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Introducing one less...

**Base Runner™** nucleic acid sequencer from IBI gives you simple, dependable sequencing performance run after run.

Take the variability and headaches out of nucleic acid sequencing. Base Runner gives you faster set up, more reproducible results and greater flexibility over conventional sequencers with its unique combination of innovative design (four patents pending) and proven sequencing technology.

**Select from 30, 45 and 60cm gel plates.**

Run conventional 45cm x 20cm gels, or optimize your results with longer or shorter plates. The taller 60cm gels give you more bases from each run. The smaller 30cm gel plates let you set up short test runs quickly and easily. And with Base Runner, you can run two different gels simultaneously to explore different options or reinforce ongoing sequencing results.

**Patented buffer tank design ends cracked plates and buffer leaks.**

Our new Base Runner buffer tank slides firmly into place and clamps into position with unique spring levers. There are no screws or clamps to tighten and no danger of cracked plates. Tanks fit only in one position— the correct one — so you don’t have to worry about improper installation and leaking.

One person can easily remove the Base Runner tanks for buffer disposal, decontamination and cleaning. The upper tank features a trigger valve for draining buffer neatly before tank removal, and a protective tank cover for increased operator safety.

Both tanks contain pure platinum electrodes for long dependable performance.

**Run two different gels simultaneously.**

You get two entirely independent sequencing units capable of handling gels up to 60cm tall and 20cm wide in one space-saving unit with Base Runner. Run individual gels or two entirely different gels. Independent electrical hookups and buffer tanks let you run dissimilar protocols, electrical parameters and gel sizes at the same time on a single Base Runner unit.

Another innovation lets you rotate the Base Runner for easy access to either side, so you get more working area out of the same bench space. A locking mechanism holds the sequencer firmly in place while you work.

**Get fast warm up and smile-free performance.**

Base Runner uses a thin, highly thermally conductive aluminum thermoplate to heat gels quickly and evenly. Warm up is fast — less than 10 minutes to heat a 0.4cm gel to 60°C. And heat dissipates horizontally to ensure...
thing to go wrong.

that gels remain evenly heated from edge to edge. That helps eliminate "smiles" and gel artifacts and makes data easier to read.

The quality cast and finished thermoplate ensures uniform contact across the entire gel sandwich to eliminate isolated hot or cool spots. A mirror surface on the inner plate makes it easier to identify bubbles and follow tracking dye.

Angled gel assembly simplifies operation.

You don't need an extra set of hands to hold your gel plates while you set up or take down a Base Runner. We angled the gel assembly just slightly so plates stay in place without clamps. That gives you all the visibility of a vertical display with the handling convenience of a horizontal sequencer.

Includes a variety of valuable accessories.

Every Base Runner sequencer comes complete and ready to run with eight high quality Mylar® spacers and eight combs. Spacers are 60cm long to accommodate all common gel lengths. Combs are 0.4mm thick and feature 32-well conventional and shark-tooth configurations. You also get two thermocoated inner glass plates and two outer glass plates in 60cm lengths. 30 and 45cm plates are available separately through IBI.

Find out more today.

Call or write for more information about the Base Runner nucleic acid sequencer. IBI, P.O. Box 9558, New Haven, CT 06535, 1-800-243-2555, or 203-786-5600.
In Canada, call (416) 362-8278.
In the UK, call Cambridge (0223) 242813.
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MathCAD is more than an equation solver. Like a scratchpad, it allows you to add text anywhere to support your work, and see and record every step. You can try an unlimited number of what-ifs. And print your entire calculation as an integrated document that anyone can understand.

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What more could you ask for? How about two new applications packs to increase your productivity?

The Advanced Math Applications Pack includes 16 applications like eigenvalues and eigenvectors of a symmetric matrix, solutions of differential equations, and polynomial least-squares fit.

The Statistics Applications Pack lets you perform 20 standard statistical routines such as multiple linear regression, combinations and permutations, finding the median, simulating a queue, frequency distributions, and much more.

MathCAD lets you perform calculations in a way that's faster, more natural, and less error-prone than the way you're doing them now—whether you use a calculator, a spreadsheet, or programs you write yourself. So come on over to MathCAD and join 45,000 enthusiastic users.

