QA departments in the scale-up and testing of new products.

### QUALITY CONTROL SUPERVISOR

We are seeking a scientist with a Ph.D. in microbiology to fill the position of supervisor of in vitro testing reporting to the QC manager. Requirements include a strong background in animal/medical virology and molecular biology, a working knowledge of immunology and bacteriology, and at least 3 years of either practical experience in QC in vitro testing of biologics or the equivalent in a diagnostic laboratory. Familiarity with GLP/GMP and the testing guidelines for biologics under FDA regulations, the ability to supervise and train others in a variety of modern scientific techniques, and an aptitude for making practical applications of relevant knowledge are also desired.

Excellent salary and benefits. Qualified applicants should submit curriculum vitae including salary history to: **Director of Personnel, The Salk Institute-Government Services Division, P.O. Box 250, Swiftwater, PA 18370. Equal Opportunity Employer, M/F/H/V.**

### PLAYFAIR NEUROSCIENCE UNIT UNIVERSITY OF TORONTO

Applications are invited for three independent, established STAFF SCIENTIST positions:

- Cellular neurobiologist interested in one or more of the following areas: plasticity, cytoskeletal control of motility or morphology, molecular probes and labels.
- Biochemical pharmacologist interested in second messenger regulation of neuronal function, especially at the molecular level. Interests in neuropharmacology and neurological disease-related processes are welcomed.
- Cellular neurophysiologist-neuropharmacologist interested in modulation of ionic currents and channels, and drug actions.

The Playfair Neuroscience Unit is a multidisciplinary unit comprising over 20 laboratories situated in a major teaching hospital of the University of Toronto, having close interactions with other major units throughout the university. Strong cell biology and immunology programs are also at this hospital. Successful candidates will have university appointments and are expected to develop long-term independent research programs. The starting date is July 1990 or thereafter. Apply before 31 March 1990. In accordance with Canadian immigration guidelines, priority will be given to Canadian citizens and landed immigrants. The University of Toronto encourages both women and men to apply. Send curriculum vitae, an outline of future research plans, and arrange for three letters of reference to be forwarded to: **Dr. Peter L. Carlen, Director, Playfair Neuroscience Unit, Toronto Western Hospital, 399 Bathurst Street, Toronto, Ontario, M5T 2S8, Canada.**

## POSITIONS OPEN

### RESEARCH ASSOCIATE

Brigham and Women's Hospital has an opening for a research associate to study electrophysiology of smooth muscle. Applicant should have experience with in vivo experimentation, chronic animal preparations, and basic physiological techniques. Experience with patch clamp technique welcome.

Candidates should have a Ph.D. in a related field and capacity for interdisciplinary research and growth. Please send résumé, letter of interest, and names of references to: **D. S. Sugarbaker, M.D., Department of Surgery, Brigham and Women's Hospital, 75 Francis Street, Boston, MA 02115.**

**TERRESTRIAL ECOLOGIST.** Teach ecologically-oriented courses at the undergraduate and masters level, participate in the school's interdisciplinary environmental science program, and establish an active field-oriented research program involving students. Ph.D., training in population, community, and/or ecosystem ecology required; postdoctoral research and teaching experience, and knowledge of computer applications desired.

Minimum starting salary dependent upon qualifications and experience for this Assistant Professor-level, tenure-track position, available 1 September 1990.

William Paterson College (WPC), on a 250-acre suburban campus 20 miles from New York City, is an accredited state college offering 50 undergraduate and graduate programs. WPC is an Affirmative Action/Equal Opportunity Employer.

Please forward transcript, curriculum vitae and three (3) letters of reference by 30 January 1990 to: **Dr. Edith Wallace, Chair, Biology Department, William Paterson College, Drawer SCI, Wayne, NJ 07470.**

## FELLOWSHIPS

Department of Education graduate FELLOWSHIPS to support Ph.D. studies in chemistry at the University of Pittsburgh. Available to incoming students in September 1990. These \$10,000 (plus tuition) fellowships are intended to encourage students to pursue careers in science education. University funds may be used to supplement the annual stipend to \$15,000. Open to U.S. citizens applying to the Ph.D. program. Applications from women, blacks, Hispanics and American Indians are especially encouraged. For further information and applications, write to: **Professor Kenneth Janda, Department of Chemistry, University of Pittsburgh, Pittsburgh, PA 15260.**

**POSTDOCTORAL FELLOWSHIP** position in the Department of Pathology, University of Washington, to study the control of endothelial and smooth muscle cell growth. Candidates should have a knowledge of vascular biology, and experience in cellular interactions would be an asset. Position available spring 1990. Send résumé to: **Michael A. Reidy, Ph.D., University of Washington, Department of Pathology SJ-60, Seattle, WA 98195.**

## SITUATIONS WANTED

**Chemical Patent Attorney**, experienced, desires full-time or part-time position. Relocation to small city preferred. Telephone Don Favre (pronounced favor) at 703-742-3840.

