

Thirty papers are devoted to a consideration of three main themes: circulation, unconformities, and sedimentation (10 papers); Neogene deep and surface water paleoceanography (8 papers); and Mesozoic paleoceanography and black shales (12 papers).

The underlying theme of the first group of papers is that the stratigraphic record of the deep sea represents the expression of an intricate set of interrelated dynamic variables and their associated feedback mechanisms, for example, tectonics, eustacy-climate, ocean circulation, fertility patterns, detrital and pelagic deposition, and erosion. Unconformities are a common feature of the stratigraphic record, but distinguishing between the tectonic and eustatic components remains as difficult as ever. The jury also appears to be out on the suggested relationship between unconformities in marginal environments and their equivalents in the deep sea. That sea-level changes (and related albedo changes) are a driving force in climate dynamics has been suggested by Berger, and an interesting corollary is the suggestion by Hart and Ball that the fluctuation of the oxygen minimum zone in the water column—possibly related to fluctuations in sea level—may have had a controlling effect upon the evolution of planktonic Foraminifera.

A careful reading of the second group of papers reveals that microfossils remain powerful tools in the reconstruction of surface- and bottom-water circulation histories as well as providing the biostratigraphic basis for the delineation of oceanic events, the so-called event stratigraphy that is an important aspect of current research.

In the final section we are treated to an exciting theory of "pulsation tectonics" as the driving force behind cyclic paleoceanographic changes in the North Atlantic (R. Sheridan) and a series of papers dealing with the organic chemistry and sedimentologic history of Cretaceous anoxic sediments. There appears to be an emerging consensus that with the exception of the Cenomanian-Turonian boundary event (caused by ocean-wide anoxia) the Cretaceous black shales owe their origin and preservation to turbidite deposition.

This is state-of-the-art paleoceanography. As this meeting and the more recent Second International Conference on Paleoceanography held at Woods Hole (September 1986) demonstrate, paleoceanography is flourishing.

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Books Received

The Arch of Knowledge. An Introductory Study of the History of the Philosophy and Methodology of Science. David Oldroyd. Methuen, New York, 1986. vi, 413 pp., illus. \$35; paper, \$12.95.

Archaeology of the Lower Ohio River Valley. Jon Muller. Academic Press, Orlando, FL, 1986. xii, 307 pp., illus. \$65; paper, \$34.95. New World Archaeological Record.

Arkansas Birds. Their Distribution and Abundance. Douglas A. James and Joseph C. Neal. Illustrations by David Plank and Sigrid James Bruch. University of Arkansas Press, Fayetteville, 1986. xiv, 402 pp. \$34.

Arzneimittel- und Apothekenrecht der D.D.R. Gesetzessammlung mit Kommentar. 15. Lieferung. Joachim Richter *et al.* Akademie-Verlag, Berlin, 1986. 205 pp. In paper folder, DM 26.

Astrophysics of Brown Dwarfs. Minas C. Kafatos, Robert S. Harrington, and Stephen P. Maran, Eds. Cambridge University Press, New York, 1986. xii, 276 pp., illus. \$49.50. From a workshop, Fairfax, VA, Oct. 1985.

Atmospheres and Ionospheres of the Outer Planets and Their Satellites. Sushil K. Atreya. Springer-Verlag, New York, 1986. xiv, 224 pp., illus. \$69.50. Physics and Chemistry in Space, vol. 15.

Bacillus Molecular Genetics and Biotechnology Applications. A. T. Ganesan and James A. Hoch, Eds. Academic Press, Orlando, FL, 1986. xii, 497 pp., illus. \$49.95. From a conference, Standford, CA, July 1985.

Basic and Applied Aspects of Noise-Induced Hearing Loss. Richard J. Salvi *et al.*, Eds. Plenum, New York, 1986. xiv, 666 pp., illus. \$97.50. NATO Advanced Science Institutes Series A, vol. 111. From an institute, Lucca, Italy, Sept. 1985.

Childhood Aggression and Violence. Sources of Influence, Prevention, and Control. David H. Crowell, Ian M. Evans, and Clifford R. O'Donnell, Eds. Plenum, New York, 1987. xviii, 299 pp., illus. \$39.50. Applied Clinical Psychology. Based on a conference, Manoa, HI.

Chitin in Nature and Technology. Riccardo Muzzarelli, Charles Jeuniaux, and Graham W. Gooday, Eds. Plenum, New York, 1986. x, 583 pp., illus. \$89.50. From a conference, Senigallia, Italy, April 1985.

Cities of Clay. The Geoarchaeology of Tels. Arlene Miller Rosen. University of Chicago Press, Chicago, 1987. xx, 167 pp., illus. \$22; paper, \$9. Prehistoric Archaeology and Ecology.

Climatic Change and Variability in Southern Africa. P. D. Tyson. Oxford University Press, New York, 1986. xii, 220 pp., illus. \$29.95.

Clinical Criminology. The Assessment and Treatment of Criminal Behaviour. Mark H. Ben-Aron, Stephen J. Hucker, and Christopher D. Webster, Eds. Clarke Institute of Psychiatry, University of Toronto, Toronto, 1985. xi, 327 pp., illus. Paper, \$C17.50. Based on a symposium, Toronto, April 1983.

Combinatorics. Set Systems, Hypergraphs, Families of Vectors and Combinatorial Probability. Béla Bollobás. Cambridge University Press, New York, 1986. xii, 177 pp., illus. \$39.50; paper, \$13.95.

Communities and Crime. Albert J. Reiss, Jr., and Michael Tonry, Eds. University of Chicago Press, Chicago, 1986. viii, 421 pp., illus. \$27.50. Crime and Justice, vol. 8. Based on a conference.

Competitive Ethnic Relations. Susan Olzak and Joane Nagel, Eds. Academic Press, Orlando, FL, 1986. x, 252 pp., illus. \$29.95.

Composite Interfaces. Hatsuho Ishida and Jack L. Koenig, Eds. North-Holland, New York, 1986. xii, 392 pp., illus. \$70. From a conference, Cleveland, OH, May 1986.

Conceptions of Space and Time. Sources, Evolution, Directions. Murad D. Akhundov. MIT Press, Cambridge, MA, 1986. viii, 202 pp. \$25. Translated from the Russian edition (Moscow, 1982) by Charles Rougle.

Concepts in Viral Pathogenesis II. Abner Louis Notkins and Michael B. A. Oldstone, Eds. Springer-Verlag, New York, 1986. xx, 425 pp., illus. \$45.

Conformal Groups and Related Symmetries. Physical Results and Mathematical Background. A. O. Barut and H.-D. Doebner, Eds. Springer-Verlag, New York, 1986. vi, 443 pp., illus. \$40.60. Lecture Notes in Physics, 261. From a symposium, Clausthal, F.R.G., Aug. 1985.

Coordinated Regulation of Gene Expression. R. M. Clayton and D. E. S. Truman, Eds. Plenum, New York, 1986. x, 391 pp., illus. \$59.50. From a workshop, Edinburgh, Sept. 1984.

Discovering the Universe. William J. Kaufmann, III. Freeman, New York, 1987. xii, 285 pp., illus. Paper, \$24.95.

Drug Studies in the Elderly. Methodological Concerns. Neal R. Cutler and Prem K. Narang, Eds. Plenum Medical, New York, 1986. xxvi, 438 pp., illus. \$59.50.

Ecological Systems of the Geobiosphere. Vol. 2, Tropical and Subtropical Zonobiomes. Heinrich Walter and Siegmund-W. Breckle. Springer-Verlag, New York, 1986. xiv, 465 pp., illus. \$89.50. Translated from the German edition (Stuttgart, 1984) by Sheila Gruber.

Ecological Theory and Integrated Pest Management Practice. Marcos Kogan, Ed. Wiley-Interscience, New York, 1986. xx, 362 pp., illus. \$54.95. Environmental Science and Technology. Based on a symposium, San Antonio, TX, Dec. 1984.

Ecology and Metabolism of Plant Lipids. Glenn Fuller and W. David Nes, Eds. American Chemical Society, Washington, DC, 1987. viii, 374 pp., illus. \$69.95. ACS Symposium Series, 325. Based on a symposium, Miami Beach, FL, April 1985.

Ecology of Aphidophaga. I. Hodek, Ed. Junk, Dordrecht, 1986 (U.S. distributor, Kluwer, Norwell, MA). 562 pp., illus., + plates. \$127.50. Series Entomologica, vol. 35. From a symposium, Zvíkovské Podhradí, Czechoslovakia, Sept. 1984.

The Ecology of River Systems. Bryan R. Davies and Keith F. Walker, Eds. Junk, Dordrecht, 1986 (U.S. distributor, Kluwer, Norwell, MA). viii, 793 pp., illus. \$148. Monographiae Biologicae, vol. 60.

The Effect of Delay and of Intervening Events on Reinforcement Value. Michael L. Commons *et al.*, Eds. Erlbaum, Hillsdale, NJ, 1987. xviii, 344 pp., illus. \$45. Quantitative Analyses of Behavior, vol. 5. Based on a symposium, Cambridge, MA, June 1982.

Electric Circuit Theory. R. Yorke. 2nd ed. Pergamon, New York, 1986. xx, 382 pp., illus. \$35; paper, \$19.25. Applied Electricity and Electronics.

Electrical Engineering. The Second Century Begins. Harlow Freitag, Ed. IEEE Press, New York, 1986. xvi, 180 pp., illus. \$27.50.

Electromagnetic Induction Phenomena. David Schieber. Springer-Verlag, New York, 1986. xii, 296 pp., illus. \$45. Springer Series in Electrophysics, vol. 16.

Electrophoresis '86. M. J. Dunn, Ed. VCH, New York, 1986. xviii, 765 pp., illus. Paper, \$99.50. From a meeting, London, Sept. 1986.

From Bolzano to Wittgenstein. The Tradition of Austrian Philosophy. J. C. Nyiri, Ed. Hölder-Pichler-Tempsky, Vienna, 1986 (U.S. distributor, Kluwer, Norwell, MA). 200 pp., illus. Paper, \$38. Schriftenreihe der Wittgenstein-Gesellschaft, vol. 12/2. Based on a symposium, Kirchberg am Wechsel, Austria, Aug. 1985. Text in English and German.

Frontiers of Motivational Psychology. Essays in Honor of John W. Atkinson. Donald R. Brown and Joseph Veroff, Eds. Springer-Verlag, New York, 1986. xviii, 194 pp., illus. Paper, \$25. Recent Research in Psychology. Based on a colloquium, Ann Arbor, MI, Oct. 1985.

Functional Diversity of Plants in the Sea and on Land. A. R. O. Chapman. Illustrations by Pat Evans-Lindley. Jones and Bartlett, Boston, 1987. x, 197 pp. \$20.

Fundamental Aspects of Quantum Theory. Vittorio Gorini and Alberto Frigerio, Eds. Plenum, New York, 1986. xii, 464 pp., illus. \$79.50. NATO Advanced Science Institutes Series B, vol. 144. From a workshop, Villa Olmo, Italy, Sept. 1985.

Geometric Crystallography. An Axiomatic Introduction to Crystallography. Peter Engel. Reidel, Dordrecht, 1986 (U.S. distributor, Kluwer, Norwell, MA). viii, 266 pp., illus. \$59.

The Geometry of Fractal Sets. K. J. Falconer. Cambridge University Press, New York, 1986. xiv, 162 pp., illus. Paper, \$16.95. Cambridge Tracts in Mathematics, 85. Reprint, 1985 edition.

Geophysical Fluid Dynamics. Joseph Pedlosky. 2nd ed. Springer-Verlag, New York, 1987. xiv, 710 pp., illus. \$49.

The Ghost in the Atom. A Discussion of the Mysteries of Quantum Physics. P. C. W. Davies and J. R. Brown. Cambridge University Press, New York, 1986. x, 157 pp., illus. \$29.95; paper, \$9.95.

Global Bio-Events. A Critical Approach. Otto H. Walliser, Ed. Springer-Verlag, New York, 1986. x, 442 pp., illus. Paper, \$38.50. Lecture Notes in Earth Sciences, 8. From a meeting, Göttingen, F.R.G., May 1986.

Glucose-6-Phosphate Dehydrogenase. Akira Yoshida and Ernest Beutler, Eds. Academic Press, Orlando, FL, 1986. xii, 539 pp., illus. \$43. From a symposium, Nov. 1985.

Gravity, Gauge Theories and Quantum Cosmology. Jayant V. Narlikar and T. Padmanabhan. Reidel, Dordrecht, 1986 (U.S. distributor, Kluwer, Norwell, MA). xvi, 468 pp., illus. \$97. Fundamental Theories of Physics.

Products & Materials

Centrifuge for Cell Culture

The Cell-Culture Centrifuge accelerates cell sedimentation and improves culture efficiency for anchorage-dependent cell types. It provides more effective cell plating than conventional incubator methods. The rotor and carriers accept a variety of tissue-culture containers, including small petri dishes,



small flasks, and multiwell plates. The rotor is directly driven by a 0.25-horsepower permanent-magnet motor with a digital read-out tachometer. Solid-state electronics control the speed between 200 and 2000 rev/min (6 to 750g). A 600-W heater maintains any set temperature between ambient and 80°C to within $\pm 1^\circ\text{C}$. Savant Instruments. Circle 579.

Cold Stage for SEM

The Scanning Electron Microscope (SEM) Cold Stage allows the user to study samples at precisely controlled temperatures from 80 to 373 K without using liquid nitrogen or other cryogenics. The stage fits specimen mounts with a 0.5-inch (1.27-cm) slotted head and a 0.125-inch (0.32-cm) pin. A microminiature Joule-Thomson refrigerator cools the stage with purified ni-

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trogen gas at 1800 psi (123 atm). Expansion of gas in small capillary channels creates liquefied nitrogen directly under an alumina cold pad, cooling the pad to as low as 80 K within 15 minutes. A stainless steel radiation shield protects the refrigerator assembly. MMR Technologies. Circle 587.

Low-Grain, High-Speed Film

NEOPAN 400 Professional 35-mm black-and-white film has an extremely fine grain despite its ISO 400 speed. The sharpness is a result of refining the silver halide particles and increasing the emulsion's light-absorption efficiency. Also, light scattering in the emulsion layers is reduced. The film does not require refrigeration. Rapid processing is possible even if the film is pushed. Fuji Photo Film U.S.A. Circle 593.

Molecule-Drawing Software

WIMP (Wisconsin Interactive Molecule Processor) is a computer graphics program for drawing chemical structures and reaction schemes. The program supports a mouse. Structure backbones need only be drawn once and may then be stored on disk. Drawings may be edited with one-keystroke commands. Images may be scrolled up, down, left, or right, and any or all parts of an image may be copied, rotated, inverted, moved, erased, changed in size, merged and docked, or saved to disk. A built-in template library contains more than 30 rings, bonds, circles, and arrows; an additional 450 templates are available in the optional WIMPlates Database. The program requires an IBM PC or compatible computer, 256 kilobytes of random access memory, DOS 2.00 or higher, color graphics adapter, color monitor, serial port, and a HP 7475A or 7470A plotter. A version of WIMP that supports the Apple LaserWriter is also available. Aldrich Chemical. Circle 586.

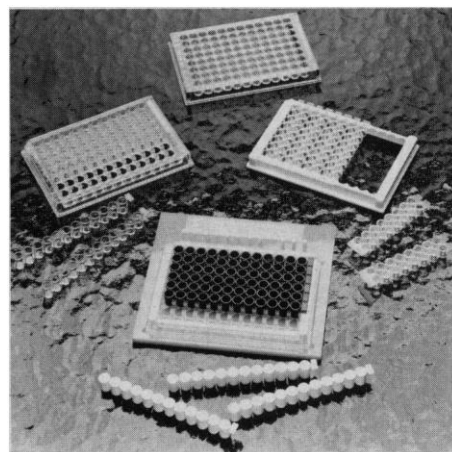
Remote Sensing for PCs

The DRAGON Image Processing System allows personal computer users to display, manipulate, and interpret remotely sensed data from satellite images and aerial photographs. Its functions include image display, enhancement, and classification, and it also has utilities for accessing LANDSAT (Land Satellite) and SPOT (Satellite Positioning and Tracking) satellite data files, inputting aerial photographic data from a scanner, and

driving a thermal-transfer color printer. DRAGON software operates on almost any computer with MS DOS or PC DOS. Goldin-Rudahl Associates. Circle 590.

Disposable Microplate Sections

DynaLUME Removawell Strips are removable microplate wells for use in luminescent immunoassays (LIA). They are densely pigmented to prevent signal crossover and



enhance signal output in all luminescent procedures. They are molded from Immulon polystyrene into 12-well strips. Removawell Strips come in boxes of 320 strips. Dynatech Laboratories. Circle 588.

Titration

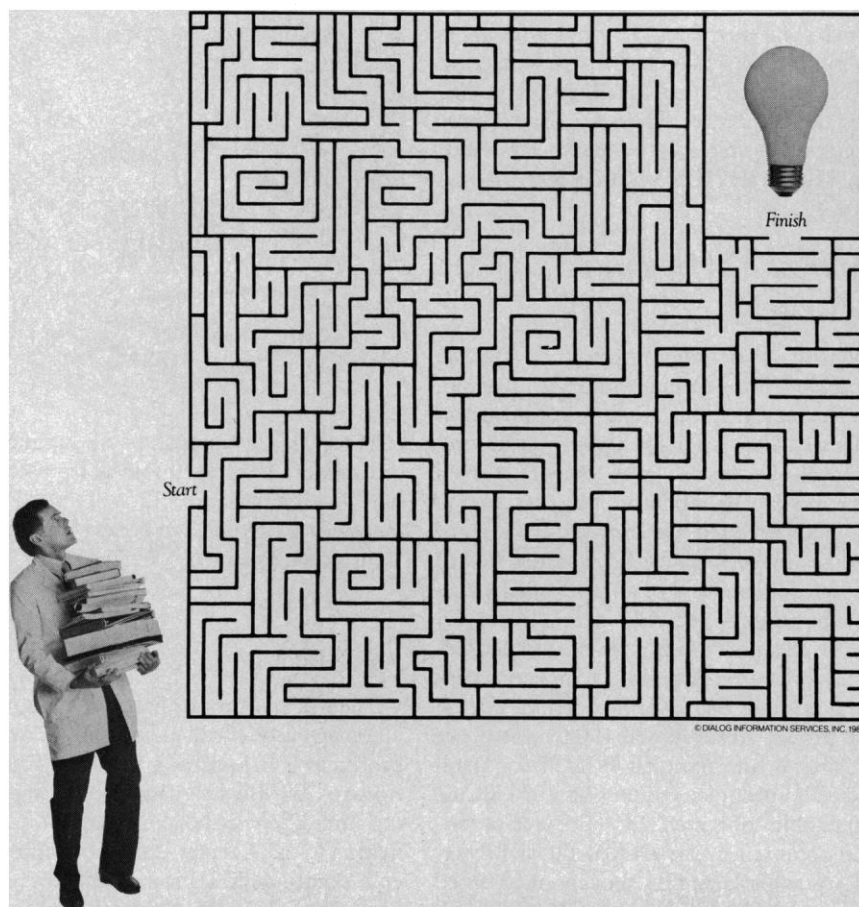
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Literature

Spring New Product Bulletin describes nine new products, techniques, and services for materials analysis. Kevex. Circle 574.