For more information, contact your dealer or call 1-800-MATHCAD (In MA: 617-577-1017).
Products & Materials

Statistical Software

SYSTAT 3.2 is a statistics, graphics, and data management software package. It can perform univariate and multivariate statistical analyses. To instruct the program to read a data file from another program, the user pulls down a menu command. The user can execute all data transformations and searches by means of menus and dialog boxes as well. Both two- and three-dimensional graphics are available, including maps, contour plots, triangular coordinate plots, Voronoi tessellations, casement plots, grouped box plots, smoothed scatter plots, and high-low-close plots. SYSTAT 3.2 is available for Macintosh Plus and SE computers with 1 megabyte of random-access memory (RAM) and for Macintosh IIIs with 2 megabytes of RAM. SYSTAT. Circle 435.

Electrophoresis System

The CHEF-DR II electrophoresis system can resolve DNA molecules of sizes from a few hundred bases to 10 million bases. The CHEF-DR II distributes an electric field along the contour of a hexagonal array of 24 electrodes. Two opposing sides of the hexagon are activated alternately. The voltage between each pair of electrodes is measured and adjusted to compensate for gel thickness, buffer conductivity, temperature, and voltage. This compensation system results in straight lanes with sharp bands. As many as 30 usable lanes are produced per cycle. Restrictions in fragments as small as 88 bases may also be separated with the CHEF-DR II. Bio-Rad Laboratories, Chemical Division. Circle 481.

Protein Kinase C

Protein kinase C, a possible receptor protein of phorbol esters, is available. It has a protein concentration of 52 µg/ml and a specific activity of 3.1 µmol/(min mg). It contains less than 2% lipid-independent kinase. Lipidex. Circle 483.

Infrared Hot Plate

The IR-6000 hot plate heats with infrared electromagnetic radiation instead of by conduction. The hot plate can reach a temperature of 615°C and can bring 1 liter of water in a 1.5-liter Erlenmeyer flask to a boil in less than 12 minutes. Such infrared heating is more uniform than conductive heating, because the shape and flatness of the vessel bottom are irrelevant. Heat is continuously adjustable from 1% to 99%, and the unit remembers power settings after being turned off. The IR-6000 has a 30 cm by 30 cm black glass-ceramic surface. $650. Fisher Scientific. Circle 485.

Purification System for Phosphotyrosyl Proteins

The Immunofinity System isolates proteins phosphorylated on tyrosine residues. Proteins containing phosphoserine, phosphothreonine, or phosphohistidine are not detected. The system is based on monoclonal antibodies to phosphotyrosine. All required components are supplied in the kit. Oncogene Science. Circle 478.

Water-Jacketed Incubator

Model 3193 is a modular, stackable water-jacketed incubator controlled by a microprocessor. All settings are controlled by a touch pad, and power fluctuations do not disrupt set points. Cultures are always visible, because an automatic heating system prevents condensation on the inner glass door. The exterior is painted with polyurethane enamel, and the interior is stainless steel with six adjustable shelves. For additional insulation, the unit contains fiber glass insulation. Forma Scientific. Circle 479.

Scanning Electron Microscope

The DSM 960 is a digital scanning electron microscope. A television monitor displays the image captured by an integrated frame store. Although micrographs can be taken for documentation purposes, the frame-store images can be stored instead on laser disks, still-frame video recorders, and high-resolution video printers. The DSM 960's microprocessor controls camera contrast, brightness, and gamma response; micrographs can be transferred from the frame buffer in 6 s or can be shot on-line at higher pixel densities. The specimen chamber measures 270 by 310 by 270 mm, and the five-axis stage is eucentric and can move 80 mm laterally. Other features include autofocus, electronic scan rotation, dynamic focus, variable rater, six-function gamma control, and a full alphanumeric keyboard. Carl Zeiss, Electron Optics Division. Circle 484.

Literature

The Bravo Slide Maker brochure describes a machine for turning any flat 5 inch by 7 inch (13 cm by 18 cm) or 8.5 inch by 11 inch (22 cm by 28 cm) hardcopy into a color, black-and-white, or white-on-blue 35-mm slide, overhead transparency, or photographic print within a few minutes. Scientific Instrument Services. Circle 467.

TLC Scanner II describes a scanner for both thin-layer chromatography and electrophoresis. CAMAG (Switzerland). Circle 493.


The G88–9 Catalog lists gas and liquid flowmeters, as well as gauges, syringes, valves, and Warburg instruments. GilMont Instruments. Circle 495.

Chromatography, Electrophoresis, Immunochemistry, Molecular Biology, HPLC, Liquid Handling is a catalog of ion-exchange resins, desalting columns, gel dryers, standards and kits for blot detection, and other products for techniques such as high-performance liquid chromatography (HPLC). Bio-Rad Laboratories, Chemical Division. Circle 498.