**Chemist/Biochemist/Physiological Sciences.** Extensive teaching in clinical biochemistry, chemistry, endocrinology, toxicology, hematology; cancer research. Instrumentation: visible UV, infrared, TLC, electrophoresis, GC, Fluorometry, TIA. Supervision, administration, consulting. Prefer academic, government, hospital, research institute. P.O. Box 354, Rochelle Park, NJ 07662.

**Medical Microbiologist, Ph.D.** Seeks teaching position in Chicago area. Extensive experience teaching and research in bacteriology, mycology, and serology. Publications. Box 252, SCIENCE.

**Ph.D. Pharmacology (1986), M.S. Toxicology (1982).** Graduate experience with drug distribution, HPLC analysis, enzyme assays and kinetics, RIA, autoradiography. Postdoctoral experience with anticancer agents includes experimental design, in vitro cell culture, and cytotoxicity testing. Seeks position with industry. Box 254, SCIENCE.

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**NATIONAL INSTITUTE OF  
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PUBLIC HEALTH SERVICE**

## FELLOWSHIP IN NEUROVIROLOGY

The Laboratory of Experimental Neuropathology, intramural Research Program, National Institute of Neurological Disorders and Stroke (NINDS) invites applications for the position of Staff Fellow/IRTA Fellow to study the role of Polyomaviruses in human neurologic diseases. Salary (\$24,000-40,000) is commensurate with experience.

Qualifications include a recent PH.D. in microbiology or biochemistry (within last 7 years) with molecular genetics background. Candidates with experience in DNA amplification and sequencing preferred. Appointments are for 2 years renewable annually. U.S. citizenship required.

For further information about the position call Janet Clagett, NINDS Personnel Office at (301) 496-6334 or Dr. Stoner at (301) 496-6144.

Applicants should send a letter of application giving recent research accomplishments, a curriculum vitae, and three letters of recommendation to:

**Gerald L. Stoner, Ph.D.  
Laboratory of Experimental Neuropathology, NINDS  
Bldg. 36, Room 4A-29  
National Institutes of Health  
9000 Rockville Pike  
Bethesda, Maryland 20892  
(301) 496-6144**



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## CONGRESSIONAL SCIENCE AND ENGINEERING FELLOWSHIPS

### Applications Invited

The American Association for the Advancement of Science (AAAS) invites applications for two one-year Congressional Science and Engineering Fellowships it will offer for the period beginning September 1, 1990. The fellowship program provides an opportunity for accomplished and societally aware postdoctoral to mid-career scientists and engineers to participate in and contribute to the public policy-making processes within the Congress. Fellows work as special legislative assistants within the congressional staff system.

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

The 1990-91 AAAS Congressional Science and Engineering Fellows will receive a stipend of \$38,000; an additional \$2,000 is available for relocation expenses and travel in connection with the program.

The deadline for submission of application materials is January 15, 1990. The award will be announced about May 1, 1990. For detailed information on the program and specific application requirements, write:

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

## SCIENCE, ENGINEERING AND DIPLOMACY FELLOWSHIPS

### Applications Invited

The American Association for the Advancement of Science (AAAS), in cooperation with the U.S. Agency for International Development (AID) and the Department of State (STATE) is seeking applicants for approximately twelve Science, Engineering and Diplomacy Fellowships. Fellows will spend one year, beginning September 1, 1990, working either in the Bureau of Oceans and International Environmental and Scientific Affairs of the U.S. Department of State or in one of several bureaus and offices of the Agency for International Development. Other assignments may also be possible.

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

The Fellows will serve a one-year appointment at a salary consistent with education level and experience, if possible, but not exceeding the GS-12 level (beginning at about \$35,000). The fellowship award is limited to U.S. citizens and is contingent upon the selectee obtaining a security clearance.