IL-2R Literature Package contains abstracts and papers describing research applications of an Interleukin-2 Receptor Test Kit. T Cell Sciences. Circle 573.

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POSITIONS WANTED

Biochemist/Cell Biologist, Ph.D. (1980). Experienced in protein purification and characterization, HPLC, ELISA, tissue culture, immunochemistry, and antibody production. Seeks industrial/academic position in California. Box 57, SCIENCE. 5/1, 8, 15

Biochemist, Ph.D. 1980, experience in lipid analysis, phosphoinositide metabolism, ligand-binding assays, keenly interested in effects of disease and diet on signal transduction mechanisms, seeks research position, preferably in the Philadelphia-New Jersey-New York City region. Available fall 1987. Box 48, SCIENCE X

Biology, BA. Ten years' laboratory experience. Chemical analysis involving physical separation of compounds by RIA, TLC, HPLC. Design and evaluation of instrumentation systems. Measurement of the bioactive metabolites of arachidonic acid (leukotrienes and prostaglandins) from patients, experimental animals, and tissue culture. Prefer northwest location. Box 58, SCIENCE. X

Cell Biologist, Ph.D. Research, publications, and teaching experience in cell biology, cell motility/cytoskeleton, membrane structure/function, hematology, inflammation, allergy, and diabetes research. Broad, "hands on" experience with techniques in light and electron microscopy, biochemistry, immunology (RIAs and ELISAs). Ivy league postdoctoral and Fortune 500 biotechnology company with supervisory experience seeks industry (pharmaceutical or biotechnology) or academic position (anatomy/cell biology, biology, biotechnology). Box 59, SCIENCE. X

POSITIONS WANTED

Cell Biologist, Ph.D. seeks postdoctoral position or instructorship in Boston area. Broad background, postdoctoral and teaching experience. Technical experience in protein and lipid biochemistry, cell culture, immunological methods, membrane dynamics, and image analysis. Box 60, SCIENCE. 5/1, 8

Established multidisciplinary neuroscience research groups seek to relocate to stimulating environment. Box 61, SCIENCE. 5/1, 8

I need a year in space-related biomedical research to help me choose Ph.D. subject for anticipated M.D.-Ph.D. program. Background includes B.S. (honors, cell-molecular biology, University of Michigan, 1987); NASA Space Life Sciences Training Program, 1986 summer (etc.) biomedical research since 1980; many laboratory techniques plus computers, Russian, German, Spanish. Joseph Saul, 525 Walnut, Apt. 10, Ann Arbor, MI 48104. Telephone: 313-995-1477. 5/1, 8

Toxicologist/Pharmacologist, Ph.D., 8 years postdoctoral, aBT Diplomate, experience in neurotoxicology, mutagen isolation and metabolism, trace metal analysis and toxicology, publications and outside grants, desires research position, prefers academic/government in California area. Box 62, SCIENCE. X

Toxicologist, Ph.D. with basic research experience in pulmonary, neuro-, and biochemical toxicology. Professional experience as inhalation toxicologist. Completing 2-year postdoctoral in industrial lab. Strong academic background in toxicology. Seeking entry level Ph.D. position in industry or government. Box 63, SCIENCE. X

POSITIONS OPEN

ANIMAL ECOLOGIST/ANIMAL BIOLOGIST

The University of Ottawa Department of Biology invites applications for a tenure-track position at the level of **ASSISTANT PROFESSOR** in animal biology. Applications will be considered from persons holding a Ph.D. and having postdoctoral experience and established research achievements, preferably in the field of animal ecology. The successful candidate will be expected to maintain an active, externally funded research program, and to contribute to undergraduate and graduate teaching. The appointee will become a member of the Ottawa-Carleton Centre for Graduate Studies and Research in Biology, a cooperative program between the University of Ottawa and Carleton University, which includes active collaboration with scientists from several Government laboratories. The University of Ottawa is a bilingual institution; the ability to teach fluently in both French and English, from the date of appointment, is essential. The successful candidate would be expected to take up the appointment on or before 1 July 1988. Applicants should submit, by 31 July 1987, curriculum vitae, and a brief description of teaching interests and future research plans, and should arrange to have three letters of recommendation sent to: **Chairman, Selection Committee, Department of Biology, University of Ottawa, Ottawa, Ontario K1N 6N5. In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents of Canada.**

The Department of Biology at Georgia State University invites applications for a tenure-track position—**ASSISTANT PROFESSOR** level, effective March 1988. Candidates should have a specialization in molecular developmental biology, with an emphasis in genetics or neurobiology. Candidates should have 2 to 3 years of postdoctoral experience and demonstrate evidence of outstanding potential for independent research. Salary will be commensurate with qualifications. The successful candidate will develop an active, independent research program, instruct in introductory biology, and develop an advanced course for doctoral students. Applications, including curriculum vitae, reprints, a statement of research plans, and three letters of reference, should be sent to: **Chairman, Department of Biology, Georgia State University, Atlanta, GA 30303.** Deadline for receipt of applications is 1 September 1987. *Georgia State University, a unit of the University System of Georgia, is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

Nontenure-track **ASSISTANT PROFESSOR** in microbial biochemistry. Duties require experience with streptococci, *Escherichia coli*, and anaerobic bacteria. Specific experience with preparation of membranes, isolation and purification of membrane proteins, and transport assays required. Salary \$25,000 to \$35,000 depending on experience. A résumé, the names of at least three references, and a brief outline of future research interests should be sent to: **Dr. Barry Rosen, Professor and Chairman, Department of Biochemistry, Wayne State University, School of Medicine, Gordon H. Scott Hall of Basic Medical Sciences, 540 East Canfield Avenue, Detroit, Michigan 48201. An Equal Opportunity/Affirmative Action Employer.**

ASSISTANT PROFESSOR, WEED SCIENCE (tenure-track): Successful applicant will conduct field research in weed control in selected crops and in herbicide physiology. Teaching (15%) of introductory weed science and herbicide physiology courses and participation in the graduate program are expected. Applicants holding a Ph.D. in a plant science with emphasis in weed science and strength in plant physiology should send curriculum vitae, transcripts, lists of publications and recent reprints, and have three letters of recommendation sent to: **Dr. John B. Baker, Chairman of Search Committee, Department of Plant Pathology and Crop Physiology, Louisiana State University, Baton Rouge, LA 70803, by 1 June 1987. Louisiana Agricultural Experiment Station and Louisiana State University are Equal Opportunity/Affirmative Action Employers.**

ASSISTANT PROFESSOR DEPARTMENT OF BIOLOGY

We seek a developmental biologist interested in subcellular and molecular approaches. Research may involve plant, animal, or microbial systems. Postdoctoral experience required. The 9-month appointment is tenure-track, 50% research/50% teaching (cell, developmental, or microbiology at graduate and undergraduate levels). Send curriculum vitae, state names of research interests and plans, and three letters of recommendation by 8 June 1987 to: **Dr. LeGrande Ellis, Department of Biology, Utah State University, Logan, UT 84322-5305. An Affirmative Action/Equal Opportunity Employer.**

ASSISTANT PROFESSOR PHARMACOLOGY TEXAS TECH UNIVERSITY HEALTH SCIENCES CENTER

The Department of Pharmacology of the Texas Tech University Health Sciences Center in Lubbock is seeking candidates for two tenure-track positions each at the assistant professor rank. The positions are available 1 September 1987. Qualifications include the Ph.D. degree, preferably in pharmacology or a related biomedical science, with at least 2 years of postdoctoral training. Candidates will be expected to conduct an active, independent, and productive research program and to be persistent in seeking and obtaining research funding. Applicants must be U.S. citizens or have U.S. permanent residence status. Applications should include curriculum vitae and three names for reference purposes and should be sent prior to 1 June 1987, to: **Dr. Alexander D. Kenny, Chairman, Department of Pharmacology, Texas Tech University Health Sciences Center, Lubbock, TX 79430. An Equal Opportunity/Affirmative Action Employer.**

Cornell University, Ithaca, invites applicants for a tenure-track **ASSISTANT or ASSOCIATE PROFESSOR** position with research (75%) and teaching (25%) responsibilities. The appointee is expected to direct a strong creative research program on the study of phytopathogenic bacteria within which the specific area of research is unrestricted. The teaching involves a graduate course in contemporary phyto bacteriology. A Ph.D. in plant pathology, microbiology, genetics, or related discipline is required. An applicant should be experienced in molecular biology and with plant-associated bacteria. Submit a letter of application stating career goals, a résumé, and have four letters of recommendation sent to: **H. D. VanEtten, Department of Plant Pathology, Cornell University, Ithaca, NY 14853, by 15 August 1987.**

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A Kansas City-based pharmaceutical company has a need for an **ASSISTANT REGULATORY AFFAIRS SPECIALIST**. The successful applicant will be responsible for preparation of INDs and ANDA/NDAs. Requirements include a B.S. in a biomedical science, at least 2 years of experience in the pharmaceutical industry (drug regulatory affairs experience preferred), knowledge of FDA regulations pertaining to investigational and marketed drugs, experience in evaluating adequacy of documents for regulatory submissions, and excellent verbal and written communication skills. Interested candidates should send résumé with salary requirements to: **Box 64, SCIENCE.**

ASSISTANT RESEARCH MOLECULAR GENETICIST. Research work in molecular genetics related to aging. Will develop a program for using molecular genetic techniques to test some of the current theories for, and insertion into, appropriate vectors and cultured cells. Correlates will be made with possible genetic factors responsible for accelerated syndromes of human aging, as well as possible genes responsible for longevous families. Ph.D. degree in biological sciences required. Must have 3 years of experience in molecular biology and human genetics. Salary: \$34,000 per year, 40 hours per week. Place of employment and interviews in La Jolla, CA. Send this ad and résumé to: **Job # MLU#2469, P.O. Box 9560, Sacramento, CA 95823-0560, no later than 16 May 1987.**

ASSISTANT/ASSOCIATE PROFESSOR MOLECULAR PARASITOLOGY UNIVERSITY OF CALIFORNIA LOS ANGELES (UCLA)

The Department of Microbiology and Immunology at UCLA School of Medicine is seeking a tenure-track assistant-associate professor in the area of molecular parasitology. Outstanding candidates with a Ph.D. and postdoctoral experience having a significant publication record are invited to apply. The successful candidate will join a group of vigorous faculty members and will take part in developing a program in parasitology to which the department is committed. He/she is expected to develop a strong and independent research program in molecular parasitology and will participate in teaching medical and graduate students. Salary is negotiable. Apply by 1 August 1987, with a detailed curriculum vitae, copies of two recent publications, a brief outline of a future research plan, and three references to: **Dr. D. P. Nayak, Chairman, Parasitology Search Committee, Department of Microbiology and Immunology, UCLA School of Medicine, Los Angeles, CA 90024-1747.**

UCLA is an Affirmative Action and Equal Opportunity Employer.

ASSISTANT OR ASSOCIATE PROFESSOR OF ANATOMY

Applications are invited for tenure-track positions at the assistant or associate professor level. Applicants at the assistant professor level should have a Ph.D. or equivalent, postdoctoral experience, an active research program with a high potential for attracting external support, and promise of ability as a teacher of gross anatomy and/or histology. Applicants at the associate professor level should have an ongoing externally funded research program, an established record in scholarship supported by substantial publications, experience in teaching gross anatomy and/or histology, and a record of successful direction of doctoral candidates or fellows. Specific research areas are open, although preference will be given to cell and molecular biology.

Send curriculum vitae, bibliography, a brief statement of research and teaching experience, plus names of three references to: **Chairman, Anatomy Faculty Search Committee, The University of Iowa College of Medicine, Iowa City, IA 52242.** Formal screening will begin 1 July 1987.

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

POSITIONS OPEN

ASSISTANT PROFESSOR PHYSIOLOGY/ANATOMY

The Division of Structural and Systems Biology, School of Basic Life Sciences at the University of Missouri-Kansas City, is seeking to fill two tenure-track positions at the assistant-professor level.

The candidates will be expected to develop an independent research program focused in the areas of either neurobiology (neuroendocrinology) or cell biology (cell growth: hypertrophy/hyperplasia).

The successful candidate should have (a) postdoctoral experience, (b) demonstrated potential for or a proven record of extramural funding, and (c) publications.

The Division has responsibility of teaching anatomy and physiology to professional health science schools as well as the graduate programs within the School of Basic Life Sciences.

Sufficient funds for start-up will complement current instrumentation within the Division. Salary dependent on qualifications.

Send curriculum vitae, including statement of research and teaching goals, current or proposed research funding, and the names of at least three references to:

Dr. James D. Yarbrough, Head
Division of Structural and Systems Biology
School of Basic Life Sciences
University of Missouri-Kansas City
2411 Holmes

Kansas City, MO 64108-2792

Screening of applicants will begin 1 July 1987 and continue until positions are filled.

UMKC is an Equal Opportunity/Affirmative Action Employer

Applications are currently being accepted for a position at the level of **ASSOCIATE PROFESSOR OR PROFESSOR** in the Department of Experimental Therapeutics and Grace Cancer Drug Center at Roswell Park Memorial Institute. Candidates will be expected to establish and lead a research program focused on the identification of the mode of action of anticancer drugs. Research and demonstrated leadership experience in biochemical pharmacology with a strong interest in cancer therapy is required. Inquiries should be addressed to: **Dr. E. Mihich, Roswell Park Memorial Institute, Buffalo, NY 14263.** *Equal Opportunity Employer.*

ASSOCIATE RESEARCH SCIENTIST

Ph.D. in radiobiology or a related field required for projects involving biological effects of radiation and chemical sensitizers. Experience in cell culture techniques required. Send credentials, recent reprints, and three letters of recommendation to: **Dr. Eric J. Hall, Director, Radiological Research Laboratory, Columbia University, 630 West 168 Street, New York, NY 10032.** *An Equal Opportunity/Affirmative Action Employer.*

BIOCHEMICAL TOXICOLOGY. Postdoctoral fellow or research assistant professor to conduct research in the mechanisms of 3-methylindole-mediated pneumotoxicity. Requires Ph.D. in toxicology, biochemistry, or related area. Experience in cytochrome P-450 isolations, lung cell manipulations, or metabolism of xenobiotics is desired. Starting 1 July 1987 or after with salary \$21,000 to \$30,000 and full benefits. Send curriculum vitae and three letters of recommendation to: **Dr. Garold S. Yost, College of Pharmacy, Washington State University, Pullman, WA 99164-6510** by 15 June 1987. *An Equal Opportunity/Affirmative Action Employer.*

CARDIOVASCULAR POSTDOCTORAL FELLOW

Syntex, an international force in the health-care industry, is looking for a postdoctoral fellow to work in the Institute of Experimental Pharmacology. You will undertake basic research into mechanisms of receptor desensitization. The position requires a Ph.D. in pharmacology or biochemical pharmacology with specialized course work in isolated tissues, radioligand binding, and second messenger analysis. An in vitro pharmacology background in academic or industrial research is desired.

For immediate consideration, please send your résumé to: **Syntex Corporation, Department PS, 3401 Hillview Avenue, Palo Alto, CA 94304.** *Equal Opportunity Employment.*

SYNTEX

POSITIONS OPEN

CELLULAR AND MOLECULAR ENDOCRINOLOGY POSTDOCTORAL RESEARCH ASSOCIATE

Available Immediately. To study control of hormone secretion at the single cell level by use of reverse hemolytic plaque assays in combination with recombinant DNA technologies and other modern biochemical and microscopic techniques. Ongoing projects include: (i) Characterization of an extracellular mediator of prolactin action, (ii) ontogeny and functional interconversion of growth hormone and prolactin secreting cells, (iii) differential regulation of hormone release from cells that simultaneously release both of these hormones, and, (iv) molecular heterogeneity of secreted forms of hormone. Salary is highly competitive and commensurate with experience. Background in cellular or molecular biology and endocrinology is desirable, but not an absolute requirement. Please send curriculum vitae and names of three references to:

Dr. L. Stephen Frawley
Department of Anatomy and Cell Biology
Medical University of South Carolina
171 Ashley Avenue
Charleston, SC 29425
Telephone: 803-792-3526

CHAIR OF RESTORATIVE DENTISTRY

A search has been initiated for the position of **CHAIRPERSON**, Department of Restorative Dentistry, University of Texas Health Science Center at San Antonio Dental School.

This department includes biomaterials, operative dentistry, crown and bridge, and occlusion. The Search Committee wishes to identify candidates who have an outstanding level of skills in research, a strong history of accomplishments in teaching, and can successfully administer a large clinical department in a dynamic dental school.

Leadership qualities in the research and teaching functions of the department are required. Intramural private practice is available. The School has extensive facilities for clinical testing of dental materials and products, and a developed clinical research program.

Equal Opportunity/Affirmative Action Employer.

Please send either nominations or curriculum vitae to the: **Search Committee Chair, Dr. John P. Brown, Department of Community Dentistry, University of Texas Health Science Center at San Antonio Dental School, 7703 Floyd Curl Drive, San Antonio, TX 78284-7917.**

CHAIRPERSON DEPARTMENT OF METEOROLOGY UNIVERSITY OF MARYLAND COLLEGE PARK

Nominations and applications are invited for the position of Chairperson of the Department of Meteorology at the University of Maryland, College Park. The Department consists of 12 faculty members, four research scientists, 15 research associates, and about 45 graduate students. About ten off-campus research scientists from NOAA and NASA also participate in various collaborative research programs.

The candidate should possess a doctoral degree and a record of excellence in scholarly achievements. The responsibilities include administration of a graduate teaching program, and of the research activities of the Department. The chairperson is expected to provide imaginative leadership and to enhance the role of the Department in the emerging national and international earth science programs.

Applications should be accompanied by curriculum vitae and the names of four references. Contact: **Dr. N. S. Chant, Chairman, Meteorology Search Committee, c/o Department of Physics and Astronomy, University of Maryland, College Park, MD 20742.** Please submit applications as soon as possible. Applications will be accepted until the position is filled.

The University of Maryland is An Equal Opportunity, Affirmative Action Employer. Women and minority candidates are encouraged to apply.