**POSITIONS OPEN**

**Beloit College**

Beloit College has an **ADJUNCT ASSISTANT PROFESSOR OF BIOLOGY** for the 1988-1989 academic year. The candidate will be expected to teach biological courses for nonmajors and one other biology course per semester. Candidates must be committed to quality teaching, have interests in the environment and evolution research, and have experience teaching using the computer. Deadline for applications is March 1, 1988.

**AGRONOMIST—CROP MODELER**

Conduct crop growth simulations using plant physiology and nutrient plant interactions and new models. Should have a major in agronomy, plant physiology, soil science, or a closely related field. Position is for one year, renewable. Starting salary is $20,000. Deadline for applications is December 13, 1987.

**AQUATIC ECLOGIST**

ARIZONA STATE UNIVERSITY

The Department of Zoology at Arizona State University invites applications for a tenure-track faculty position in aquatic ecology under the leadership of a junior or mid-level professor. The successful candidate will be expected to excel in research and teaching. The candidate must be willing to participate in the department chair’s initiatives. Salary is negotiable. Minimum qualifications: Ph.D. in aquatic ecology or closely related field, with a strong publication record and evidence of teaching effectiveness. Deadline for applications is December 1, 1987.

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POSITIONS OPEN

Ohio State University Department of Biochemistry invites applications for two 9-month tenure-track faculty positions at the level of ASSISTANT PROFESSOR available 1 October 1989 or later. We are seeking individuals from any area of biochemistry or molecular biology with a strong commitment to effective teaching and research. Candidates are expected to have expertise in proteins and protein engineering, including the areas of enzymology, membranes and membrane receptors, growth factors, signal transduction, and neuropharmacology. Individuals with experience in the genetics/cell biology of aquatic organisms. Forward application, curriculum vitae, and three letters of reference by 16 December 1988 to: Charles E. House, Faculty/Staff Relations, SUNY College at Brockport, 408 Allen Administration Building, Brockport, NY 14420. Affirmative Action/Equal Opportunity Employer.

ASSISTANT PROFESSOR (tenure-track): Qualifications: earned Ph.D. in the biological sciences (genetic engineering/aquaculture), some university teaching experience and evidence of grant and publication productivity. The successful applicant will teach and establish a research program. Preference will be given to applicants with a record of research training the genetics/cell biology of aquatic organisms. Forward application, curriculum vitae, and three letters of reference by 16 December 1988 to: Charles E. House, Faculty/Staff Relations, SUNY College at Brockport, 408 Allen Administration Building, Brockport, NY 14420. Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

ASSISTANT PROFESSOR, DEPARTMENT OF MEAT AND ANIMAL SCIENCE
UNIVERSITY OF WISCONSIN
MADISON, WISCONSIN

Large-Animal Growth Biologist, capable of applying the modern techniques of molecular biology, biochemistry, endocrinology, or genetics to the solution of problems concerning growth of domestic animals. The candidate will have the responsibility to share in teaching undergraduate courses in beef production. There will be an opportunity to develop graduate teaching in areas of the candidate's interest. Position responsibilities are 60% research and 40% teaching.

The candidate is expected to develop a substantial research program and to collaborate in research with other scientists on campus and to bring their expertise to bear on problems of food producing animals. It is expected that the candidate will be of such caliber to qualify for participation in one or more of the campus interdisciplinary training programs. The candidate must have a Ph.D. degree and preferably postdoctoral training. Position is presently available.

Applicants are due 31 January 1989, or until a satisfactory candidate is found. Application, curriculum vitae and three letters of reference should be sent to:

Jack Rutledge, Chairman
Meat and Animal Science Department
1675 Observatory Drive
University of Wisconsin
Madison, WI 53706

The University of Wisconsin provides Equal Opportunities in programs and employment.

ASSISTANT PROFESSOR, BEHAVIORAL NEUROSCIENCE
The Department of Behavioral Neuroscience at the University of Pittsburgh seeks candidates for a tenure-track position which could begin in the fall 1989. Applications should be interested in the involvement of sections of the nervous system in neural function and/or molecular neurobiology. Applicants will be selected for interviews on the basis of their record of research accomplishment, their potential for developing a strong and interactive research program, and their ability to participate in undergraduate and graduate education. The Department will continue to attract students from many areas of the biological sciences, with particular emphasis on areas of brain development, learning and memory, and drug addiction. Applicants should submit a letter of interest, curriculum vitae, and three letters of recommendation to:

Faculty Search Committee
Department of Behavioral Neuroscience
University of Pittsburgh
Pittsburgh, PA 15260

Applications will be reviewed beginning 15 January 1989.