Deadline for receipt of application is January 15, 1990. For more information and application details write:

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

## Postdoctoral Positions

### MOLECULAR/CELL BIOLOGY of PLANTS and CYANOBACTERIA

Texas A&M University

Applications are invited for several postdoctoral positions in the Department of Biology, Texas A&M University, with the following faculty:

**James Carrington** Potyviral protein processing and virus-host interactions

**James Golden** Developmental genome rearrangements in cyanobacteria

**Susan Golden** Regulation of photosystem II genes in cyanobacteria

**Lawrence Griffing** Pathogenesis-related receptor-mediated endocytosis in plants

**Timothy Hall** Regulation of monocot, dicot and plant-viral gene expression

**Terry Thomas** Factors controlling gene expression in plant development

Send application, including C.V. and names and addresses of three references, to the faculty member of interest at:

Department of Biology, Texas A&M University, College Station, TX 77843  
Phone: 1-800-TAM-BIOL  
FAX: (409) 845-2891

TAMU is an Equal Opportunity Employer

## DNA Library Availability

### National Laboratory Gene Library Project

The Department of Energy National Laboratories at Los Alamos and Livermore are currently constructing large-insert lambda and cosmid libraries for each human chromosome. The two laboratories are seeking proposals from investigators who are interested in participating in the characterization of these libraries on a collaborative and unfunded basis. Many types of characterization data are needed, and the incorporation of library usage into ongoing research will provide useful information.

This is a competitive program; only a small number of the best proposals will receive either phage and/or cosmid libraries at no cost. Distribution worldwide will take place only after this characterization phase has been successfully accomplished. Partial digest libraries in both phage and cosmid vectors are available currently (or early 1990) for chromosome 4, 5, 8 and 17 (from Los Alamos) and chromosomes 11, 21, 22, and Y (from Livermore). The deadline for submission of a short proposal is Monday, January 29, 1990.

Write to the appropriate laboratory, Larry L. Deaven, Life Sciences Division, Los Alamos National Laboratory, Los Alamos, NM 87545, fax: (505) 665-3024, or Marvin A. Van Dilla, Biomedical Sciences Division, Lawrence Livermore National Laboratory, Livermore, CA 94551, fax: (415) 423-3608, for proposal forms.

University of California

**Lawrence Livermore  
National Laboratory**

## SITUATIONS WANTED

**Neurophysiologist/Behavioral Neuroscientist.** Hispanic. M.D. in Mexico; Ph.D. in Japan; postdoctoral experience in the United States. Seeks long-term position in academia or industry. Productive research on the effects of peptides and other endogenous factors on the nervous system. Experience with rodents and nonhuman primates: intra- and extracellular recording, behavioral techniques, neural transplanation, animal surgery. Twenty English journal articles in last 4 years. Extensive research, clinical, and teaching experience. Box 258, SCIENCE.

**Risk Analyst, Manager, Physics Ph.D.,** 18 years of experience in energy and environment. Background in government, consulting, academia. Former coordinator of risk analysis at national laboratory. Good writer: four books, 100 papers, monographs. Innovative and creative. Well recognized, listed in *Who's Who*, over 340 citations. Seeks senior position in risk management, university, energy institute, similar. 516 Nelson, Rockville, MD 20850. Telephone: 301-762-2382.

## COURSES AND TRAINING

**ANALYTICAL AND QUANTITATIVE LIGHT MICROSCOPY IN BIOLOGY, MEDICINE, AND MATERIALS SCIENCE—10-18 May 1990.** This course, which is designed for professional researchers, advanced graduate students, and industrial scientists and engineers, provides an in-depth examination of the theory of the microscope and application of video for exploring subtle interactions between light waves and the specimen. Limited to 22 students. Co-directors: Edward D. Salmon, University of North Carolina, Chapel Hill, and Greenfield Sluder, Worcester Foundation for Experimental Biology. Application deadline: 10 March 1990. For further information and application forms, contact: **Admissions Coordinator, Marine Biological Laboratory, Woods Hole, MA 02543.** Telephone: 508-548-3705, ext. 216.

**GRADUATE TRAINING PROGRAM IN MOLECULAR BIOPHYSICS.** The Roswell Park Graduate School offers training in molecular biophysics leading to the Ph.D. degree in biophysics. Opportunities for graduate research in many areas related to the cancer problem with emphasis on biomolecular structure/function studies. Assistantships and fellowships provide tuition waiver and \$10,000 per calendar year. Participating faculty are affiliated with Roswell Park Cancer Institute, the nation's oldest cancer research institute, and the State University of New York at Buffalo. Address inquiries to: **Dr. Harold C. Box, Chairman, Biophysics Department, Roswell Park Cancer Institute, Buffalo, NY 14263.** An Equal Opportunity/Affirmative Action Employer.

### MOLECULAR ENDOCRINOLOGY AND TECHNIQUES FOR HORMONE ACTION 18 to 22 February 1990

This COURSE will consist of lectures in methodology with comprehensive syllabus covering receptors, gene transcription, mRNA and protein synthesis, recombinant DNA, protein hormones, and cyclic nucleotides.