POSITIONS OPEN

CHAIRPERSON DEPARTMENT OF OTOLARYNGOLOGY WEST VIRGINIA UNIVERSITY SCHOOL OF MEDICINE

West Virginia University School of Medicine is seeking a Board-certified otolaryngologist with an established record of scholarly achievement to chair its Department of Otolaryngology. A strong commitment to excellence in teaching and clinical service also is essential. Candidates must have demonstrated leadership and administrative skills. The Medical Center is entering a phase of growth and development which makes this position especially attractive, as do the amenities of the college community. Qualified applicants should submit their curriculum vitae and names and addresses of three references by 1 July 1987 to: **Dr. Howard Kaufman, Professor and Chairman, Department of Neurosurgery and Chairman of the Otolaryngology Search Committee, WVU Medical Center, Morgantown, WV 26506.** *West Virginia University is an Affirmative Action/Equal Opportunity Employer.*

CLINICAL GENETICIST, Board-certified/eligible in pediatrics and medical genetics to join faculty of the Bowman Gray School of Medicine, Winston-Salem, North Carolina. Individual will be expected to share clinical load (inpatient consults, outpatient clinics and satellite clinics), participate in teaching and develop research program in his/her area of expertise. Send letter and curriculum vitae or contact: **Barbara K. Burton, M.D., Head, Section on Genetics, Bowman Gray School of Medicine, Wake Forest University, 300 South Hawthorne Road, Winston-Salem, NC 27103.** Telephone: 919-748-4321. *Affirmative Action/Equal Opportunity Employer.*

CLINICAL PHARMACOKINETICS. The School of Pharmacy, University of Wisconsin-Madison has available a faculty position in the field of clinical pharmacokinetics. Duties will include teaching at the undergraduate and graduate level and the development of a research program leading to new knowledge or applications of clinical pharmacokinetic/pharmacodynamic principles in drug therapy. The candidate will also be expected to provide pharmacokinetic services in a patient care setting. An earned doctorate and postdoctoral experience in clinical pharmacokinetics are required. Appointment is anticipated at the assistant professor level; however, outstanding candidates at the rank of associate professor will be carefully considered. Interested individuals should send a curriculum vitae and the names of three references to:

Curtis A. Johnson, Pharm.D.
School of Pharmacy
University of Wisconsin-Madison
425 North Charter Street
Madison, WI 53706
An Equal Opportunity Employer

CRYSTALLOGRAPHER—The Center for Advanced Research in Biotechnology (CARB), a jointly sponsored center of the University of Maryland, National Bureau of Standards, and Montgomery County, Maryland, has openings for postdoctoral macromolecular crystallographers. CARB is a newly established research institute devoted to fundamental problems in protein structure and function using both experimental and theoretical approaches. Crystallographic facilities include the latest in x-ray diffraction equipment (area detectors, rotating anode, and sealed-tube x-ray sources), color graphics systems, and a VAX computing environment. Projects include structure/function studies on cytochrome P-450 and related systems, industrially sponsored structure determinations, and the use of recombinant DNA techniques to study protein folding and enzyme mechanisms. CARB scientists enjoy close collaborations with scientists at NIH, the National Bureau of Standards, The University of Maryland College Park, and local biotechnology companies. CARB's location near Washington, DC, offers an exceptional scientific and cultural environment. Salary commensurate with experience. Send résumé to: **Dr. T. L. Poulos, Associate Director of Research, CARB, Building 221, Room A353, National Bureau of Standards, Gaithersburg, MD 20899.** *Equal Employment Opportunity/Affirmative Action.*

The Great Lakes Environmental Research Laboratory
National Oceanic and Atmospheric Administration
SEEKS A

**HEAD OF THE PHYSICAL LIMNOLOGY
AND METEOROLOGY GROUP**
(Supervisory Physical Scientist or Oceanographer)

The Laboratory, located in Ann Arbor, Michigan, is seeking a senior level scientist to manage its Physical Limnology and Meteorology Group. The Laboratory conducts integrated, interdisciplinary environmental research in support of resource management and environmental services in coastal and estuarine waters with a special emphasis on the Great Lakes.

Reporting to the Laboratory Director, the duties include directing a group of scientists and technicians performing research on Great Lakes water movements, temperature distributions, waves, and lake level oscillations. Theoretical and experimental approaches are used to improve Great Lakes knowledge, simulation and prediction capabilities.

Resources include a new modern research facility, an on-site VAX 11/780 computer, remote access to a CYBER 180/855 computer, and to a CYBER 205 super computer, and a well equipped research vessel. Field equipment includes current meters, acoustic profilers, thermistor chains, surface wave recorders, and meteorological systems.

Ann Arbor is the home of the University of Michigan and a number of other outstanding research organizations are located in close proximity, such as the Environmental Research Institute of Michigan, the USFWS National Fisheries Center Great Lakes, and the EPA Large Lakes Laboratory.

This position is in the Competitive Service and will be filled at the GM-15 level. The salary range is \$53,830 to \$69,976, depending upon qualifications.

Applicants should have demonstrated research ability and comprehensive understanding of ocean or lake physics and be capable of directing research in the hydrodynamics of the Great Lakes and of the atmosphere, and in theoretical or numerical prediction and simulation methods.

Additional technical information may be obtained from: **Dr. Alfred M. Beeton**, telephone: 313-668-2245.

Submit Standard Form 171 referencing Announcement Number CASC/ERL87039 and detailed resume including bibliography of relevant publications, research experience, references, and education to: **Department of Commerce, NOAA, CASC-NWS Personnel Branch, 1747 Federal Building, 601 E. 12th Street, Kansas City, MO 64106, Attn: A. Hicks**. Applications should be received by 1 June 1987. NOAA is an Equal Opportunity Employer.

SEARCH REOPENED

FACULTY POSITION IN *IN VIVO* NMR
UNIVERSITY OF CALIFORNIA, DAVIS

The University of California at Davis invites applications for a tenured appointment at the Assistant/Associate/Full Professor level. The position is to be filled by a scientist in the area of *in vivo* NMR/MRI whose research complements existing programs in high-resolution and *in vivo* NMR. The appointee is expected to play a major role in guiding the development and application of *in vivo* instrumentation on the Davis Campus. Departmental affiliation and teaching responsibilities will depend on the area of expertise of the successful applicant. Priority will be given to candidates having a substantial publication record and, for academic applicants, success in competitive funding. Salary commensurate with experience.

UC Davis houses a Nuclear Magnetic Resonance Facility which currently consists of a Nicolet/GE multinuclear wide-bore 4.7 T instrument and narrow-bore 8.46 T and 11.75 T systems with 1H, 2H, 13C, 31P HR probes and a variety of 31P surface coils and an Oxford Research Systems 30 cm clear bore 1.9 T *in vivo* spectrometer which will be upgraded by GE to include imaging in 1987. The Facility is staffed by two Ph.D. NMR spectroscopists and two technicians and is responsible for maintenance and instrument/probe development. A separate building with 3,600 sq. ft. of space is currently being refurbished for housing all Facility instrumentation and staff by Fall 1987. A GE whole body 2.0 T Imager is to be installed in the Department of Radiology, School of Medicine, and will be available. A 7.0 T Horizontal 175 mm bore system for *in vivo* NMR spectroscopy and imaging is on order from GE and a replacement 11.75 T or higher field system is proposed for 1988.

Active areas of NMR research at UCD include probe and coil design, organ and whole-animal physiology, plant, animal and microbial metabolism as well as traditional and two-dimensional high resolution NMR studies of proteins, nucleic acids and natural products. The campus has broad strength in the biological sciences with active programs in medicine and veterinary medicine, plant sciences, animal sciences, physiology, biochemistry and chemistry. The presence of the College of Agricultural and Environmental Sciences, the School of Medicine, the School of Veterinary Medicine, the Primate Research Center, and the NMR Facility on the same campus present exceptional opportunities for interdisciplinary research.

Applicants should submit a statement of research and teaching interests, a *curriculum vitae*, selected reprints and arrange for three letters of reference to be forwarded. Applications and letters of reference should be addressed to:

NMR Search Committee
c/o R. D. Grey, Dean of Biological Sciences
Division of Biological Sciences
University of California
Davis, CA 95616

The search committee will commence the review of applications on April 30, 1987, and the position will be filled as soon as a suitable individual is identified. The final closing date for receipt of applications is December 31, 1987.

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

**RESEARCH FACULTY
POSITION**

IN

**NEUROBIOLOGIC STUDIES
IN HEARING AND SPEECH**

A new full-time research faculty tenure track position is immediately available for an individual with research interests in either:

- (1) basic physiologic mechanisms of auditory/vestibular systems,
- (2) neurobiology of the larynx, or
- (3) sensory-motor control of orofacial structures.

This individual will be the Director of the Research Program within the Division of Otolaryngology and will contribute to the teaching of graduate and medical students. Address inquiries and letters of interest to **Allan M. Rubin, MD, Ph.D., Chief of Otolaryngology, Medical College of Ohio, CS #10008, Toledo, Ohio 43699.**

An Equal Opportunity Employer

ORGANIC CHEMIST
NATURAL PRODUCTS

The Squibb Institute for Medical Research is recognized internationally as a leader in the research and development of pharmaceuticals and allied health care products. We currently have an opportunity available for an experienced scientist to join our Microbial Biochemistry and Genetics Department.

You will be responsible for the isolation and structure determination of natural products of biological interest produced by fermentations. The use of various separation techniques (TLC, HPLC, Flash LC, Size Exclusion Chromatography and Partition Systems) is required. Additional responsibilities include the use of biological screening systems to monitor separations, operating relevant analytical instruments and interpreting experimental data as well as chemically modifying natural products using synthetic degradation techniques.

Qualified candidates will have a Ph.D. in Organic Chemistry or related discipline and a minimum of one year applicable post doctoral experience.

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

For confidential consideration, please submit your curriculum vitae to: **The Squibb Institute for Medical Research, Human Resources Department 498, P.O. Box 4000, Princeton, NJ 08543-4000.** An equal opportunity employer.



SQUIBB

Where science comes to life.

MEDICAL OFFICER/SCIENTIST FOR THE BALTIMORE LONGITUDINAL STUDY OF AGING

**NATIONAL INSTITUTE ON AGING
NATIONAL INSTITUTES OF HEALTH
PUBLIC HEALTH SERVICE
DEPARTMENT OF HEALTH AND HUMAN SERVICES**

Medical Officer/Scientist, National Institute on Aging, Baltimore Longitudinal Study of Aging. Salary range from \$38,727 to \$59,488 plus Physicians Comparability Allowance depending on qualifications. Direct repeated clinical evaluations of over 900 research participants in longitudinal study of human aging conducted for almost 30 years at Gerontology Research Center. Conduct research on aging using clinical descriptions of normal aging as a basis. Extraordinary research opportunities to relate medical information to extensive physiological and behavioral information available on participants. Academic appointment encouraged, research training of young scientists expected. Applicant must be a licensed physician. Background in epidemiology, preventive medicine, and/or internal medicine is best, strong research interest and background required. Applicant must also be a U.S. Citizen. Application for Federal Employment (SF-171) and curriculum vitae to: **Personnel Office, Gerontology Research Center, 4940 Eastern Avenue, Baltimore, MD 21224**. Further information may be obtained by contacting **Ms. Barbara Hughes at (301) 955-1733**.

APPLICATIONS MUST BE POSTMARKED NO LATER THAN
MAY 29, 1987.

AN EQUAL EMPLOYMENT OPPORTUNITY EMPLOYER.

THE STATE UNIVERSITY OF NEW JERSEY
RUTGERS

Rutgers, The State
University of New
Jersey, announces the
formation of its new

CENTER FOR MOLECULAR & BEHAVIORAL NEUROSCIENCE

CO-DIRECTORS: DRS. PAULA TALLAL & IAN CREESE

Twelve state-funded, tenure-track faculty positions are available for appointment at the assistant to full professor level with start dates from September 1987 through September 1989. Neuroscientists stimulated by the opportunities offered by the integrative focus and collaborative environment of the Center in the areas of molecular and behavioral research are encouraged to apply. Research areas of interest include (but are not limited to) human neuropsychology, human and animal electrophysiology, brain imaging, cognitive neuroscience, neuroanatomy, neurochemistry, psychopharmacology, molecular neurobiology, neurolinguistics, developmental neurobiology and behavioral genetics. Neuroscientists with a basic research focus in neurologic or psychiatric disease are particularly encouraged to apply. State of the art laboratories and equipment for human and animal research, library and conference facilities will be available in the new research Center which will be built at the Rutgers-Newark campus with scheduled completion in September 1989. The Center will be in close proximity to (and with faculty joint appointments possible in) the Institute for Animal Behavior and the Departments of Psychology, Chemistry and Biological Sciences. The Newark campus is close to both New York City and attractive New Jersey countryside living. Interested neuroscientists should send their CV, names of three references and a brief letter of research goals and philosophy to **Drs. Tallal and Creese, Office of the Provost, Rutgers, The State University of New Jersey, 15 Washington Street, Newark, New Jersey 07102**. Salaries are competitive.

Rutgers is an affirmative action/equal opportunity employer.

POSTDOCTORAL RESEARCH FELLOWSHIP

**National Institutes of Health
Public Health Service**

Visiting fellow (foreign citizens) positions available in Neuroimaging Section, National Institute of Neurological and Communicative Disorders and Stroke, Bethesda, Maryland. Research in Positron Emission Tomography and Nuclear Magnetic Resonance imaging and spectroscopy, aimed at understanding and diagnosing neurological disorders such as tumors, motor dysfunctions, etc. NIH facilities will include three PET scanners, two dedicated cyclotrons, three patient NMR scanners, two animal NMR imager-spectrometers, and a variable field NMR relaxometer. Candidates must have no more than three years research experience following doctorate (Ph.D. or M.D.). Stipend is \$20,000 or more, depending on qualifications. No federal or state tax is withheld, although ultimate determination of taxability must be made by the Internal Revenue Service. For information or qualifications and benefits, contact Janet Clagett (301) 496-6334. Interested candidates should send a curriculum vitae, a brief statement of research interests and the names of three references to:

**Dr. Giovanni Di Chiro
National Institutes of Health
9000 Rockville Pike
Building 10, Room 1C451
Bethesda, Maryland 20892
(301) 496-6801**

An Equal Opportunity Employer

PENN

Chairman

Department of Physiology

The University of Pennsylvania School of Medicine is seeking applicants for the position of Professor and Chairman of the Department of Physiology.

Application is invited from individuals with outstanding achievement in research, demonstrated leadership ability, and appreciation for the continuing role of a department of physiology in educating both medical and graduate students. We are seeking candidates from a broad spectrum of disciplines and departments related to physiology.

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

Interested applicants should send curriculum vitae to:

**Mark I. Greene, M.D., Ph.D., FRCP
Chairman, Physiology Search Committee
University of Pennsylvania School of Medicine
252 Medical Laboratories Building / 6082
Philadelphia, PA 19104**

PUBLICATIONS COORDINATOR ASSISTANT

Scientific/Technical Manuscripts & Publications

MERCK & CO., INC. has a position available which requires indexing, database management, information retrieval from on-line proprietary databases, and reviewer selection. Candidate should be strong in interpersonal skills, discretion, judgment and should have excellent verbal, written and editing/proofreading skills. Qualifications: BS in Biomedical Sciences, MA in Information/Library/Computer Sciences and experience in an industrial/business environment. Our salary, benefits and growth potential are excellent. Interested individuals should submit a resume and transcript of undergraduate work to **Susan R. Jenkins, Associate Director, Merck & Co., Inc., P.O. Box 2000, Rahway, NJ 07065.**

AN EQUAL OPPORTUNITY EMPLOYER



Merck & Co., Inc.

PHD SCIENTISTS & ENGINEERS

APPLY FOR RESEARCH AWARDS

Unique opportunities offered for independent research in the fields of:

- chemistry • physics
- earth and atmospheric sciences
- engineering, mathematics and applied sciences
- life and medical sciences
- space and planetary sciences

The National Research Council in cooperation with selected federal laboratories will offer approximately 450 awards in 1987 for independent scientific research. Recipients will be free to work on problems of their own choice as guest investigators at the participating federal laboratories. Many of the 26 programs are open to experienced senior scientists as well as to recent PhD's. Stipends begin at \$27,100 for recent graduates (\$31,500 for engineers) and are appropriately higher for seniors. Relocation reimbursement and funds for professional travel on tenure are available, and a health insurance program is offered.

For further information and application materials please write to:
Associateship Programs (JH608/S4)

National Research Council

2101 Constitution Avenue, N.W.
Washington, D.C. 20418

Deadline for application is
August 15.

RESEARCH SCIENTISTS AND ASSOCIATES FOR THE INTERNATIONAL CENTRE FOR GENETIC ENGINEERING AND BIOTECHNOLOGY

The International Centre for Genetic Engineering and Biotechnology (ICGEB) is an intergovernmental organization being established by 39 countries as a centre of excellence devoted to the application of genetic engineering and biotechnology to accelerate economic development. The United Nations Industrial Development Organization (UNIDO) assists the member countries of the ICGEB in establishing the Centre and is currently implementing an interim programme for a period of three years by which time the Centre is expected to function as an autonomous intergovernmental organization.

The Centre has two Components, Trieste, Italy, and New Delhi, India. Early work in Trieste concerns molecular aspects of DNA replication in human cells and the molecular, immunological and pharmacological aspects of human papilloma and rotavirus infections. At New Delhi the initial focus is on the molecular aspects of plant biology, hepatitis virus and parasitology with special emphasis on protozoan infections. The assignment of successful candidates will be based on the Component of applicant's preference and the availability of the requisite research topic.

The Centre is under the directorship of Prof. Irwin C. Gunsalus. The Trieste Component is headed by Prof. Arturo Falaschi. Prof. K. K. Tewari, proposed by the Director as head designate, is advising him on the development of the New Delhi Component. Positions are now available as follows:

RESEARCH SCIENTISTS

Research Scientists are being recruited at levels from Assistant to Senior Research Scientist, with equivalence to academic attainment of Assistant to full Professor at major internationally recognized universities. Ph.D. candidates with recent postdoctoral experience, to be appointed at the Assistant Research Scientist level, can, after indepth review according to the Centre's guidelines, receive promotion. For candidates with established recognition in their scientific field and demonstrated experience and leadership, senior appointments are available. Fluency in English is essential.

RESEARCH ASSOCIATES

Research Associate appointments will be available for participation, in Trieste and New Delhi, with Research Scientists in the areas listed above. Recent Ph.D. graduates in the physical and biological sciences with emphasis on chemistry, biochemistry, molecular and cell biology. Immediate research interests include molecular genetics, plant and animal molecular biology, molecular virology, parasitology, bacterial physiology and fermentation. Preference will be given to candidates with publications in peer reviewed journals with strong training in chemistry and biology.

In general, initial appointments will be for one to three years depending on the experience and qualifications with salaries and allowances according to U.N. system scales and conditions of employment. Research Associates will receive a stipend under special contract arrangements.

Please send resumé with three letters of recommendation to

Prof. I. C. Gunsalus
c/o Mr. H. Creydt, Head
Project Personnel Recruitment Branch
UNIDO
P.O. Box 300
A-1400 Vienna
Austria

Extramural Research Scientist

Triton Biosciences Inc., an entrepreneurial subsidiary of Shell Oil Co., is an emerging force in the development of cancer diagnostics and therapeutics. Our company is built upon a strong base of research expertise, solid financial support, and sound management.

We are seeking a Project Manager to join our Extramural Research department. This challenging assignment will involve setting up Triton-funded university research programs in cancer diagnostics and therapeutics, monitoring progress, and transferring product leads to the Company's research laboratories. This is an excellent opportunity for an enterprising, multi-dimensional person to manage a variety of stimulating R&D programs at the leading edge of cancer research. The successful candidate will be part of a small group reporting to the Manager of Extramural Research, but interacting with many people in Triton.

Candidates need a broad knowledge of cancer and particular knowledge of several aspects of current cancer research. They should also be familiar with other current biomedical research or diagnostics. A suitable background would be a Ph.D. in Cancer Cell Biology, Immunology, or Endocrinology followed by 3-8 years experience in cancer research, including running a research group or project management in academia or a biotechnology company.