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

ASSISTANT PROFESSOR—BIOLOGY
The joint Biology Department of St. John's University and the College of St. Benedict seeks to fill a tenure-track position beginning fall term 1989. The successful candidate will be responsible for a year-long human anatomy/physiology course for nursing students, and general physiology (fall term) and comparative physiology (spring term), both upper division. A strong commitment to undergraduate liberal arts education and the ability to direct upper division students in independent research is highly desirable. A Ph.D. is required and expertise in comparative physiology is preferred. Send curriculum vitae, three letters of recommendation, and transcripts to: Personnel Director, St. John's University, Collegeville, MN 56321. Applications are welcome but are guaranteed consideration only if submitted by 15 January 1989.

ASSISTANT PROFESSOR, ECONOMIC ENTOMOLOGY
Tenure-track position with equal research and extension responsibilities and a teaching commitment of one course per year related to insect pest management. Teaching at the sophomore and junior level with exposure to courses in the area of insect ecology and behavior. Ph.D. with broad training in entomology required. Experience in extension, IPM, modeling, or related area of economic entomology desirable. Applications accepted until 6 January 1989 or until a suitable candidate is selected. Submit résumé, transcripts, letter of professional goals, and three letters of recommendation to: Chairman, Search Committee, Department of Biological Sciences, Dartmouth College, Hanover, NH 03755. USU is an Affirmative Action/Equal Opportunity and IRCA Employer.

ASSISTANT PROFESSOR, MOLECULAR BIOPHYSICS
The Department of Chemistry at Rensselaer Polytechnic Institute is recruiting for a junior faculty position in the area of molecular biophysics. Applicants in any field of specialization are welcome but special consideration will be given to those whose work is in macro-molecular crystallography. Applicants should send a current curriculum vitae, list of publications, brief summary of proposed area of research, and three letters of recommendation no later than 15 December 1988 and forwarded to: Professor B. A. Wallace, Chairman, Search Committee in Molecular and Biophysics, Rensselaer Polytechnic Institute, Troy, NY, 12180-3590.

ASSISTANT PROFESSOR IN MOLECULAR PATHOLOGY
The Department of Pathology invites application for a full-time tenure-track faculty position in pathology. Applicants may be either Ph.D. or M.D. and must have demonstrated research experience in one or more of the fields of molecular immunology, molecular aspects of disease pathogenesis, or molecular genetics. The candidate will be expected to develop a strong and competitive research program and to teach molecular aspects of pathology to graduate and medical students. Submit curriculum vitae and letter of interest to: Chairman, Search Committee in Pathology, Arizona Department of Pathology, University of Arizona, Tucson, AZ, 85724. Applications accepted until 15 March 1989 or when the position is filled. The University of Arizona is an Equal Employment/Affirmative Action Employer.
POSITIONS OPEN

ASSISTANT PROFESSOR MICROBIOLOGY AND IMMUNOLOGY

An immediate opening exists for a 2-year appointment as an assistant professor of microbiology and immunology, the College of Science and Mathematics and the School of Medicine at Wright State University. Applicants must have a Ph.D. in microbiology or immunology or a related area in the area of molecular biology. Research experience in the area of pathogenesis of bacterial toxins desirable. Teaching responsibilities include course in microbiology, genetics and selected lectures in medical microbiology. Salary is commensurate with applicant's experience and regional data. Please submit curriculum vitae and three letters of recommendation to: Jennifer A. Murphy, Ph.D., Assistant Professor and Acting Chairman, Department of Microbiology and Immunology, 460 Olmian Hall, Wright State University, Dayton, OH 45435. Closing date for receipt of applications is 30 November 1988. Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR MOLECULAR NEUROBIOLOGY

CASE WESTERN RESERVE UNIVERSITY

The newly established Center for Neurosciences at Case Western Reserve University School of Medicine has a tenure-track opening at the assistant professor level for a person using molecular biological techniques to study neuronal function. Candidates should have a strong background in molecular aspects of neuronal research and be ready to start an independent research program. Renovated laboratory space and start-up funds will be available. Teaching responsibilities include neuroscience courses to graduate and medical students. The Center for Neurosciences currently includes six primary faculty appointments and will expand over the next several years to approximately twice that size. In addition, more than fifteen neuroscientists with appointments in other departments play an active role in the research and teaching activities of the Center. The research interests of the current faculty are focused on neuronal development and neuronal plasticity in adult organisms. Interested candidates should send their curriculum vitae, a brief statement of their future research plans, and the names of four references to: Dr. Story C. Lands, Center for Neurosciences, Case Western Reserve University School of Medicine, 2119 Abington Road, Cleveland, OH 44106-2353, by 1 January 1989. Case Western Reserve University is an Affirmative Action/Equal Opportunity Employer.