Co-directors: **M. R. Hughes and B. W. O'Malley**  
Fee: \$365 (\$245: fellows and students)

For further information contact:

**Bonnie Cuthbert**  
Department of Cell Biology  
Baylor College of Medicine  
Telephone: 713-798-6200  
Deadline: 2 February 1990

**NASA PLANETARY BIOLOGY INTERNSHIPS.** The Marine Biological Laboratory, Woods Hole, Massachusetts, invites applications from graduate students and seniors accepted to graduate programs for awards of \$2000 plus travel to participate in research at NASA centers and collaborating institutions for approximately 8 weeks. Typical intern programs include: global ecology, remote sensing, microbial ecology, biomineralization, and origin and early evolution of life. Application deadline: 1 March 1990. For information/applications, contact: **Greg Hinkle, Planetary Biology Intern Program, Department of Botany, University of Massachusetts, Amherst, MA 01003.** An Equal Opportunity/Affirmative Action Institution.

## MEETINGS

### NASA SYMPOSIUM

A NASA Interdisciplinary Symposium on The Influence of Gravity and Activity on Muscle and Bone will be held on 29-30 January 1990 at the NASA/Ames Research Center (Moffett Field), Mountain View, California. Invited experts will present talks on musculoskeletal modeling and scaling of size, structure, and mechanical properties of muscle and bone, functional adaptation, and metabolic processes. Public invited. To register, contact: **Joellen Stolarik, Bionetics, Ames Research Center/MS 242-3, Moffett Field, CA 94035.** Telephone: 415-694-5745.

## ANNOUNCEMENTS

### LANDSCAPE SCALE AND PATTERN OF THE 1988 FIRES IN THE GREATER YELLOWSTONE ECOSYSTEM

**PROPOSALS ARE REQUESTED** for research on landscape ecology of the 1988 fires in the Yellowstone area. These fires offer a unique opportunity to explore the consequences of large-scale fires. Focus of proposed research is largely at the discretion of the investigator, but it is essential that the research document the significance of the scale of burns in post-fire ecology. Possible topics include plant-herbivore interactions, plant succession, nutrient cycling, or hydrology related to scale of burns. Computer modelling must be used to explore whether suppression of large-scale fires will ultimately alter the ecology of the greater Yellowstone ecosystem.

Maps of the 1988 fires are available from Yellowstone National Park, and an operational GIS system has been implemented. Research must be integrated with other fire ecology studies in the greater Yellowstone ecosystem.

Deadline for proposals is 31 January 1990. Available funds from the National Park Service and the Forest Service total \$168,000 for a study of 2 years duration. Principal investigators must be university faculty or government scientists. A more detailed request for proposal (RFP) and guidelines may be obtained from:

**Mark S. Boyce, Director**  
University of Wyoming  
National Park Service Research Center  
P.O. Box 3166  
Laramie, WY 82071  
Telephone: 307-766-4227



**Tourette Syndrome Association, Inc.**

### ANNOUNCES... RESEARCH GRANTS AND FELLOWSHIPS

Basic Neurosciences	\$ 5,000 to \$25,000
Clinical Studies	\$ 5,000 to \$25,000
Postdoctoral Fellowship	\$15,000 to \$20,000

Write to: **Tourette Syndrome Association, 42-40S Bell Boulevard, Bayside, NY 11361.**

Letter of intent due: 15 January 1990  
Final proposal due: 15 April 1990

Please note: The Tourette Syndrome Association, Inc. does not provide any overhead or indirect costs.

## MARKETPLACE

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**Dr. N. Chang**  
Guthrie Research Institute  
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# LILLY RESEARCH LABORATORIES

## POSTDOCTORAL SCIENTIST PROGRAM

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At the Lilly Research Laboratories, a Division of Eli Lilly and Company, we offer unique opportunities for postdoctoral scientists—opportunities that provide excellent experience in the areas of biology, pharmacology and chemistry. Collaborating with Lilly scientists in the conceptual and design phases of projects, you'll gain indepth training in the research process of drug discovery within the pharmaceutical industry. An integral part of the program will be the publication & presentation of project results. We now have opportunities available within the following areas:

### **Genetic Engineering And Molecular Biology Research**

This project may involve but will not be limited to cDNA library construction, isolation of cDNA coding sequences, PCR amplification, DNA sequence analysis, protein isolation, and enzyme characterization.

Responsibilities involve cloning, expressing and analyzing genes for enzymes that process protein prohormones to mature hormones *in vitro*. A background in Molecular Biology, Biochemistry and Microbiology is desired.