Triton is located in the San Francisco Bay Area and offers competitive salaries and benefits, including relocation assistance. For prompt consideration, please forward your C.V. along with salary requirements and the names of three references to: Triton Biosciences Inc., Box JG, 1501 Harbor Bay Parkway, Alameda, CA 94501. All candidates must have U.S. citizenship or permanent resident visa status. Triton is an equal opportunity employer.



Triton Biosciences Inc

POSITIONS OPEN

COMPUTER TOOL PROGRAMMING SUPERVISOR. 8 a.m. to 5 p.m., 40 hours per week, \$50,000 per year. Duties: Use of International Standard Organization and Electronic Industry Association language to plan programs for high precision machining centers which feature minicomputer numerical controls and automatic tool changers. Preparations of layouts, instruction sheets, and encoding of programs for other employees using these machines. Supervision, correction, and planning regarding other employees' use of such machines. Running trial programs to verify the taped instructions. Assist in development of new high-speed, high-precision machines. Requirements: Master of Science in metallurgical engineering; 5 years of experience in the job offered or 5 years of experience as a Numerical Control Programmer. Send résumé to: **Illinois Department of Employment Security, 401 South State Street, 3 South, Chicago, Illinois 60605, Attention: Robert S. Felton, Ref. # V-IL-6735-F.** An Employer-Paid Ad.

DIRECTOR CHRISTENSEN RESEARCH INSTITUTE MADANG, PAPUA NEW GUINEA

Applications invited for above position. Independently funded institute devoted to research in marine and terrestrial biology. Applicants should have Ph.D. in a relevant subject and experience in working in tropical Third World environments. Salary PNG Kina 17,000 and residential and travel leave benefits. Send curriculum vitae and names of two referees by 5 June 1987 to: **Dr. Frank Talbot, Executive Director, The California Academy of Sciences, Golden Gate Park, San Francisco, CA 94118-9961.**

DIRECTOR RESEARCH AND COLLECTIONS

Natural history museum seeks research administrator. Ph.D. or equivalent in natural science field; 4 years of progressive experience in natural history museum. Duties: administration, direction of Research and Collections section, journal editing. Editorial experience preferred. Salary \$26,892 to \$43,728 plus benefits. Deadline 15 June 1987. Send letter and résumé to: **W. M. Palmer, North Carolina State Museum of Natural Sciences, P.O. Box 27647, Raleigh, NC 27611.**

DIRECTOR OF THE UNIVERSITY OF IDAHO/ WASHINGTON STATE UNIVERSITY WAMI MEDICAL EDUCATION PROGRAM

Applications and/or nominations are sought for the director, Regionalized Medical School Program (WAMI) at the University of Idaho and Washington State University, who is also assistant dean of the University of Washington School of Medicine.

Position descriptions are available on requests made to the address below. Search and selection procedures will be closed when a sufficient number of qualified applicants has been identified, but not earlier than 1 July 1987. To apply, please submit a letter of application, résumé, and four original letters of reference to:

**Dean Galen O. Rowe, Chair
WAMI Search Committee
College of Letters and Science
University of Idaho
Moscow, ID 83843**

Beginning date of employment, 1 September 1987, or as soon thereafter as possible.

The University of Idaho is an Equal Opportunity/Affirmative Action Employer and Educational Institution.

ENDOWED CHAIR. Department of Psychiatry and Biobehavioral Sciences, University of California, Los Angeles (UCLA), School of Medicine, seeks appropriate candidates for Della Martin Chair in Psychiatry, endowed professorship for distinguished academic psychiatrist (English-speaking, eligible California licensure) committed to research especially on major mental illnesses of adolescents and young adults (for example, schizophrenia). Send curriculum vitae and letter discussing career goals to:

**Arnold B. Scheibel, M.D., Chairman
Della Martin Search Committee
UCLA Neuropsychiatric Institute, B8-262
760 Westwood Plaza
Los Angeles, CA 90024**

POSITIONS OPEN

DIRECTOR INSTITUTE OF PLASMA AND FUSION RESEARCH UNIVERSITY OF CALIFORNIA, LOS ANGELES (UCLA)

Applications and nominations are invited for the position of Director of the Institute of Plasma and Fusion Research, UCLA. The Institute is an interdepartmental research unit with some 100 academic members and associates. Potential candidates should have a distinguished research record, demonstrated or potential administrative skill, and a commitment to providing aggressive leadership for continued scientific growth of the Institute. The Director will also assume an active senior professorship within an appropriate department in the College of Letters and Science or the School of Engineering.

Submit curriculum vitae and inquiries to: **M. A. El-Sayed, Office of the Chancellor, 3134 Murphy Hall, UCLA, Los Angeles, CA 90024-1405.** Closing date 1 September 1987. *UCLA is an Affirmative Action/Equal Opportunity Employer.*

DIRECTOR, PROFESSIONAL SERVICES DEPARTMENT OF FAMILY MEDICINE STATE UNIVERSITY OF NEW YORK HEALTH SCIENCE CENTER AT SYRACUSE (SUNY-HSC)

The Director, Professional Services is responsible for providing management support in the administrative, education, and research programs of the Department. This includes coordination of support staff; development of education programs at the graduate and undergraduate levels; providing faculty development in teaching and research; and coordinating efforts to secure external funding for Departmental research and education programs.

The successful candidate must possess a terminal degree (Ph.D. or Ed.D.) in education or related field, and a minimum of 5 years' demonstrated administrative experience in program management, a minimum of 3 years in the administration and management of funded programs and demonstrated experience in all areas of position responsibility. The candidate must possess evidence of teaching, support and service appropriate to a non-tenure track faculty appointment at the level of assistant or associate professor. Send cover letter and résumé to: **Kathleen M. Robarge, Employment Administrator, SUNY Health Science Center at Syracuse, 750 East Adams Street, Syracuse, NY 13210.** Deadline for receipt of résumés: 31 May 1987. *SUNY-HSC is an Affirmative Action/Equal Opportunity Employer.*

ECOLOGIST: A 1-year position as visiting assistant professor for 1987 to 1988 is anticipated. Teaching duties include population ecology, graduate-level biometry, and an introductory, nonmajors course in which human reproduction and demography are stressed. Preference will be given to individuals with demonstrated ability to lecture in large undergraduate courses. Doctorate required. Send three letters of reference, curriculum vitae, and transcripts to: **Rod R. Seeley, Chairman, Department of Biological Sciences, Idaho State University, Pocatello, ID 83209.** Closing date: 29 May 1987. *Idaho State University is an Equal Opportunity Employer.*

The recently established Environmental Health Institute (EHI) seeks an **EPIDEMIOLOGIST/BIO-STATISTICIAN** at the associate or senior associate level. The EHI is an independent grant/contract funded think tank devoted to the scientific review of the biological and clinical effects of environmental agents. Applicants should have M.D. or Ph.D. and a minimum of 1 to 3 years of postdoctoral experience in environmental health research. Faculty appointment at University of Massachusetts possible. Position available summer 1987. Curriculum vitae to: **Dr. Arthur Bloom, Environmental Health Institute, 725 North Street, Pittsfield, MA 01201.** *An Equal Opportunity Employer.*

ENVIRONMENTAL HEALTH

Director of Environmental Health. Responsibilities: to develop and administer a curriculum and to teach two courses per semester. Qualifications: doctorate in an appropriate field; teaching and research experience preferred. Salary is competitive. The search will remain open until an appointment is made. Send résumé and names of references to: **Andrew Dzirkalis, University of Pittsburgh at Bradford, Bradford, PA 16701.**

POSITIONS OPEN

ELECTROPHORESIS LABORATORY MANAGER

Pioneer Hi-Bred International, Inc. is seeking a manager of the electrophoresis laboratory in the Plant Breeding Division. The manager will supervise and direct genotyping of maize and other crops by electrophoresis and other relevant technologies for seed purity, germplasm identification, and plant breeding purposes. Research activities will center on developing more efficient and detailed techniques for germplasm identification and quality control. Minimum requirements are a master's degree in genetics, biochemistry, plant breeding, or a related field and experience with electrophoresis. Submit curriculum vitae and the names, addresses, and telephone numbers of three references by 17 May 1987 to: **Dr. Anthony J. Cavaliere, Pioneer Hi-Bred International, Inc., Department of Research Specialists, 7301 NW 62 Avenue, P.O. Box 85, Johnston, IA 50131; telephone: 515-270-3354.**

FACULTY POSITION DEPARTMENT OF ANATOMY

The Department of Anatomy of The Milton S. Hershey Medical Center of The Pennsylvania State University has a tenure-track position available for 1 July 1987. Background required is a Ph.D. or M.D. in anatomy or related discipline, with research in areas of cell, molecular, or neurobiology. The individual selected will be expected to teach in neuroanatomy/gross anatomy and to maintain an active research program. Postdoctoral research training is desirable. Qualified persons need to send curriculum vitae and three representative publications, a statement of research interests including current and projected projects, and the names of three references to: **Dr. Bryce L. Munger, Professor and Chairman, Department of Anatomy, The Milton S. Hershey Medical Center, P.O. Box 850, Hershey, PA 17033.** Deadline for receipt of applications is 30 May 1987. *The Pennsylvania State University is an Affirmative Action/Equal Opportunity Employer.*

FACULTY POSITION UNIVERSITY OF CALIFORNIA, IRVINE

The Department of Physiology and Biophysics is seeking faculty member with research interests in molecular, cellular, and/or structural aspects of biology. The appointment will be at the **ASSISTANT PROFESSOR** (tenure-track) level commencing fall 1987 or winter 1988. The successful candidate will be expected to conduct a vigorous, independent research program and contribute to the teaching of medical and graduate students. Applicants should have postdoctoral experience and demonstrated ability as a creative scientist. Send curriculum vitae, a brief description of research interests, and the names of three references to: **Professor Stephen H. White, Chairman, Department of Physiology and Biophysics, University of California, Irvine, CA 92717.**

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

FUNGAL MOLECULAR BIOLOGIST

The Department of Plant Pathology, University of California, Davis, invites applications for an 11-month (1 month vacation) tenure-track position at the assistant or associate professor level available 1 September 1987.

Responsibilities include research on the molecular biology and genetics of filamentous fungi. Teaching includes participation in team-taught graduate course in molecular genetics of fungi; supervision/advising students in graduate programs in genetics, biochemistry, microbiology, or plant pathology. Participation in University and public service is expected. Applicants with an interest in developing a program on plant pathogenic fungi in the future are encouraged to apply.

Applicants should have a Ph.D. in a biological science relevant to the assigned area of research and teaching. Postdoctoral experience related to the assigned area of research is desired. Applicants should submit: (a) curriculum vitae, (b) list of published work and reprints, (c) a statement of teaching and research interests, and (d) names and addresses of three references to:

**T. Kosuge, Chairman, Search Committee
Department of Plant Pathology
University of California, Davis, CA 95616
Telephone: 916-752-0318/0300**

Application deadline: 1 July 1987
The University of California is an Affirmative Action/Equal Opportunity Employer.

COMPUTER SCIENTISTS AND MOLECULAR BIOLOGISTS

The **LISTER HILL NATIONAL CENTER FOR BIOMEDICAL COMMUNICATIONS** invites applications from computer scientists and molecular biologists for positions in its Biotechnology Information Program. The Biotechnology Information Program addresses issues associated with the application of information science to the storage, retrieval, and analysis of molecular biology data. The Lister Hill Center provides a research and development environment for extending computer technology and information science into the biomedical community. General areas of research include image processing, information retrieval, knowledge-based information systems, and expert systems. Its research facilities include a network consisting of VAX 780s, Sun workstations, Micro-Vaxs, a Xerox 1105 and 1186, and IBM PC/ATs and RT/PCs which has external access to the ARPANET. Additional facilities at the NIH campus include IBM 3090s, DEC-10, and a Cray X-MP. We are seeking individuals in the following categories:

COMPUTER SPECIALIST/COMPUTER SCIENTISTS experienced in the design and development of software in the Unix operating system environment. Areas of expertise may include user interfaces, window systems, database management, information retrieval, and distributed processing.

MOLECULAR BIOLOGISTS interested in computational problems in molecular biology, particularly the organization and analysis of protein and nucleic acid sequence data.

Application may be made for both permanent and short-term appointments. Salaries range from \$27,172 to \$45,763, depending on grade equivalence (GS-11 through GS-14), type of appointment, and experience and educational background in any of the above disciplines.

Please send a Standard Form 171 (Application for Federal Employment) or resume by August 31, 1987 to:

Ms. Yvonne Reid
NATIONAL LIBRARY OF MEDICINE
National Institutes of Health
Public Health Service
Lister Hill National Center for
Biomedical Communications
Building 38A, Room 7N714
8600 Rockville Pike
Bethesda, Maryland 20209

For further information call:
(301) 496-4441

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Research Scientists San Francisco Bay Area

BIO-RAD LABORATORIES' Clinical Diagnostics Division is continuing to expand its Research Group to undertake the development of new immunoassay systems for the 1990s. We are looking for highly motivated professionals.

Hybridoma Specialist

Hands-on expertise in all areas of hybridoma development, including the design of immunization and screening protocols, the optimization of fusion procedures, and the stabilization of newly established clones. Experience in glycoprotein antigen purification a plus.

Assay Development

Participate in research projects, developing new immunoassays for the marketplace. Perform tasks such as optimizing immunoassay, evaluating monoclonal antibodies, stabilizing solid-phase antibody, and developing assay formats. PhD or MS/BS with experience in immunodiagnostics industry. Experience in experimental design and good communication skills.

Senior Assay Development

Lead projects, assist with budgets and schedules, plan course of research for developing new immunoassays. Be knowledgeable of broad range of commercial and academic immunoassays. BS/MS with two-plus years of industrial experience. PhD desirable. Leadership ability/experience, ability to work both independently and as part of a team. Good communication skills.

These are a few of the many opportunities available. Others include Immunoassay Product Support, Cancer Immunology, Protein/Peptide Chemistry, and Infectious Disease Diagnostics.

Be part of the team in our new facilities overlooking the Bay in Hercules, California.

We offer a competitive salary and benefits package. To learn more about the entrepreneurial spirit at Bio-Rad, please send your resume and salary history to: Bio-Rad Laboratories, Human Resources, Dept. #293S, 1414 Harbour Way South, Richmond, CA 94804. An equal opportunity employer.

BIO-RAD

Bio-Rad Laboratories

POSITIONS OPEN

FACULTY POSITIONS MOLECULAR BIOLOGY SLOAN-KETTERING INSTITUTE

The Molecular Biology Program of the Sloan-Kettering Institute and the Sloan-Kettering Division of the Cornell University Graduate School of Medical Sciences is seeking applications from molecular biologists, biochemists, developmental biologists, and structural biologists for several tenure-track faculty positions. The specific rank of appointment will be commensurate with the candidate's experience and achievements. The potential recruit should be using modern genetic, molecular biological, and biochemical techniques to study problems in the general area of prokaryotic and eukaryotic cellular or viral gene expression and gene replication. This rapidly expanding program consists of 25 independent faculty members with diverse research interests who are committed to basic research and the training of graduate students. Please submit your curriculum vitae, present and future research plans, and the names and addresses of at least three references to: **Dr. Jerard Hurwitz, Sloan-Kettering Institute, 1275 York Avenue, New York, NY 10021.**

Memorial Sloan-Kettering Cancer Center is committed to Equal Opportunity through Affirmative Action.

HAZARDOUS MATERIALS GROUP MANAGER. The Environmental, Health, and Safety Division of the Georgia Tech Research Institute (GTRI) is currently seeking a Manager for our Hazardous Materials Group who meets the following minimum requirements: M.S. degree required, Ph.D. preferred in environmental science and/or engineering. Minimum of 5 years of experience in hazardous waste management and attendant regulations. Strong background and commitment to training in hazardous materials emergency response and control. Strong ability in entrepreneurial activity (e.g., grantsmanship and business development), particularly leading to interdisciplinary research in hazardous waste materials. U.S. CITIZENSHIP. GTRI's salaries are competitive with an outstanding benefits package that includes 21 days vacation, 11 paid holidays per year, several attractive group insurance and tax sheltered annuity programs. Send résumé and salary history/requirements to: **Human Resources Department, Georgia Tech Research Institute, Georgia Institute of Technology, CODE: SC-4, Atlanta, GA 30332. An Equal Education/Employment Opportunity Institution.**

The Department of Pathology at The University of Michigan Medical Center seeks an individual with skills and experience in the areas of **HEMATOPATHOLOGY AND FLOW CYTOMETRY.** It is expected that this individual will be Board Certified in Anatomic Pathology/Clinical Pathology by the American Board of Pathology and will have evidence of academic credentials and interest in research pursuits. The appointment is scheduled for an **ASSISTANT PROFESSOR** in the tenure track. Candidates should contact: **Peter A. Ward, M.D., Professor and Chairman, Department of Pathology, The University of Michigan Medical School, 1315 Catherine Road, Ann Arbor, Michigan 48109-0602. Telephone: 313-763-6384.**

MOLECULAR BIOLOGY FACULTY POSITIONS

The Department of Biochemistry, Wayne State University, School of Medicine, invites applications for several tenure-track faculty positions. Research interests should encompass modern molecular approaches to basic problems of biology. The positions are at the level of assistant professor, although outstanding individuals at more senior levels will be considered. A Ph.D. or M.D. with relevant postdoctoral experience in molecular biology is required. A résumé, the names of at least three references, and a brief outline of future research interests should be sent to: **Dr. Barry P. Rosen, Professor and Chairman, Department of Biochemistry, Wayne State University (WSU), School of Medicine, 540 East Canfield, Detroit, MI 48201. WSU is an Equal Opportunity/Affirmative Action Employer.**

ASSOCIATE DIRECTORS Cellular and Molecular Biology

Merck Sharp & Dohme Research Laboratories' expanding long-term commitment to molecular and cellular biology has created the opportunity for positions of strong leadership. We seek talented and experienced scientists to accept the responsibility for leading groups of 7 to 12 molecular biologists within projects in both research as well as product development. These multidisciplinary programs will be collaborative efforts which utilize techniques in molecular and cellular biology for the identification, isolation and analysis of proteins of therapeutic, pharmacologic, or process development interest as well as the control of expression of such proteins.

The successful candidates possess broad experience in a range of areas which include: regulation of gene expression, cDNA cloning and expression in recombinant microbial and eukaryotic hosts, viral vectors and vaccines, structure/function studies of proteins, scale-up of recombinant mammalian and microbial cells, and protein analytical and purification techniques. Demonstrated research independence, extensive supervisory experience, and an excellent publication record in molecular biology all are required. Strong communication and leadership skills, a desire to work as part of a multi-disciplinary team, and the ability to develop the talents of other scientists are very important. Industrial experience is a plus.

These positions will provide an outstanding opportunity to implement novel research projects with the potential for significant impact in several areas of human health. Collaborations with other research departments will offer the opportunity for high visibility and career growth. We encourage broad interactions with the scientific community at large through collaborations, publications, and presentations at major scientific conferences. Additionally, successful leaders would be expected to be able to expand their future responsibilities in these dynamic positions.