ASSISTANT PROFESSOR OF BIOLOGY

The candidate will give some lectures in the courses in cell metabolism, cell biology, genetics and nutrition, and direct research in his/her area. A primary responsibility will be to design and direct laboratories in cell biology and metabolism. Ideal for the person with experience in animal cell culture in small group settings in a strongly supervised research program. The position is available January 1989 and may continue through 1989 to 1990. Submit curriculum vitae along with names and telephone numbers of at least three references to: Dr. E. Perry, Biological Department, Knox College, Galesburg, IL 61401. Telephone: 309-343-0112. Affirmative Action/Equal Opportunity Employer.

DEPARTMENT OF ECOLOGY AND EVOLUTIONARY BIOLOGY

ASSISTANT PROFESSOR TENURE-TRACK

The Department of Ecology and Evolutionary Biology at the University of Arizona seeks an investigator in the analysis of complex systems of biological origin. Areas of special interest include the origin and diversification of life, including evolution at molecular and cellular levels, and the genetics and evolution of temporal and spatial patterns in development, physiology, or behavior in multicellular organisms. This position will probably be filled as an assistant professor but can be at the associate professor level. Applications should include curriculum vitae, statements of research plans, reprints or preprints, and arrange to have letters from at least three referees sent to: Conrad A. Shanley, Department of Ecology and Evolutionary Biology, University of Arizona, Tucson, AZ 85721. The deadline for applications is 15 December 1988, or until the position is filled. The University of Arizona is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.

ADDENDA

ASSISTANT PROFESSOR OF BIOCHEMISTRY

UNIVERSITY OF COLORADO BOULDER

The Department of Chemistry and Biochemistry invites applications for two ten-year-track faculty positions in biochemistry commencing January 1990. The appointments will be in the areas of cell biology, biochemistry, including expansion and improvement of the facilities of the department. Although there is preference for candidates in the assistant professor level, applications at the senior level will be considered. Applicants should have a Ph.D. in chemistry or biochemistry and a major commitment to conducting a vigorous and innovative research program in biochemistry. Highest priority is in x-ray crystallography or a related area of structural biochemistry. However, applicants in all areas of biochemistry are encouraged. Applicants should send curriculum vitae, representative reprints, and statement of research plans and have three letters of reference sent to: Biochemistry Search Committee, Department of Chemistry and Biochemistry, University of Colorado, Campus Box 215, Boulder, CO 80309-0215. Applications will be evaluated beginning 1 December 1988 with a final application deadline of 2 January 1989. The University of Colorado at Boulder has a strong institutional commitment to the principle of diversity in all areas. In this regard, we especially invite applications from women and members of minority groups.

ASSISTANT PROFESSOR OF MICROBIOLOGY AND IMMUNOLOGY

UNIVERSITY OF ILLINOIS COLLEGE OF MEDICINE AT CHICAGO

The Department of Microbiology and Immunology invites applications for an assistant professor, tenure-track, from individuals with demonstrated excellence in molecular immunology, broadly defined. More senior applicants will also be considered. The successful candidate will be expected to develop an externally funded research program and to participate in graduate and medical student training. Generous space and startup funds are available. Applications should provide the search committee with curriculum vitae, at least three letters of recommendation and a brief statement of future research interests and plans. The first series of candidates will be considered after 1 November 1988 and applications will be accepted until the position is filled. Starting dates can be September 1989 or thereafter.

Send applications to: Dr. James W. Silver, Molecular Immunology Search Committee, Department of Microbiology and Immunology, University of Illinois College of Medicine at Chicago, P.O. Box 6998, Chicago, IL 60680. University of Illinois is an Affirmative Action/Equal Opportunity Employer.

ASSISTANT/ASSOCIATE PROFESSOR

We invite applications for a tenure-track position available immediately. We seek individuals with a Ph.D. and at least 3 years of postdoctoral training to join a group investigating the structure of extracellular matrix and chondrocyte metabolism, and animal models of arthritis. For full consideration, applicants should submit curriculum vitae, a brief description of current research interests, and three letters of recommendation. The University of Illinois is an Affirmative Action/Equal Opportunity Employer.