### **Carbohydrate Biochemistry Research**

This program involves the characterization of oligosaccharide structures of recombinantly produced glycoproteins and other novel carbohydrate-containing therapeutic agents.

Responsibilities include examining aspects of oligosaccharide structure and effect of site-directed protein mutagenesis, correlation with cell culture parameters, and correlation with functional activity. A background in Biochemistry, Analytical Biochemistry, Cell and Molecular Biology or a related area is desired.

### **Molecular Modeling & Medicinal Chemistry Research**

The overall goals of this project are to understand molecular recognition phenomena, develop new tools for drug design, and discover novel therapeutic agents. Projects include supercomputing, advanced visualization techniques, organic synthesis, and SAR studies.

You'll be involved in the application of advanced computational techniques for designing new receptor antagonists and enzyme inhibitors. A background in Organic Chemistry and Molecular Modeling is desired.

### **Tumor Biology Research**

Research will involve one or more of the following areas: mechanism of cytotoxic action of immunoconjugates; mechanism of *in vivo* selection of tumor cells resistant to chemotherapeutic agents; and isolation and characterization of monoclonal antibodies reactive with novel tumor-associated epitopes.

A background in Tumor Immunology, Tumor Physiology, Biochemistry, and/or Molecular Biology is desired.

Postdoctoral appointments are of one year duration and are renewable for a second year with mutual agreement. Candidates with no more than one previous postdoctoral experience are encouraged to apply.

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Indianapolis, IN 46285



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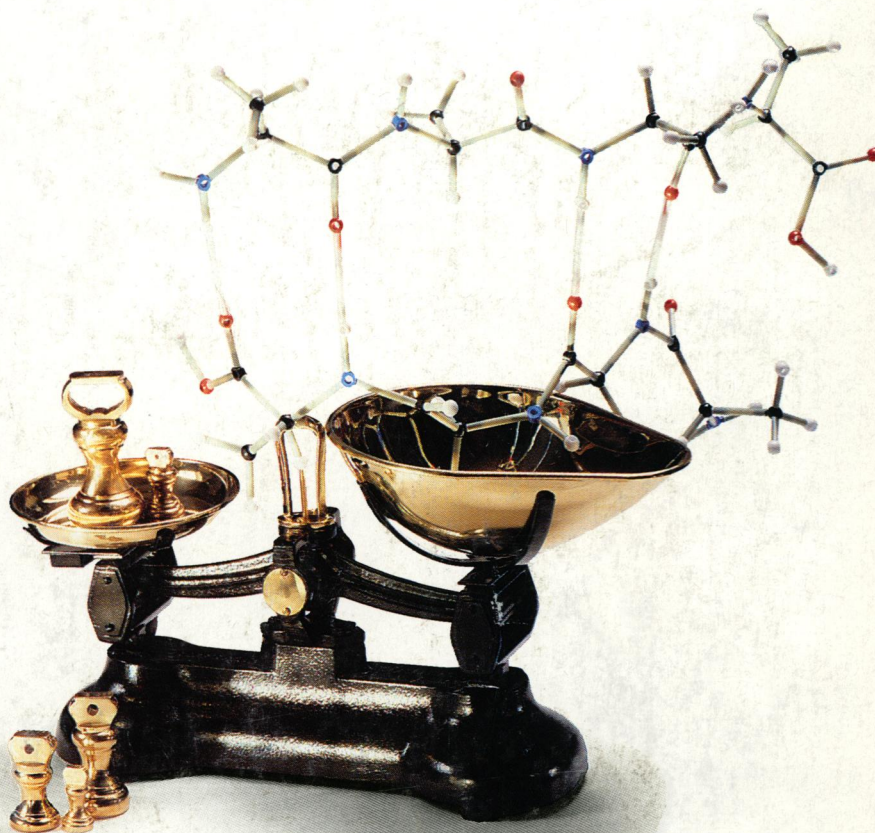
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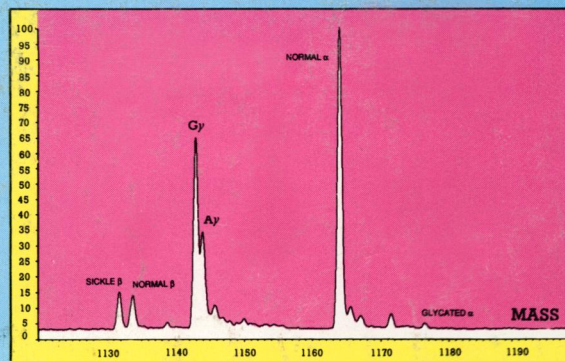
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Ay	16009.6	+0.3



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