Excellent salary, broad benefits, and generous relocation entitlements accompany these positions in our modern and spacious laboratories at our two major research sites in Rahway, New Jersey and West Point, Pennsylvania. In confidence, please send your resume, four professional references whom we may contact, and salary history and requirements to: **Mr. Jacques P. Kueny, Research Personnel, MERCK SHARP & DOHME RESEARCH LABORATORIES, West Point, PA 19486. EEO/AA/VH/Employer.**



Merck & Co., Inc.

POSTDOCTORAL POSITIONS



Hoffmann-La Roche, a research-intensive pharmaceutical company located in suburban New Jersey, 12 miles outside of New York City, is seeking two Research Associates (postdoctoral fellows) to join multidisciplinary teams with interests in immunology and virology in the Biological Research Division. These positions will offer the successful candidates an opportunity to carry out basic research while interacting with colleagues skilled in translating relevant findings into appropriate therapeutic approaches. Publication of basic research results is encouraged. Positions are available immediately.

MOLECULAR BIOLOGY

We seek an individual with interest in the application of recombinant DNA technology to the cloning of genes encoding immunoregulatory proteins. Candidates must have experience in cloning, expression and DNA sequencing. Background in immunology is desirable but not essential.

VIROLOGY

An individual is being recruited to join our influenza virus program to study the mechanism of action of antiviral compounds and to design new molecular targets for virus-drug interactions. Background and experience in virology or molecular biology is essential.

Interested individuals should send curriculum vitae and names of three references to: **Dr. Michael Sherman, Director, Department of Oncology and Virology, Hoffmann-La Roche Inc., Nutley, New Jersey 07110. We are an equal opportunity employer.**



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POSITION AVAILABLE

CHIEF, CLINICAL PHARMACOLOGY RESEARCH BRANCH ADDICTION RESEARCH CENTER (ARC) NATIONAL INSTITUTE ON DRUG ABUSE ALCOHOL, DRUG ABUSE, AND MENTAL HEALTH ADMINISTRATION PUBLIC HEALTH SERVICE DEPARTMENT OF HEALTH AND HUMAN SERVICES

NIDA invites nominations and applications for this Senior Executive Service position in the career civil service, located in Baltimore, Maryland. Annual salary range from \$64,700 to \$73,400. Candidates may also be eligible for physicians' comparability allowance of up to \$10,000 per year.

The Chief, Clinical Pharmacology Research Branch, manages a staff of 15 and a budget of 4.2 million. Branch programs are carried out with volunteer subjects and test drugs for dependence potential, develop new pharmacological treatments, analyze the metabolic pathways of drugs, and devise drug detection systems for screening drugs in body fluid.

Educational requirements include graduation with a degree of Doctor of Medicine from an AMA approved medical school, or a Doctor of Osteopathy degree from an approved school. In addition, the applicant must possess a permanent and full license to practice medicine. Professional background and/or education must indicate an extensive knowledge of research methodology. Applicants must demonstrate progressively responsible experience in the scientific research administration and proven professional competence in areas related to the intramural research function. The experience must show evidence of involvement in research programs concerned with drug abuse related disorders and demonstrate a broad understanding of the biological, clinical, and behavioral sciences as they relate to the drug abuse field. Candidates must also have management experience demonstrating competence to assume leadership in planning, staffing, directing, and allocating resources for a major research program.

Submit applications (Application for Federal Employment, SF-171), accompanied by a current curriculum vitae and bibliography, to Ms. Lois Mercer, Division of Personnel Management, Alcohol, Drug Abuse, and Mental Health Administration, 5600 Fishers Lane, Room 15C26, Rockville, Maryland 20857 (Phone: 301/443-5030). Applications will be accepted without the SF-171, provided the SF-171 is submitted upon request. Nominations and applications should be submitted by May 29, 1987.

Applications from women and minority group members are especially solicited.

THE NATIONAL INSTITUTE ON DRUG ABUSE IS AN EQUAL OPPORTUNITY EMPLOYER.

POSITIONS OPEN

HUMAN SMOOTH MUSCLE LABORATORY

The Johns Hopkins University School of Medicine Department of Urology has a position at the postdoctoral or higher level for an individual with interest/experience in smooth muscle physiology/pharmacology to work jointly with M.D./Ph.D. member of faculty on problems related to bladder function. Two-year position, extension possible. Facilities for organ bath and micro-electrodes available. Send curriculum vitae and additional correspondence to: **Mrs. Maryrose Gans, Brady Urological Institute, Johns Hopkins Hospital, Baltimore, MD 21205.** *The Johns Hopkins University School of Medicine is an Equal Opportunity Employer.*

MICROBIOLOGIST

Temporary assistant professor starting August 1987. Duties include introductory microbiology and other courses as appropriate. Ph.D. required. Teaching and research experience preferred. Position may become tenure track. Send curriculum vitae and three letters of reference by 1 June 1987 to: **Biology Search Committee, Purdue University Calumet, Hammond, Indiana 46323.** *Purdue University Calumet is an Affirmative Action/Equal Opportunity Employer.*

MOLECULAR BIOLOGY RESEARCH TECHNICIANS

Pioneer Hi-Bred International, Inc., seeks two research technicians to take part in ongoing research in the areas of gene regulation and restriction fragment length polymorphisms in corn. Duties will include isolation and analysis of RNA and DNA, microbial culture, plasmid and virus isolation, molecular cloning, electrophoresis, hybridization, and limited field and greenhouse work. Applicants should have a M.S. or B.S. with appropriate experience, with a major in chemistry, genetics, biology, or a related field. Molecular biology experience is preferred. Submit résumé, transcripts, and three references to: **Lori Schuster, Pioneer Hi-Bred International, Inc., Biotechnology Research Department, P.O. Box 38, Johnston, IA 50131.** *Equal Opportunity/Affirmative Action Employer.*

MOLECULAR IMMUNOLOGIST

The Department of Pathology and Laboratory Medicine of the University of Pennsylvania School of Medicine seeks a **MOLECULAR IMMUNOLOGIST** for appointment at the level of **ASSISTANT PROFESSOR** (tenure track). The applicant should hold an M.D., Ph.D., or combined degree, and should have demonstrated research excellence in the area of B-lymphocyte development and the molecular basis for immunoglobulin gene expression. The applicant will be expected to establish a vigorous research program in his/her area of expertise. Although clinical service will not be required, it may be arranged if desired. Applications will be accepted through 31 May 1987. Applicants should send their curriculum vitae and three letters of reference to:

Dr. Michael P. Cancro
Room 284

Department of Pathology and Laboratory Medicine
University of Pennsylvania School of Medicine
36th and Hamilton Walk
Philadelphia, PA 19104-6082

The University of Pennsylvania is an Equal Opportunity Employer.

Ph.D. CLINICAL CHEMIST

A tenure-track Ph.D. faculty position is available for the Division of Clinical Chemistry, Department of Pathology, University of Florida, College of Medicine, in Gainesville, Florida. Assistant professor or associate professor rank will be awarded dependent upon qualifications. Responsibility for an analytical toxicology—drug monitoring program would be a central function. Experience with mass spectrometry/high-pressure liquid chromatography essential. The successful applicant would provide a resource for assay development, and contribute to the teaching of medical students, residents, and medical technologists. An independent research program would be expected. Applicants should submit their curriculum vitae and list of references to: **William Riley, M.D., Department of Pathology, Box J-275, J. Hillis Miller Health Center, Gainesville, FL 32610.** Applications close 1 July 1987 with starting date before 1 October 1987. Salary commensurate with experience and training.

An Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

TWO MOLECULAR BIOLOGY FACULTY APPOINTMENTS DEPARTMENT OF BIOCHEMISTRY AND MOLECULAR BIOLOGY UNIVERSITY OF FLORIDA COLLEGE OF MEDICINE

The Department plans to make two faculty appointments at the rank of assistant professor, associate professor, or professor with a 1 January 1988 starting date. While open to all molecular biologists, special consideration will be given to those intending to study the molecular biology of processing and transport of macromolecules in eukaryotes (including protein and nucleic acid translocation, intracellular motility, endocytosis, membrane trafficking, and related aspects of organelle biogenesis and movement). Applicants should send curriculum vitae, three letters of reference, and a statement of research interests and direction by 1 July 1987 to: **Search Committee Chairman, Department of Biochemistry and Molecular Biology, Box J-245 Health Science Center, University of Florida, Gainesville, FL 32610.** *An Equal Opportunity/Affirmative Action Employer.*

NEUROANATOMY POSTDOCTORAL POSITIONS

Available both now and for July 1987. Positions are supported by an NINCDS training grant. Various aspects of the nervous system, peripheral and central, are being studied by the faculty involved. For further information write to:

Dr. Alan Peters, Chairman and Professor
Department Of Anatomy
Boston University, School Of Medicine
80 East Concord Street
Boston, MA 02118

NEUROBIOLOGY POSTDOCTORAL POSITION available 1 December 1987 in a highly interactive neuroscience community to study expression and regulation of sensory neurotransmitters, growth and development of autonomic sensory neurons, and mechanisms of axon guidance. Background in cellular neurobiology required and experience in molecular neurobiology, biochemistry, or immunology desirable. Position offers training in cell and tissue culture, immunocytochemistry, biochemistry, and neuroanatomical methods. Please send curriculum vitae, statement of interests, and three references to: **David M. Katz, Ph.D., Academic Program Development, Case Western Reserve University, School of Medicine, Cleveland, OH 44106.** *Equal Opportunity Employer.*

NEUROPHYSIOLOGY

POSTDOCTORAL POSITION available immediately to study the relationship between synaptic structure, function and growth in the amphibian cardiac ganglion. The structural properties of individual nerve terminals will be compared to their release properties at different stages of development and growth. Candidates should have experience with intracellular recording techniques. Experience with voltage clamp techniques desirable. Send curriculum vitae and names of three references to: **Dr. Peter B. Sargent, Division of Biomedical Sciences, University of California, Riverside, CA 92521.** *The University of California is an Equal Opportunity Employer.*

PHARMACOLOGY/TOXICOLOGY. University of Wyoming School of Pharmacy. Tenure-track appointment at **ASSISTANT PROFESSOR LEVEL.** Competitive salary commensurate with qualifications and experience. Doctorate required. Responsibilities include participation in teaching of undergraduate courses in pharmacology and pathophysiology; participating in service and professional activities of the School and University; and establishing an independent research program. The position offers the opportunity for both independent and collaborative research and participation in an interdisciplinary graduate program in neuroscience and a developing computer imaging institute. Position is available on or before 27 August 1987. Screening of applications will begin 15 June 1987. Send application letter, curriculum vitae, and names and addresses of three references to: **Bruce W. Culver, Box 3375, University Station, The University of Wyoming, Laramie, WY 82071.** *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

NEUROSCIENCE FACULTY POSITIONS AT HAHNEMANN UNIVERSITY PHILADELPHIA, PENNSYLVANIA

Mid- to senior-level academic positions are available in the Center for Neurological Research at Hahnemann University.

These positions are being offered as part of the continuing commitment of the University to a multidisciplinary program in the neurosciences. Required are an M.D. and/or Ph.D. degree and an established record of research in the neurosciences, as evidenced by extensive publications and extramural research support.

Successful candidates will be expected to interact on a campus-wide level with clinical and basic investigators in the neurosciences. While the primary focus will be research, successful candidates will also be encouraged to engage in the education and training of graduate students, postdoctoral fellows, and medical students.

Applications must be submitted by 1 June 1987. Interested applicants should send curriculum vitae, bibliographies, and names of three references to: **Elliott L. Mancall, M.D., Chairman, Department of Neurology, HAHNEMANN UNIVERSITY, Mail Stop 423, Broad and Vine Streets, Philadelphia, PA 19102.**

Equal Opportunity/Affirmative Action Employer.

Ph.D. IN MOLECULAR BIOLOGY

Ph.D. in Molecular Biology desired for position in an Oncology Hospital-based research laboratory, to initiate research program involving: growth factors, oncogenes, and gene rearrangements in both solid and hematologic malignancies.

Individual with several years of postdoctoral experience as well as record of independent, original research preferred. Send curriculum vitae and reference letters to:

Larry Nathanson, M.D.
Winthrop-University Hospital
222 Station Plaza North
Room 300
Mineola, NY 11501

Ph.D. CYTOGENETICIST—Serve as Lab Director of a growing lab (1000 samples per year) at Arkansas Children's Hospital, a major teaching affiliate of the University of Arkansas for Medical Sciences. Faculty appointment in departments of pathology and pediatrics, commensurate with experience, available if desired. Board certification/eligibility with at least 2 years of experience preferred. Position available immediately. Send résumé to: **Department SC, Personnel Department, Arkansas Children's Hospital, 800 Marshall Street, Little Rock, AR 72202-3591.** Telephone: 501-370-1302. *Equal Opportunity Employer.*

PLANT POPULATION GENETICIST

Plant population geneticists with emphasis in ecological or evolutionary mechanisms are urged to apply for a 10-month, tenure-track appointment starting 17 August 1988. Rank open. Ph.D. required. Preference will be given to those using modern experimental/quantitative techniques. Applicants should submit a current résumé, graduate transcripts, a statement of research goals, reprints, and names and addresses of four references by 1 June 1987 to: **Dr. James L. Reveal, Department of Botany, University of Maryland, College Park, MD 20742-5815.** *An Equal Opportunity/Affirmative Action Employer.*

POSTDOCTORAL ASSOCIATE

A postdoctoral position is available to study either translational control during early *Xenopus* development or the mechanism of EIA trans activation in injected *Xenopus* oocytes. Send curriculum vitae and three letters of reference to: **Dr. Joel D. Richter, c/o Personnel Office, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, MA 01545.**

*An Equal Opportunity/Affirmative Action Employer
M/F/H*

POSITIONS OPEN

Center for Hemostasis and Thrombosis Research, New England Medical Center and Tufts University School of Medicine, invites applications for POSTDOCTORAL AND JUNIOR FACULTY POSITIONS:

(1) **MOLECULAR BIOLOGIST:** Cloning and expression of recombinant vitamin K-dependent blood coagulation proteins; site-directed mutagenesis to study structure-function relationships.

(2) **PROTEIN CHEMIST:** Molecular assembly of blood clotting proteins on cell membranes; conformation-specific antibodies as probes of protein structure; protein sequence analysis.

(3) **CELL BIOLOGIST/IMMUNOCHEMIST:** Analysis of membrane proteins uniquely associated with activated platelets.

(4) **PROTEIN STRUCTURE AND DESIGN:** Computer molecular graphics design of peptides and proteins; design and synthesis of novel and chimeric proteins via genetic engineering.

The Center is located in new laboratories and is well equipped with modern instrumentation for protein sequencing, and peptide and DNA synthesis. Salary and faculty status are negotiable. Please reply to: Dr. B. C. Furie, Center for Hemostasis and Thrombosis Research, Tufts-New England Medical Center, 750 Washington Street, Boston, MA 02111.

POSTDOCTORAL ASSOCIATE RESEARCH IN GASTRIC CARCINOGENESIS

The Division of Comparative Medicine at the Massachusetts Institute of Technology has an immediate opening for two postdoctoral associate positions to conduct research on intragastric nitrosation and predictive modeling of gastric carcinogenesis in laboratory animals. Responsibilities include assisting in surgery and preparation and analysis of biological specimens for biochemical analysis. The qualified applicant should have experience with laboratory animal surgery and manipulation, training in physiology, and knowledge of techniques for biochemical evaluation. Candidates with interests in pursuing careers in laboratory animal medicine or comparative pathology are encouraged to apply. A D.V.M. degree or equivalent is required. Applications and the names of three references should be addressed to: Dr. James G. Fox, Professor and Director, Division of Comparative Medicine, Massachusetts Institute of Technology, 37 Vassar Street, 45-105, Cambridge, MA 02139.

POSTDOCTORAL FELLOW. Bio-organic chemist or biochemist. To study the metabolism and DNA interactions of structurally unique carcinogenic non-alternant polynuclear aromatic hydrocarbons. Opportunity exists for promotion to a permanent staff position. Send résumé to: Dr. Shantil Amin, American Health Foundation, 1 Dana Road, Valhalla, NY 10595. An Equal Opportunity Employer M/F/H/V.

POSTDOCTORAL FELLOW for research in protein chemistry specifically in relation to Alzheimer's disease. Background in purification, isolation, and characterization of structural proteins, RIA, ELISA, HPLC, amino acid and sequence analyses, and monoclonal antibody production and assay. Position for 2 to 3 years in established research laboratory. Submit résumé to: Dr. George G. Glenner, Research Pathologist, Department of Pathology, M-012D, University of California, San Diego, La Jolla, CA 92093 by 1 July 1987. Salary range is based on University of California pay scale. Affirmative Action/Equal Opportunity Employer.

POSTDOCTORAL FELLOWS AND RESEARCH ASSOCIATES to study: (i) ATP/ubiquitin-dependent proteolysis in red blood cells and muscle utilizing monoclonal antibodies and molecular biological techniques; (ii) regulation of muscle growth and adaptation in vivo and in tissue culture in response to adrenergic agents, activity, and endocrine factors. Positions require Ph.D. and/or M.D. and research experience in either cell biology, molecular biology, biochemistry, and/or physiology. Salary commensurate with experience. Send curriculum vitae and three references to: Dr. Joseph Etlinger, Department of Anatomy and Cell Biology, Box 5, SUNY Health Science Center at Brooklyn, 450 Clarkson Avenue, Brooklyn, NY 11203. Equal Opportunity/Affirmative Action Employer. DMC #C-0081.

NATIONAL RESEARCH COUNCIL

National Academy of Sciences

National Academy of Engineering

Institute of Medicine

RESIDENT RESEARCH ASSOCIATESHIPS



1987

TENABLE AT THE

US Army Armament Research, Development and Engineering Center
LOCATED AT DOVER, NEW JERSEY

AND THE

US Army Chemical Research, Development and Engineering Center
LOCATED AT ABERDEEN PROVING GROUND, MARYLAND

These NRC-Department of the Army Research Associateships are awards which provide opportunities for research on problems of individual choice to scientists and engineers of unusual ability and promise. Programs are open to U.S. citizens only. Awards are on a competitive basis. Initial awards are for one year with the possibility of renewal.

The National Research Council is accepting applications for its 1987 Resident Research Associateships that will provide opportunities for postdoctoral and senior scientists to conduct experimental and theoretical research in the areas of:

- ATMOSPHERIC PHYSICS
- ORGANIC CHEMISTRY
- PHYSICAL CHEMISTRY
- LASER SPECTROSCOPY
- MOLECULAR PHYSICS
- CHEMICAL SYNTHESIS
- SURFACE AND COLLOID CHEMISTRY
- ELASTIC-PLASTIC STRAIN & INTERNAL STRESS
- ENZYMATIC RESEARCH
- SPECTRAL ANALYSIS
- RAPID-SOLIDIFICATION TECHNOLOGY
- FLUID MECHANICS
- AUTOMATED TARGET RECOGNITION
- ARTIFICIAL INTELLIGENCE & CONTROL
- NONLINEAR BEHAVIOR OF METALLIC MATERIALS

DEADLINES:

Applications must be postmarked on or before August 15, 1987. Supporting documents must be received by October 1, 1987. Awards will be announced in early November 1987.

FOR INFORMATION, WRITE TO:

**ASSOCIATESHIP PROGRAMS (JR610-E1)
NATIONAL RESEARCH COUNCIL
2101 Constitution Avenue, N.W. Washington, DC 20418**

POSITIONS OPEN

POSTDOCTORAL FELLOW OR RESEARCH ASSOCIATE—Research on hormone action emphasizing role of endosomal receptor kinase(s) for peptide hormones. M.D. or Ph.D. with experience in molecular endocrinology and/or membrane research preferred. Send curriculum vitae and references to: **Dr. Barry I. Posner, McGill University, 3640 University Street, Room 2-11, Montreal, Canada H3A 2B2.**

POSTDOCTORAL POSITION available to study the structure and function of sarcoplasmic reticulum Ca^{2+} release channel or dihydropyridine-sensitive Ca^{2+} channel using biochemical, biophysical, immunological, and molecular biological techniques. Applicants should submit letter of application, curriculum vitae, two reprints or manuscripts of recent experimental work, and three letters of recommendation to: **Dr. Kevin P. Campbell, University of Iowa, Department of Physiology and Biophysics, Iowa City, IA 52242. The University of Iowa is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION IN CARDIAC ELECTROPHYSIOLOGY. Multiyear NIH-funded position available immediately to study basic mechanisms involved in modulation of impulse conduction at the AV node. Experiments are directed toward analyzing interrelationships between autonomic neural activation and rate-dependent refractory properties. Some experience in cardiac electrophysiology desirable. Send inquiries including curriculum vitae and references to: **Dr. Jerod M. Loeb, Departments of Surgery and Physiology, Northwestern University Medical School, 303 East Chicago Avenue, Chicago, IL 60611. Equal Opportunity/Affirmative Action.**

POSTDOCTORAL POSITION: Available immediately to study the differentiation and transport function(s) of intestinal epithelium with particular emphasis on the molecular regulation of calcium transport. Experience in cell/tissue culture, steroid hormone receptor assays, and gene transcription/translation assays especially desirable. Opportunity to learn a variety of modern cell and molecular biological techniques, in use in our department, relating to other epithelial tissues. Candidates must have a doctoral degree, must be U.S. citizens, and should be able to document strong research background and interest in transport phenomena in animals. Salary dependent on academic background and research experience (NIH scale). Send curriculum vitae, summary of research experience, and names and addresses of three references to: **Dr. R. A. Corradino, Department/Section of Physiology, Room 720, Veterinary Research Tower, New York State College of Veterinary Medicine, Cornell University, Ithaca, NY 14853.**

POSTDOCTORAL POSITIONS immediately available for recent (within the past 36 months) doctoral degree recipients to investigate cellular and molecular mechanisms of respiratory epithelial cell proliferation, differentiation, carcinogenesis, and oncogenesis using in vitro and in vivo approaches. First-year annual stipend of \$20,000 plus health insurance and relocation allowance. U.S. citizenship or permanent residency required. Contact: **Personnel Unit, Lovelace Inhalation Toxicology Research Institute, P.O. Box 5890, Albuquerque, NM 87185 or telephone: 505-844-9431** for application materials. *We are an Equal Opportunity Employer.*

POSTDOCTORAL POSITIONS (two) available fall, 1987 to investigate the mechanism involving the unmasking of latent motor pathways after spinal cord and brain injury. Opportunity to learn numerous morphological, histochemical, and immunochemical techniques at light and electron microscopic levels. Candidates with experience in other technical areas are encouraged to apply. Salary is \$18,000 to \$20,000 plus fringe benefits. Send curriculum vitae and names of three references to: **Dr. Harry G. Goshgarian, Department of Anatomy and Cell Biology, Wayne State University Medical School, 540 East Canfield, Detroit, MI 48201. An Affirmative Action/Equal Opportunity Employer.**

Senior Clinical Research Associate

Contact Lens Care Products

Alcon Laboratories is a multinational pharmaceutical company and a recognized industry leader in ophthalmic research. As a result of our continued growth, we are currently seeking an achievement-oriented Senior Clinical Research Associate. You will be working with clinical investigators to initiate and implement clinical studies for contact lens care products with responsibilities including the preparation of clinical protocols, clinical monitoring summaries and FDA submissions.

Minimum qualifications include a Ph.D. in a Biomedical Science with 2 years post-doctoral biomedical experience in either clinical or laboratory research or MS with 5 years clinical research experience. Excellent interpersonal skills and highly developed technical writing abilities are also necessary.

This position offers an excellent opportunity for professional recognition and growth. We offer a competitive salary plus comprehensive benefits including company paid life/medical/dental insurance and an excellent profit sharing trust plan. If our opportunity sounds like the kind of professional challenge you have been looking for, send your detailed resume with salary history, in strict confidence, to: **Sherry Rightmer, Employment Supervisor, Alcon Laboratories, Inc., P.O. Box 6600, Fort Worth, Texas 76115. Equal Opportunity Employer, M/F/V/H. Principals Only, Please!**

Alcon

POSTDOCTORAL SCIENTIST

Merck Sharp & Dohme Research Laboratories, a world leader in pharmaceutical research, is searching for a postdoctoral scientist to study the molecular mechanisms of carcinogenesis, with an emphasis on dominant and recessive transforming genes.

The successful candidate will have a Ph.D. in molecular biology or the equivalent.

You will find a stimulating and challenging scientific environment within our laboratories as well as excellent salary and benefits programs. Our modern facilities are located 25 miles northwest of Philadelphia.

Please reply in complete confidence to: **Matthews O. Bradley, Ph.D., Molecular Carcinogenesis & Genetic Toxicology**

**Merck Sharp & Dohme Research Laboratories
West Point, PA 19486**

EEO/AA/VH/Employer



Merck & Co., Inc.

Neurophysiologists BS/MS

The Upjohn Company is seeking to fill several research associate positions in the area of electrophysiology/neuropharmacology. Successful candidates will have a B.S. or M.S. in a biomedical science and at least two years of post-baccalaureate laboratory bench experience with electrophysiological techniques. Individuals with expertise are needed in one or more of the following areas: (1) Intracellular/patch recording, including voltage and current clamping of single cells or isolated membranes; fabrication and use of ion-selective microelectrodes, suction and patch pipettes to monitor ion conductance through ion channels; techniques for isolation of single heart and smooth muscle cells. (2) Extracellular unit recording to conduct studies in the area of central nervous system control of blood pressure. (3) Neuromuscular physiology techniques, including muscle tension recording, use of suction electrodes and field stimulation, and analysis of volume-conducted potentials. Experience with computers for data acquisition and analysis is highly desirable. Individuals selected for these positions will be involved with basic research, drug development and have an opportunity to publish.

laureate laboratory bench experience with electrophysiological techniques. Individuals with expertise are needed in one or more of the following areas: (1) Intracellular/patch recording, including voltage and current clamping of single cells or isolated membranes; fabrication and use of ion-selective microelectrodes, suction and patch pipettes to monitor ion conductance through ion channels; techniques for isolation of single heart and smooth muscle cells. (2) Extracellular unit recording to conduct studies in the area of central nervous system control of blood pressure. (3) Neuromuscular physiology techniques, including muscle tension recording, use of suction electrodes and field stimulation, and analysis of volume-conducted potentials. Experience with computers for data acquisition and analysis is highly desirable. Individuals selected for these positions will be involved with basic research, drug development and have an opportunity to publish.

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

For confidential consideration, please call from outside of Michigan toll free 1-800-253-8600, ext. 3-6767, (inside Michigan call collect 616-323-6767) to request an employment application be sent to you immediately. Please refer to ad number 1790-A when calling.

Upjohn

Our commitment to scientific excellence continues...

An Equal Opportunity Employer M/F.

Position Available

Associate Director for Science
National Institute on Drug Abuse (NIDA)
Alcohol, Drug Abuse, and Mental Health Administration
Public Health Service
DEPARTMENT OF HEALTH AND HUMAN SERVICES

NIDA invites nominations and applications for this Senior Executive Service position in the career civil service, located in Rockville, Maryland. Annual salary ranges from \$64,700 to \$73,400. Candidates may also be eligible for physicians' comparability allowance of up to \$10,000 per year.

The Associate Director for Science serves as the principal adviser to the Director, NIDA, regarding scientific policy for a wide range of biomedical and behavioral research and research training programs (both intramural and extramural). Also provides leadership and direction to the staff (approximately 30) and activities of the Office of Science, NIDA, which administers the Institute's peer review of grants and contracts.

Educational requirements include graduation with a degree of Doctor of Medicine from an AMA approved medical school, **or** a Doctor of Osteopathy degree from an approved school, **or** a Bachelor's or higher degree in an academic field related to the health sciences pertinent to the work of the position. Candidates must demonstrate progressively responsible experience in the scientific administration of drug abuse programs funded through grants and contracts which demonstrates

familiarity with the extramural review function. Professional background and/or education must also include an extensive knowledge of research methodology and a broad understanding of relevant areas of research including neuroscience, epidemiology, and the biomedical, behavioral, and clinical sciences as they relate to the drug abuse field. Candidates must also have management experience demonstrating competence to assume leadership in planning, staffing, directing, and allocating resources for a major research program.

Submit applications (application for Federal Employment, SF-171), accompanied by a current curriculum vitae and bibliography, to Ms. Lois Mercer, Division of Personnel Management, Alcohol, Drug Abuse, and Mental Health Administration, 5600 Fishers Lane, Room 15C-26, Rockville, Maryland 20857 (Phone 301/443-5030). Applications will be accepted without the SF-171, provided the SF-171 is submitted upon request. Nominations and applications should be submitted by May 29, 1987.

Applications from women and minority group members are especially solicited.

THE NATIONAL INSTITUTE ON DRUG ABUSE IS AN EQUAL OPPORTUNITY EMPLOYER.

DIRECTOR, CENTER FOR INFECTIOUS DISEASES CENTERS FOR DISEASE CONTROL (CDC)

The Centers for Disease Control (CDC) is seeking candidates to fill the position of Director, Center for Infectious Diseases (CID). This position is located in Atlanta, Georgia, and provides the scientific and managerial leadership for CID, staffed with over 900 employees. As Director, CID, the incumbent is responsible for administering a national program directed toward the prevention and reduction of morbidity and mortality from acute and chronic infectious diseases.

A doctoral degree (M.D. for Medical Officers; Ph.D. or equivalent for others) is preferred and applicants should have demonstrated substantial experience in medical microbiology, medical epidemiology, and/or infectious diseases. This position is the Senior Executive Service of the Federal Government. Applications will be accepted from all qualified persons who are U.S. citizens, including Public Health Service Commissioned Officers. The closing date for inquiries is May 15, 1987. Interested candidates should address their questions, applications, and/or curriculum vitae to:

Barbara P. Fincher
Personnel Management Office
Centers for Disease Control
1600 Clifton Road, N.E. (404) 329-3639
Atlanta, GA. 30333 FTS 236-3639

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

POSITIONS OPEN

POSTDOCTORAL POSITION available at the Research Institute of Scripps Clinic, La Jolla, California. Project will involve development and application of software for use in the determination of protein structure from NMR spectroscopy. Applicants should have experience in at least one of the following: protein structure, molecular mechanics, computer graphics. Some background in NMR is desirable but not required. Send résumés/recommendations to: T. F. Havel (MB-5), 10666 North Torrey Pines Road, La Jolla, CA 92037.

POSTDOCTORAL POSITION is available immediately for experienced neurophysiologist/neuroanatomist to join ongoing research project, to trace auditory pathways in the rat limbic forebrain. Fully equipped electrophysiological and neuroanatomical laboratories are dedicated to this project. Funding is available for 2 years and may be extended. Fellow will have educational and collaborative interactions in the Departments of Pharmacology and Psychiatry, and the Division of Neuroscience. Please send curriculum vitae and references to: Dr. Robert Freedman and Dr. Greg Rose, Campus Box C268, University of Colorado Health Sciences Center, 4200 East Ninth Avenue, Denver, CO 80262. An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION IN LIPID BIOCHEMISTRY

Murdock International, a growing health products company, seeks a recent Ph.D. to investigate the role of polyunsaturated fatty acids and prostaglandins in a variety of human diseases. Salary \$22,000 to \$28,000 depending on experience. U.S. citizenship required. Please state if you will be attending the AOCs or ASBC meeting. Please send a complete transcript and a résumé including the names, addresses and phone numbers of two references who are familiar with your work to: Dr. Bronwyn Hughes, Director of Research, Murdock International, P.O. Box 4000, Springville, UT 84663.

POSTDOCTORAL POSITION available to study the biochemical and biophysical aspects of the photosynthetic oxygen evolving complex. Experience in protein purification is desirable. Initial appointment for 1 year, renewable. Contact: Professor J. E. Penner-Hahn, Department of Chemistry or Professor W. D. Frasch, Department of Biology, University of Michigan, Ann Arbor, MI 48109. A Non-discriminatory, Affirmative Action Employer.

POSTDOCTORAL POSITION IN EXPLOITATION OF NATURAL AND ALTERED ENZYMES IN SYNTHETIC ORGANIC CHEMISTRY. Applicants with experience in the general area of organic chemistry, bioorganic chemistry, or rDNA/site-directed mutagenesis/protein chemistry are sought. Send curriculum vitae and names of two references to: Dr. C.-H. Wong, Department of Chemistry, Texas A&M University, College Station, TX 77843. Telephone: 409-845-4242.

POSTDOCTORAL POSITION: Manufacturing of Ceramic-Ceramic Composites via injection molding. One postdoctoral position (\$27,500 per year) is now available in the National Center for Composites Manufacturing Science and Engineering at Rutgers, The State University of New Jersey. The candidate will conduct experimental rheology studies and injection molding of highly filled (70 vol%) molten polymer systems for injection molded ceramic-ceramic composites. The candidate must have a Ph.D. in chemical engineering, polymer science, materials science or other related areas. Injection molding expertise is required. Modeling capabilities for filled system rheology are desirable. Candidates should submit a letter of application along with a résumé to: Professor Stephen C. Danforth, Department of Ceramics, College of Engineering, Rutgers University, Piscataway, NJ 08855-0909. Rutgers is an Equal Opportunity Employer.

Research Scientists

A Responsive Research Environment

Pioneer new applications in Molecular Biology at Schering-Plough

Schering-Plough is a research-driven pacesetter in the discovery and application of novel therapeutic entities. As part of our dynamic multidisciplinary research group, you'll be given the project responsibility, support and recognition to explore your best ideas and impact on new drug discoveries. We have immediate opportunities for highly motivated, innovative individuals in the following key roles:

Senior Scientist—You must have a broad background in molecular biology, including regulation of gene expression.

Senior Scientists—Two positions available for professionals with the strong interest and demonstrated expertise in: heterologous gene expression in mammalian cells, molecular oncology, growth factors and receptors, differentiation, transformation, progression, metastasis and angiogenesis.

Above positions require a Ph.D. in Molecular Biology and 0-4 years post-doctoral experience or equivalent.

Assistant/Associate Scientists—Must have a B.S. or M.S. degree, with 0-3 years or equivalent experience. Requires involvement with preparation and characterization of monoclonal antibodies, cell fusion, hybridoma selection and antibody screening. Familiarity with general Molecular Biology and recombinant DNA techniques desirable. No allergies to animals.

We offer a competitive salary and outstanding benefits. Please send detailed resume, indicating position of interest, to: Mr. Louis DeMartino, Schering-Research, 60 Orange Street, Bloomfield, NJ 07003. We are an equal opportunity employer.



Schering-Plough

PhD SCIENTISTS

The Amoco Research Center has two excellent career opportunities currently available within its Nucleic Acids Group. Both positions are ideally suited to career-minded professionals.

ORGANIC CHEMIST

1-2 years post-doctoral experience is highly desirable. Candidates should have completed his/her PhD and postdoctoral studies in the field of nucleic acids chemistry. An Organic Chemist experienced in DNA modification and synthesis procedures both at the monomer (nucleoside and nucleotide) and oligonucleotide level or a Biochemist with the requisite skills in nucleic acids chemistry and a strong synthetic background would suit this position. A strong grounding in nucleic acid separation instrumentation and techniques would be a definite advantage.

MOLECULAR BIOLOGIST/ BIOCHEMIST

1-2 years post-doctoral experience desirable. Candidates should have a strong background in DNA hybridizations and have a comprehensive training in recombinant DNA techniques. Training in labelling, isolation and detection of DNA labelled with non-radioactive labels such as fluorescent or chemiluminescent molecules or the avidin/biotin system would be an advantage as would experience with DNA sequencing methods, oligonucleotide synthesis and gene assembly.

These positions offer the distinct advantage of working with a top flight team of professionals and both personal and professional advancement. Selected candidates will receive salaries commensurate with experience and a comprehensive benefits package. All replies will be held in strictest confidence. Please forward resume indicating position of interest to:

**Professional Recruiting
Coordinator**

AMOCO RESEARCH CENTER
P.O. Box 400, DEPT. KAC/5-87
Naperville, IL 60566

Equal Opportunity Employer M/F/H



R.J. Reynolds Tobacco Company, an affiliate of RJR Nabisco, Inc., has immediate openings for Scientists in Research and Development.

MATERIALS SCIENTISTS

Qualified candidates will have a MS or Ph.D. in Materials Science or Engineering with 3 or more years experience in industrial research and development. Materials development in thermodynamics, carbon, fibers, ceramics, metals or composites is preferred. Expertise should include data analysis, modeling and evaluation of multicomponent interactions. **Job #1**

ENZYMOLOGIST/ CHEMIST

Qualified candidates will have a Ph.D. with 3 or more years experience. Research expertise should be in either the use of enzymes with specific emphasis on biopolymers or in the isolation and characterization of biopolymers from plant tissue. **Job #2**

ANALYTICAL CHEMIST

Qualified candidates will have a MS or Ph.D. in Analytical Chemistry. Experience should be in GC, LC, HPLC, Spectroscopy and GC/MS. **Job #3**

These positions offer excellent opportunity for further professional growth and development. Salary commensurate with ability and experience. Winston-Salem, N.C. location with excellent benefit package. Please indicate appropriate Job # and send current curriculum vitae, listing of publications and salary requirements, in confidence, to **Mr. Thomas M. Brinkley, Research and Development Recruiter, R.J. Reynolds Tobacco USA, 1100 Reynolds Boulevard, Room A-1152, Winston-Salem, N.C. 27102.**



(No Telephone Inquiries,
Please)

R. J. Reynolds Tobacco USA

An Equal Opportunity Employer M/F

CHAIRMAN, Department Of Ocean Engineering

The Woods Hole Oceanographic Institution seeks applications for the Chairman, Department of Ocean Engineering, at the tenured senior scientist level. The largest institution department, ocean engineering has 150 scientists, engineers and technical support personnel, an operating budget of \$12 million, and 25 graduate students in the MIT/WHOI joint program in Oceanographic Engineering. Scientists in the department conduct research in several disciplines including ocean acoustics, fluid dynamics, image processing, robotics and applied physics. Engineers design and develop oceanographic instrumentation, moorings and observational techniques including manned and unmanned submersible systems. Computer technology is developed for data acquisition and processing. Candidate should have distinguished records of research accomplishments and publications in ocean science and/or engineering, administrative leadership, and demonstrated ability to raise research funds. Chairman's duties are both research, at approximately half time, and departmental administration, with the chief executive task to maintain and enhance the unique structure and diversity of the department's operations. Interested candidates should send curriculum vitae and publication's list to the institution's Personnel Manager by July 1, 1987.

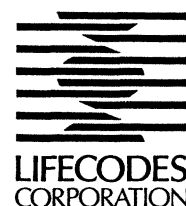
Box 54P



**WOODS HOLE
OCEANOGRAPHIC
INSTITUTION**

Woods Hole, MA 02543

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NUCLEIC ACID CHEMISTRY— DEPT. HEAD

Lifecodes Corporation, a leading company in the use of DNA probes for human genetic diagnostics, is undergoing a major expansion and is committed to building a strong and innovative Department of Nucleic Acid Chemistry. To that end we are seeking a Department Head, a senior individual with a proven record of creativity and group management capability. A broad background in nucleic acid chemistry is essential while experience with the development of non-isotopic labeling systems for DNA is a plus.

For the right individual we offer an extremely attractive salary/benefits package, an exciting work environment, and excellent research facilities located just 30 minutes from New York City in Westchester County.

If interested, please send your curriculum vitae with the name and telephone number of three references to:

**Jeffrey Glassberg, Ph.D.
Lifecodes Corporation
4 Westchester Plaza
Elmsford, New York 10523**

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**Hipple
Cancer
Research
Center**

POSTDOCTORAL FELLOWSHIPS

The Hipple Cancer Research Center, a rapidly developing, philanthropically supported, community-based research center extends challenging career development opportunities to qualified postdoctoral candidates in the laboratories of one of the following Cancer Center Scientists:

Dr. Marvin D. Bregman - cell biology and biochemistry of hormones involved in the regulation of the polyamine pathway in human melanocytes and melanoma; or

Dr. J. Peter Fuhrer - the relationship of tumor antigen structure to human tumor immunity, regulation of cell surface and secreted antigens and their expression in normal and neoplastic cells; or

Dr. Sohan L. Gupta - the mechanism of action of interferons and other biological response modifiers, identification and characterization of cellular receptors, the regulation of cellular gene expression, and underlying biochemical mechanisms.

Candidates should be recent Ph.D. graduates in biochemistry, molecular biology or immunology with interest in the molecular structure and function of glycoproteins; experience in protein and peptide chemistry and enzyme kinetics. Knowledge of HPLC techniques useful (Drs. Bregman and Fuhrer); experience in working with nucleic acids and knowledge of recombinant DNA techniques desirable (Dr. Gupta).

Send letter describing research interests, including curriculum vitae and the names of three references to: **Human Resources Department, Hipple Cancer Research Center, 4100 South Kettering Boulevard, Dayton, Ohio 45439-2092.**

The Hipple Cancer Research Center is an Equal Opportunity/Affirmative Action Employer offering competitive salaries and liberal benefits.

The Bristol-Myers Industrial Division has an immediate opening for a Molecular Biologist in its Fermentation Development Laboratories. The selected candidate will perform molecular biology research for the genetic improvement of Bristol's Antibiotic-Producing Microorganisms. Will also develop new gene dosage technology based on biochemical rationales and recombinant DNA techniques.

Fungal Molecular Biologist

To qualify, you should have a PhD in Fungal Molecular Genetics or Molecular Biology with 2 years of post doctoral training or industrial experience. A strong background in the molecular biology of filamentous fungi or streptomycetes is essential. Expertise in transformation methodology and vector development is desirable.

We offer a competitive salary, excellent benefits and a professional environment conducive to growth. For prompt, confidential consideration, forward your resume with salary history and requirement, to: MANAGER OF EMPLOYMENT



**BRISTOL-MYERS COMPANY
INDUSTRIAL DIVISION**

P.O. Box 4755
Syracuse, New York 13221-4755

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NATIONAL INSTITUTES OF HEALTH PUBLIC HEALTH SERVICE DEPARTMENT OF HEALTH AND HUMAN SERVICES

The National Institute on Aging (NIA) invites nominations and applications for the position of Associate Director, Neuroscience and Neuropsychology of Aging Program (NNAP). The Associate Director, NNAP, plans, directs, and evaluates extramural and collaborative research and training in the areas of neurobiology, neuroimmunology, neuropharmacology, neurovirology, neuroendocrinology, and neuropsychology of aging, as well as Alzheimer disease and related dementias of older people.

This is a Civil Service position in the Senior Executive Service with a salary range of \$64,700 to \$73,400 per annum. The person selected may be eligible for Physician's Comparability pay up to \$10,000 per year. Candidates must meet the minimum educational requirements for Medical Officer, GS-602, or Health Scientist, GS-601, or other biomedical sciences (GS-401, Biologist, GS-403, Microbiologist or GS-1320, Chemist). Further information about the position and qualifications requirements may be obtained by contacting Mr. Michael P. Lockard at 301-496-5347. Application for Federal Employment (SF-171), accompanied by a current curriculum vitae and bibliography, should be submitted to: NIA Personnel, Building 31, Room 2B-63, National Institutes of Health, 9000 Rockville Pike, Bethesda, Maryland 20892.

Application must be postmarked no later than June 1, 1987.

*NIH IS AN EQUAL EMPLOYMENT OPPORTUNITY
EMPLOYER.*

PROTEIN CHEMIST

ZYMOGENETICS, INC., a genetic engineering company focusing on the research and development of human and other proteins of pharmaceutical value, has an immediate opening for a scientist in the protein chemistry group. The position requires a strong background in

- Protein purification
- Assay development
- Biochemical characterization of proteins and peptides

The candidate should have a Ph.D., at least two years of post-doctoral or industrial experience, and the proven ability to conduct independent research.

ZymoGenetics has a commitment to excellence in research, and offers its research staff a flexible, innovative environment. Our Seattle location, proximate to the University of Washington, affords opportunities for professional development as well as a rich variety of recreational and cultural activities.

Applicants should submit a letter of application with a brief statement of research interests, curriculum vitae, and an identification of three references to Laura Castellano, Dept. SC-501, 2121 N. 35th Street, Seattle, WA 98103. Telephone (206) 632-4036.

Equal Opportunity Employer.



SCIENTIST / PROTEIN PURIFICATION & CHARACTERIZATION

Genentech, Inc., a leader in the field of biotechnology has an opening for a highly motivated and innovative Scientist with experience in the purification and characterization of proteins. This Scientist will join a multidisciplinary team of biochemists and biochemical engineers developing methods to purify and characterize recombinant proteins to be used as human pharmaceuticals. The successful candidate will have a PhD in either Biochemistry or Biochemical Engineering with at least 2 years post-graduate experience in either academia or industry with a demonstrated record of accomplishment.

Genentech offers competitive salaries and the opportunity to make a significant contribution to our organization. Please send resume to Human Resources Dept. #1111JG, Genentech, Inc., 460 Point San Bruno Boulevard, South San Francisco, CA 94080. An equal opportunity employer.



Genentech, Inc.
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Genentech, Inc.

POSITIONS OPEN

POSTDOCTORAL POSITION: Available immediately to study the differentiation and transport function(s) of intestinal epithelium with particular emphasis on the molecular regulation of calcium transport. Experience in cell/tissue culture, steroid hormone receptor assays, and gene transcription/translation assays especially desirable. Opportunity to learn a variety of modern cell and molecular biological techniques, in use in our Department, relating to other epithelial tissues. Candidates must have a doctoral degree, must be U.S. citizens, and should be able to document strong research background and interest in transport phenomena in animals. Salary dependent on academic background and research experience (NIH scale). Send curriculum vitae, summary of research experience, and names and addresses of three references to: **Dr. R. A. Corradino, Department/Section of Physiology, Room 720, Veterinary Research Tower, New York State College of Veterinary Medicine, Cornell University, Ithaca, NY 14853.**

POSTDOCTORAL POSITION available summer/fall 1987 to study the mechanism of tumor cell invasion and metastasis. A number of in vitro and in vivo model systems employing highly specific anti-functional antibodies have been established and are now ripe for molecular biological approaches. Strong background in immunology or molecular biology preferred. Salary range \$21,000 to \$24,000. Send résumé and names of three references to: **James P. Quigley, Department of Pathology, SUNY Health Science Center at Stony Brook, Stony Brook, NY 11794-8691. SUNY Stony Brook is an Affirmative Action/Equal Opportunity Educator and Employer.**

POSTDOCTORAL POSITION. Up to two positions in biophysical chemistry to work on dynamics and structures of linear and supercoiled DNAs, DNA/dye and DNA/protein complexes. Experience with pulsed laser fluorescence and absorbance techniques, dynamic light scattering, NMR spectroscopy of DNA, or recombinant DNA techniques is preferred. Please send résumé and three letters of recommendation to: **J. Michael Schurr, Department of Chemistry BG-10, University of Washington, Seattle, WA 98195.**

POSTDOCTORAL POSITIONS available immediately: one to investigate the **BEHAVIORAL PHARMACOLOGY** of ethanol, caffeine, and cocaine and one to study **ELECTROPHYSIOLOGICAL** effects of acute and chronic ethanol on GABA neurons. Send curriculum vitae and names of three references to: **Dr. Larry Gonzalez, University of Oklahoma Health Sciences Center, Research Building, 306-R, P.O. Box 26901, Oklahoma City, OK 73190. Telephone: 405-271-2011. Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITIONS IN MARINE SCIENCES

TWO POSITIONS—Available fall 1987 for research in diverse aspects of marine science. Appointments will be for 1 year, renewable once, with \$22,500 stipends plus research budgets. Mote Marine Laboratory, a non-profit, independent research institution, has programs in biomedical, fisheries, and environmental sciences and is interested in developing new programs. To obtain applications and laboratory information contact: **Linda Franklin, Mote Marine Laboratory, 1600 City Island Park, Sarasota, FL 33577. Telephone: 813-388-4441. Equal Opportunity Employer.**

POSTDOCTORAL POSITIONS IN MOLECULAR NEUROBIOLOGY are immediately available to study the regulation, expression, and structure of specific genes in the central nervous system. These genes include the amyloid gene of Alzheimer's disease (Dr. C. G. Rasool), genes involved in neuro-immune function like interleukin-1 (Dr. M. P. Vitek), and various receptor genes (staff). A background in molecular biology or biochemistry is preferred. Please send curriculum vitae and names of three references to: **Dr. A. J. Blume, Molecular Neurobiology, CNS Biology, c/o Ms. Maureen Quigley, Professional Employment Representative, Lederle Laboratories, Pearl River, NY 10965. Equal Opportunity Employer.**

POSITIONS OPEN

POSTDOCTORAL POSITION MOLECULAR VIROLOGY

A position is available to study the molecular biology of flaviviruses (plus-stranded RNA genome) that cause Japanese encephalitis and dengue fever, both substantial problems in world health. This program, codirected by **Drs. M. J. Fournier and T. L. Mason**, utilizes cloned cDNA and monoclonal antibodies to study different aspects of virus gene expression and replication. Development of genetically engineered vaccines and diagnostic reagents is also a major goal. Current emphasis is on cDNA expression from prokaryotic, eukaryotic, and viral vectors, epitope mapping, and in vitro and in vivo evaluation of vaccine-candidate proteins. Future phases will include studies of polyprotein maturation, RNA replication, and virus assembly. Experience with relevant methodologies preferred. Salary up to \$25,000 depending on qualifications. Application deadline: 15 June 1987 for fall or winter start date. Send résumé and names of three references to: **Dr. M. J. Fournier or Dr. T. L. Mason, Department of Biochemistry, University of Massachusetts, Amherst, MA 01003. An Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITIONS IN MOLECULAR GENETICS

Postdoctoral positions are available in each of three areas: (i) regulation of human and mouse globin gene expression with emphasis on *trans*-acting factors; (ii) an investigation of Na⁺K⁺-ATPase gene expression and structure/function studies of this enzyme using genetics tools; and (iii) the study of acute-phase protein gene regulation. Send curriculum vitae to: **Jerry Lingrel, Department of Microbiology and Molecular Genetics M.L. 524, University of Cincinnati, College of Medicine, 231 Bethesda Avenue, Cincinnati, OH 45267. The University of Cincinnati is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH ASSOCIATE position available immediately for study on physiological and structural aspects of salt secretion. Research utilizing dissociated cells and confluent cell cultures focuses on ion transport mechanisms, neurohormonal activation, and intracellular effector responses involving Ca, PI, cyclic nucleotides. Background related to any of these areas desirable. Send curriculum vitae and names of three references to: **Dr. Stephen A. Ernst, Department of Anatomy and Cell Biology, University of Michigan, Medical Sciences 2, Ann Arbor, MI 48109.**

POSTDOCTORAL POSITIONS IN NEUROSCIENCE. Two available immediately to study recovery of function after brain injury. One position requires experience with 2-deoxyglucose autoradiography and the other monoamine biochemistry (HPLC). Salary \$16,000 to \$21,000. Send curriculum vitae and the names of three references to: **Dr. D. M. Feeney, Department of Psychology, University of New Mexico, Albuquerque, NM 87131.**

POSTDOCTORAL RESEARCH ASSOCIATE. Positions are now available to join a multidisciplinary group studying the structure and regulation of the genes for the catecholamine neurotransmitter biosynthetic enzymes. Applicants should have a strong background in either recombinant DNA technology or neurochemistry/neuropharmacology. Send curriculum vitae, statement of research interest, and the names of three references to: **Dr. Barry B. Kaplan, Molecular Neurobiology Program, Western Psychiatric Institute and Clinic, University of Pittsburgh School of Medicine, Pittsburgh, PA 15213.**

POSTDOCTORAL RESEARCH IN STREAM ECOLOGY at Oak Ridge National Laboratory (ORNL). Position available immediately to study resilience and resistance characteristics of stream ecosystems to toxic stress (2 to 3 years) using field manipulative experiments. For applications contact: **Postgraduate Research Program, University Programs Division, Oak Ridge Associated Universities, P.O. Box 117, Oak Ridge, TN 37831-0117. Telephone: 615-576-1090. For information on ORNL research program contact: Dr. H. L. Boston at 615-574-7840.**

POSITIONS OPEN

POSTDOCTORAL/RESEARCH ASSOCIATE

Postdoctoral position for studies of cell and molecular biology of T-lymphocyte activation. Ongoing projects involve Ca²⁺ ion flux, oncogene and lymphokine gene expression, and second messengers in T cells from normal and aging mice. Send curriculum vitae with names of three references to: **Rich Miller, Department of Pathology, Boston University, 80 East Concord Street, Boston, MA 02118.**

An Equal Opportunity Employer

TWO OPENINGS: (i) Polymer Rheologist and (ii) Polymer Chemist. **TWO POSTDOCTORAL POSITIONS** (\$27,500 per year) are now available in the **National Center for Composites Manufacturing Science and Engineering at Rutgers, The State University of New Jersey.** One candidate will conduct both experimental and computer modeling rheology studies on highly filled (70% vol%) molten polymer systems for injection molded ceramic-ceramic composites. Candidate must have a Ph.D. in chemical engineering, polymer science, or other related areas. Modeling capabilities for filled system rheology are required. The second candidate will conduct laboratory research in the area of: (i) polymer degradation/decomposition, and (ii) polymer design/synthesis. Both areas are to optimize dispersion of ceramics in molten polymer and binder burnout for injection molded ceramic-ceramic composites. The candidate must have a Ph.D. in chemistry, chemical engineering, polymer science, or other related area. Candidates should submit a letter of application along with a résumé to: **Professor Stephen C. Danforth, Department of Ceramics, P.O. Box 909, Rutgers University, Piscataway, NJ 08855-0909.**

TWO POSTDOCTORAL ASSOCIATE POSITIONS available immediately to join our active research program to study (i) central angiotensin/catecholamine interaction at the cellular level; (ii) the molecular biology of the brain renin-angiotensin system with the use of primary cultures. Competitive salaries based on training and research experience. Send curriculum vitae to: **Dr. Colin Sumners or Dr. Mohan K. Raizada, Department of Physiology, Box J274, JHMH, University of Florida, Gainesville, FL 32610, or telephone 904-392-4485 (C.S.) or 904-392-3791 (M.K.R.).**

POSTDOCTORAL OR RESEARCH POSITION—AVAILABLE IN MOLECULAR—CELLULAR IMMUNOLOGY FOR Ph.D. OR M.D.

Studies deal with human lymphokine regulation, cell and gene cloning as part of a major program on the induction of Transplant Tolerance. Salary range from \$24,000.00 to \$34,000.00, depending on prior experience.

Send curriculum vitae together with names of three references to: **Marvin R. Garovoy, M.D., Director, Immunogenetics and Transplantation Laboratory, HSE-520, University of California, San Francisco, Third and Parnassus Avenues, San Francisco, CA 94143.**

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

POSTDOCTORAL OR RESEARCH POSITION AVAILABLE IN CELLULAR IMMUNOLOGY FOR Ph.D. OR M.D.

Studies deal with immunopharmacology of immunosuppressive agents including mechanisms of action at the cellular and molecular level, and use in tolerance induction as part of a major program in transplantation. Salary range from \$24,000 to \$34,000, depending on prior experience.

Send curriculum vitae together with names of three references to: **Marvin R. Garovoy, M.D., Director, Immunogenetics and Transplantation Laboratory, HSE-520, University of California, San Francisco, Third and Parnassus Avenues, San Francisco, CA 94143.**

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

POSITIONS OPEN

RESEARCH ASSISTANT PROFESSOR, Boston University School of Medicine Cardiovascular Institute. The Cardiovascular Institute of Boston University invites applicants for position of research assistant professor in cell biology and/or molecular biology. The successful candidate will join an ongoing research program on the molecular aspects of hypertension and atherosclerosis. Experience related to gene structure and gene expression is required. Address correspondence to: **Dr. Aram Chobanian and Dr. Vassilis Zannis, Cardiovascular Institute, Boston University School of Medicine, 80 East Concord Street, Boston, MA 02118.** Applications will receive consideration as they arrive.

RESEARCH ASSOCIATE

Research in the field of arthropod biology and asbestos analysis. Work in the Electron Microscope laboratory. Must be familiar with arthropod biology and asbestos analysis by scanning electron microscope (SEM), transmission electron microscope (TEM), and selected area electron diffraction (SAED). B.S. in biology. Forty hours per week; 8:30 a.m. to 4:30 p.m.; \$18,000 per year. Contact: **Louisiana Department of Employment Security, 617 St. Charles Avenue, New Orleans, LA 70130.**

RESEARCH ASSOCIATE—ANALYTICAL LABORATORY MANAGER

The Natural Resources Research Institute of the University of Minnesota is seeking a manager for its central analytical laboratory (CAL). The laboratory's major function is to serve the scientific needs of the Institute's Water and Minerals Divisions. The manager will have primary responsibility for the overall operation of the CAL with major emphasis on research, administration and management. Minimum qualifications: Ph.D. in a chemical science with 2 years of laboratory administrative experience. Desired qualifications: Ph.D. in a chemical science with 2 plus years of laboratory administrative experience. Salary: approximately \$35,000 per year. Starting date: 1 July 1987. Applications must be postmarked by 1 June 1987. To apply, please send curriculum vitae and the names, addresses and phone numbers of four references to: **Personnel Manager, Natural Resources Research Institute, University of Minnesota, 3151 Miller Trunk Highway, Duluth, MN 55811.** *The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.*

RESEARCH ASSOCIATE PROFESSOR IN THROMBOSIS RESEARCH CENTER, Temple University School of Medicine. Position is available for an individual with at least 6 years of postdoctoral experience and background in protein chemistry and/or cellular biology who has demonstrated ability to conduct independent research in the field of blood coagulation and hemostasis. The individual is expected to engage in research on platelet proteins funded by NIH grant and to develop his/her own independently funded research program. Salary negotiable. Send inquiries to: **Dr. Stefan Niewiarowski, Thrombosis Research Center and Department of Physiology, Temple University School of Medicine, 3400 North Broad Street, Philadelphia, PA 19140, before 15 May 1987.**

Equal Opportunity Employer.

RESEARCH GENETICIST (PLANTS) at U.S. Department of Agriculture (USDA), Agriculture Research Service (ARS), U.S. Horticultural-Research Laboratory (USHRL), Orlando, Florida. Research position involves citrus improvement through tissue and protoplast culture and somatic hybridization to transfer traits from citrus relatives to citrus in conjunction with conventional breeding programs. Candidates must have knowledge of plant tissue and cell culture. Ph.D. is desirable. Salary is commensurate with experience (\$27,172 to \$42,341 per annum). For information on the research program, contact: **C. Jack Hearn at 305-897-7339 or write USDA, ARS, USHRL, 2120 Camden Road, Orlando, FL 32803.** For application instructions, contact: **Diane Gamble, USDA, ARS, PD, POB, Building 417, BARC-East, Beltsville, MD 20705; telephone: 301-344-1508.** Applications must be received by 1 June 1987. *An Equal Opportunity Employer.*

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Merrill Lane
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SYRACUSE RESEARCH CORPORATION



IMMUNOLOGY POSTDOCTORAL FELLOWSHIPS

Postdoctoral fellowships, supported by an NCI National Research Service Award, are available immediately within the Immunology Program at **Memorial Sloan-Kettering Cancer Center**. The main research areas of the Faculty cover the **biological, biochemical and molecular** aspects of **immunogenetics, cellular immunology and tumor immunology**.

Anthony P. Albino - Oncogenes in pathogenesis of melanoma; in vitro transformation of normal cells

Edward Boyse - Cell surface immunogenetics: surface phenotype of cells according to their developmental lineage, stage of differentiation and function

Yvon Cayre - Molecular basis for monocyte differentiation

Bo Dupont - Genetic, molecular and biological aspects of the MHC in humans

Neal Flomenberg - Activation, function and regulation of human T and B cells

Ulrich Hammerling - Immunogenetics of murine and human cell surface antigens; special emphasis on T cell activation

Michael Hoffmann - Direct and factor mediated cellular interactions in human antibody responses in vitro

Alan Houghton - Differentiation and transformation-related antigens of human cancer

Robert Knowles - Serological, biochemical and genetic characterization of human lymphocyte cell surface molecules

Janet Lee - Analysis of structure, function and regulation of human MHC genes

Kenneth Lloyd - Biochemical analysis of glycoproteins and glycolipids of human tumor cells

Herbert Oettgen - Humoral and cellular immune responses to human cancer and development of biological approaches to cancer therapy

Lloyd Old - Cell surface antigens of mouse and human cancers and development of immunological approaches to the therapy of human cancer

Richard O'Reilly - Biology of allogeneic bone marrow transplantation in humans and primates; cellular interactions in engraftment, graft-host tolerance and effective immune reconstitution

Bijan Safai - Studies of epidermal keratinocytes and Langerhans cells and lymphocyte-epidermal cell interaction

Osias Stutman - Development and maintenance of functional T cells in mice; role of T and non-T cells in tumor-host interactions

Soo Young Yang - Gene organization and regulation of gene expression in human class I MHC region

Curriculum vitae, statement of research experience and future goals, and names of three references should be sent to: **Osias Stutman, M.D., Chairman, Immunology Program, Memorial Sloan-Kettering Cancer Center, 1275 York Avenue, New York, NY 10021.**

MSKCC is committed to equal opportunity through affirmative action and therefore, members of minority groups are encouraged to apply.

POSITIONS OPEN

RESEARCH ASSOCIATE position is available immediately for a Ph.D.-biochemist with experience in lipid chemistry, liposomes, and isolation and reconstitution of intestinal and renal membrane enzymes and transport proteins. Starting salary \$21,000 per year. Applicants must apply in person or by résumé to: **Georgia Department of Labor, 601 Greene Street, P.O. Box 160, Augusta, GA 30913, or to the nearest Georgia Job Service Center. Control #GA 5210548. Equal Opportunity Employer/Affirmative Action Program.**

RESEARCH ENTOMOLOGIST, San Juan, Puerto Rico. Conduct field and laboratory research on vector relationships of dengue virus, biology and control of *Aedes aegypti*, *Aedes mediovittatus*, and *Aedes albopictus* and field research on possible role of biting arthropods in transmitting human immunodeficiency (AIDS) virus. Ph.D. in entomology preferred and a productive investigative record on experimental and field aspects of arboviruses, their vectors, and AIDS virus. Fluency in Spanish or French desirable. Starting salary is \$38,727. Applications must be received by 16 May 1987. Send applications to: **William R. Hudson, Centers for Disease Control (CDC), PMO, 1600 Clifton Road, Atlanta, GA 30333. CDC is an Equal Opportunity Employer and provides a smoke-free work environment.**

RESEARCH PHYSIOLOGIST

The Physiology Department at the Armed Forces Radiobiology Research Institute (AFRRI), Defense Nuclear Agency, is seeking candidates for a research physiologist position to study endothelial and white cell membrane physiology. Background in endothelial cell physiology or membrane biophysics preferred. Requirements are a Ph.D. in physiology or equivalent experience. This position, available immediately, is a 1 year appointment renewable up to 4 years. Salary ranges \$27,172 to \$35,326. To apply for this Civil Service position, send curriculum vitae or SF-171 to: **Armed Forces Radiobiology Research Institute, Civilian Personnel Office, Bethesda, MD 20814-5145.** Direct inquiries to: **Dr. Elaine Gallin, telephone: 202-295-0378 or Deborah Bush, Personnel Management Specialist 202-295-1426.** U.S. citizenship is required. *AFRRI is an Equal Opportunity Employer.*

The University of Arizona has an opening for a **RESEARCH SCIENTIST** with experience with **MONOCLONAL ANTIBODIES**. Applicants should have a Ph.D. equivalent degree in some branch of chemistry of biological sciences. Duties will involve managing a monoclonal antibody facility and conducting independent research. The facility is fully equipped and has financial and technical support. Successful applicant will be expected to apply for grants to support his/her research program. Position is continuing or continuing eligible, depending upon qualifications. Salary is open, subject to negotiation. Applications will be examined after 1 June 1987, but will be accepted until the position is filled. *The University of Arizona is an Equal Opportunity/Affirmative Action Employer.* Address applications to: **Dr. John H. Law, Director, Biotechnology Center, Biosciences West, University of Arizona, Tucson, AZ 85721.**

SYSTEMATIC BOTANIST. The Department of Botany, Smithsonian Institution, has a staff position open for a specialist in one or more large Neotropical lowland plant groups who can undertake field work to enhance the collections of the U.S. National Herbarium. Candidates must be U.S. citizens, and have an active and documented research program in floristic and monographic botany. Salary at GS-11/12 level (\$27,172 to \$32,567). Send a statement of research goals, curriculum vitae, OPM Standard Form 171 (available on request), set of reprints, and names of three references to: **Smithsonian Institution, Employment Office, Announcement No. 87-206-F, 900 Jefferson Drive SW, Washington, DC 20560.** Applications must be received by 31 July 1987. *An Equal Opportunity Employer.*

POSITIONS OPEN

QUALITY ASSURANCE, LABORATORY ANIMAL THE JACKSON LABORATORY

The Jackson Laboratory is a basic research institute in mammalian genetics and developmental biology and a supplier of genetically standardized mice to the scientific community. We have a full-time position in our animal production facility for a **TECHNICAL SERVICES MANAGER** with a strong background in genetics and animal science. Incumbent will develop and maintain quality assurance procedures, documentations and carry out quality assurance audits and reports. In addition, the incumbent will work with staff scientists and operating managers in the maintenance of genetic standards and in the training of production technicians in animal husbandry and genetics. This individual will also be responsible to respond to technical and scientific inquiries from researchers using JAX mice.

A Ph.D. in genetics or related area and experience in breeding laboratory animals essential. Experience with quality assurance/quality control required. Knowledge of GMPs a definite plus.

The Jackson Laboratory is located in the midst of Acadia National Park, Bar Harbor, Maine. We are an NCI-designated Cancer Research Center offering a competitive salary and benefits. Please send résumé to: **Harold R. Wheeler, Employment Manager, The Jackson Laboratory, 600 Main Street, Bar Harbor, ME 04609. Equal Opportunity Employer/Affirmative Action.**

SENIOR MICROBIOLOGIST (APPLIED RESEARCH)

Maitreya Systems Incorporated (MSI) is seeking candidates for the position of senior microbiologist. MSI is an aggressive young company developing biological technologies in several areas of commercial application. MSI is seeking an experienced problem-solver to work with an interdisciplinary team of physical and biological scientists and engineers. Current projects are focused on developing biological solutions to hazardous waste problems.

MSI's Research and Development Laboratories are located in Bozeman, Montana. Bozeman provides an excellent living and working environment within the northern Rocky Mountains. Bozeman is home to Montana State University, a major academic/research center in the Northwest. MSI has a unique and productive relationship with MSU which allows cooperative research and the potential for joint positions with the university.

Applicants should have a doctoral degree. Postdoctoral and commercially applied experience is highly desirable. Qualified candidates should send their curriculum vitae in confidence to:

**Edward A. Dratz, Ph.D.
Director of Research
Maitreya Systems Incorporated
P.O. Box 6446
Bozeman, MT 59715**

The Department of Biology seeks to fill a **TEMPO-RARY POSITION** for 1 year beginning September 1987. Rank and salary are negotiable. Teaching responsibilities will include botany, invertebrate zoology, and introductory biology. The College of St. Thomas is a coeducational, Catholic liberal arts college committed to the total development of the individual student. The successful applicant will have a Ph.D., or substantial progress toward the degree, and a strong commitment to teaching at the undergraduate level. Send letter of application, curriculum vitae, and three letters of reference directly to: **Mrs. Kathy Fell, Box 4208, College of St. Thomas, 2115 Summit Avenue, St. Paul, MN 55105.** All materials must be received by 22 May 1987. *An Equal Opportunity/Affirmative Action Employer.*

VISITING FACULTY POSITION: The Cleveland State University Department of Chemistry is accepting applications at the assistant professor rank for a 1-year, nontenure-track position to begin in the fall of 1987 for teaching in analytical, physical, and general chemistry. A Ph.D. is required, and teaching experience is preferred. Please submit résumé, undergraduate and graduate transcripts, and three letters of recommendation by 12 June 1987, to: **Dr. Earl M. Mortensen, Department of Chemistry, Cleveland State University, East 24th and Euclid Avenue, Cleveland, OH 44115. Equal Opportunity Employer, M/F/H.**

DUAL APPOINTMENT

SCIENCE/MATH DUAL APPOINTMENT—Centenary College seeks qualified individual to teach anatomy and physiology, reproductive physiology, and mathematics courses. This is a dual appointment in equine studies and liberal arts. B.S. in agriculture preferred. Biology or zoology accepted. Please send résumé by 15 May 1987 to: **Director of Personnel, Centenary College, 400 Jefferson Street, Box SM2, Hackettstown, NJ 07840.**

SYMPOSIUM

INTERNATIONAL CONFERENCE ON THE GENETIC MANIPULATION OF WOODY PLANTS: 21 to 25 June 1987, Michigan State University, East Lansing, Michigan. Addresses, papers, and posters on in vitro culture, DNA analysis and manipulation, gene vector systems, and the regulation of gene expression in woody plants. For information: **Dr. James W. Hanover, Genetic Manipulation of Woody Plants, Department of Forestry, Michigan State University, East Lansing, MI 48824. Telephone: 517-355-0356.**

TRAVEL SUPPLEMENTS

TRAVEL SUPPLEMENTS TO LT18

Limited travel support for participants in LT18 will be made available to U.S. investigators. Grants not to exceed \$1000 will be given to deserving applicants on the basis of need and merit, with members of national and industrial laboratories and principal investigators on contracts excluded. Send brief statement, abstract, and SS# to: **D. D. Osheroff, AT&T Bell Laboratories, Murray Hill, NJ 07974 by 22 May 1987.** Recipients will be notified by 22 June 1987.

FELLOWSHIPS

UNIVERSITY OF TORONTO

The Botany Department and the Institute for Environmental Studies, University of Toronto, are seeking candidates for faculty position(s) at the assistant professor level under the **NSERC UNIVERSITY RESEARCH FELLOWSHIP** programme.

Applications are invited from suitably qualified candidates in all areas of plant sciences; particularly in plant ecology (including microbial ecology/environmental toxicology.)

Salary will be at the assistant professor level and commensurate with experience. The successful candidate(s) will be expected to conduct independent research programmes, collaborate with other faculty in the Department in the development of active research groups, and teach in their area of expertise.

The successful applicants' appointments would start as soon as possible after 1 April 1988. Send curriculum vitae and three letters of reference to: **Dr. J. A. Hellebust, Chairman, Department of Botany, University of Toronto, Toronto, Ontario M5S 1A1.** Closing date for receipt of applications is 1 August 1987.

The University of Toronto encourages both women and men to apply for this position. In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents.

POSTDOCTORAL FELLOWSHIP

NIH-supported postdoctoral fellowships are available on a Pulmonary Research Training Grant at the Albany Medical College. The specific areas of research include pulmonary vascular physiology and pathophysiology, endothelial cell biology, cell-cell interactions, and endothelial injury. For further information contact: **Dr. A. B. Malik, Department of Physiology, The Albany Medical College of Union University, Albany, NY 12208. Equal Employment Opportunity/Affirmative Action M/F.**

POSTDOCTORAL FELLOWSHIP IN MOLECULAR BIOLOGY: Over 2 years of experience in cDNA library construction and gene cloning required to work on project involving the molecular cloning and expression of genes involved in x-irradiation damage in mammalian cells. Send curriculum vitae and three letters of recommendation to: **Dr. Joel S. Greenberger, Chair, Department of Radiation Oncology, University of Massachusetts Medical Center, 55 Lake Avenue North, Worcester, MA 01605. An Equal Opportunity/Affirmative Action Employer.**

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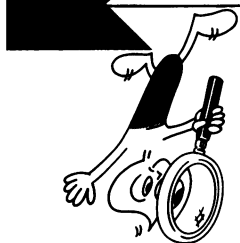
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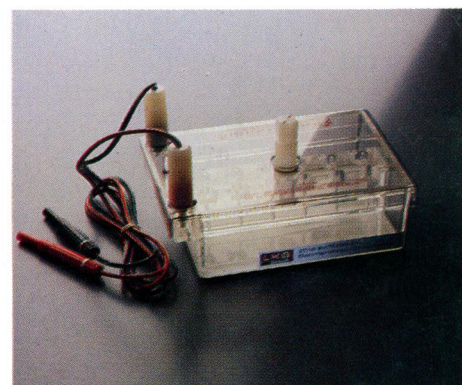
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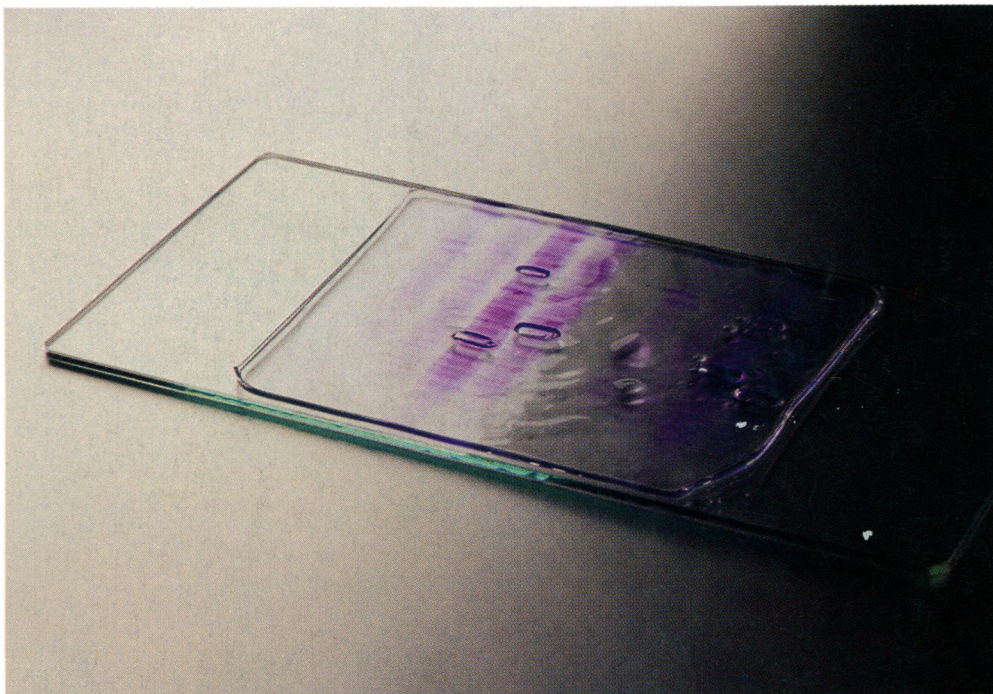
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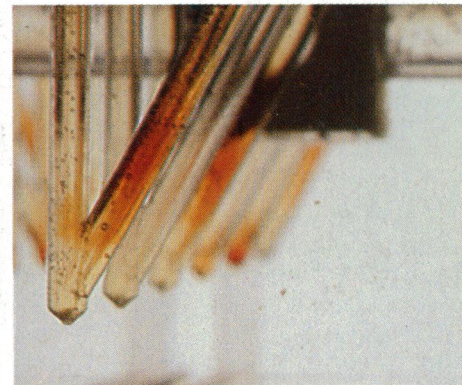
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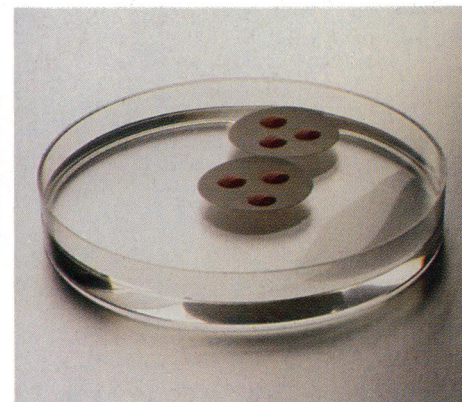
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