ASSISTANT OR ASSOCIATE PROFESSOR

We invite applications for a tenure-track position available January 1989. Both positions are at the M.D. or Ph.D. level with postdoctoral training in rheumatology and either immunology and/or molecular biology with a strong commitment to basic research in the area of human immunology and/or autoimmune diseases. For full consideration, applicants should submit curriculum vitae, a brief description of current research interests, and three letters of reference to: Roland W. Moskowitz, M.D., Director, Rheumatic Disease Unit, Department of Medicine, University Hospitals, Cleveland, OH 44106. The University of Cleveland is an Affirmative Action/Equal Opportunity Employer.

ASSISTANT PROFESSOR OF BIOCHEMISTRY

BRANDEIS UNIVERSITY

A tenure-track position at the level of assistant professor is available in the Graduate Department of Biochemistry. We are seeking someone who plans to investigate basic mechanisms in molecular biology, in fields ranging from gene expression to development. Candidates are expected to work on research questions of interest to them, and to develop a research program in consultation with the department chairman. Curriculum vitae, statement of research interests, and at least three letters of recommendation should be sent to: Dr. Irvin A. Levan, Chairman, Search Committee, Graduate Department of Biochemistry, Brandeis University, Waltham, MA 02154. Brandeis University is an Equal Opportunity/Affirmative Action Employer. We are seeking highly qualified candidates from all segments of the scientific community.

ASSISTANT PROFESSOR OF PLANT MOLECULAR BIOLOGY

Applications are invited for a tenure-track faculty position at the assistant professor level in the Department of Plant Science at the University of Delaware. Candidates should be interested in utilizing molecular techniques for improving crop plants and other agronomic traits in maize. The faculty member would be expected to work cooperatively with ongoing research programs in maize and sorghum breeding, and tissue culture. The position is expected to develop into a faculty level position consistent with the individual's background and department needs. Ph.D. and postdoctoral experience in plant molecular biology is required. Send a description of research interests and plans, curriculum vitae, official undergraduate and graduate transcripts, and three letters of recommendation by 31 January 1989 to:

Dr. James A. Hawk
Department of Plant Science
Townsend Hall
University of Delaware
Newark, DE 19717-1903

ASSISTANT PROFESSORSHIP

Applications are invited for the position of assistant professor in physical chemistry. Applicants with an emphasis toward experimental research are especially encouraged. Applications should include a brief summary of research interests and plans, curriculum vitae, three letters of recommendation sent independently and should include curriculum vitae and a brief statement of research interests. Harvard University is an Affirmative Action/Equal Opportunity Institution. Applications from female and minority group members are welcome. Applications and supporting material should be sent no later than 16 December 1988 to the following: Office of the Director, Department of Chemistry, Harvard University, 12 Oxford Street, Cambridge, MA 02138.

ASSISTANT/ASSOCIATE PROFESSOR DEPARTMENT OF ANATOMY

LOYOLA UNIVERSITY OF CHICAGO

STRENGTH SCHOOL OF MEDICINE

The Department is seeking applicants with a Ph.D., M.D. or equivalent degree in anatomy or immunology, molecular cell biology, or neuroimmunology to fill a full-time tenure-track position beginning after 1 July 1989. The position should have significant research experience and be capable of establishing and/or maintaining an independent research program. Primarily teaching responsibilities will be in a clinically oriented gross anatomy course to medical and graduate students. Opportunities are available to participate in departmental and interdepartmental graduate training programs. Send curriculum vitae, list of publications, three letters of recommendation, and a summary of research interests by 15 January 1989 to: Dr. John Clancy, Chairman, Department of Anatomy, Loyola University Stritch School of Medicine, 2160 South First Avenue, Maywood, IL 60153. Loyola University Chicago is an Equal Opportunity Educator and Employer. Qualified persons are not subject to discrimination on the basis of handicap.
SENIOR SCIENTISTS
Drug Metabolism and Disposition Research

For more than a century, scientists at ELI LILLY AND COMPANY have developed innovative, high quality pharmaceutical products. In 1988, Lilly is investing over $500 million in research-and-development programs. More than 3,000 scientists at the company's Lilly Research Laboratories are pursuing creative research programs that involve many important health care needs.

To further build its research capabilities, Lilly is seeking self-motivated, innovative scientists to plan, organize, and manage programs in the area of drug metabolism.

**Metabolism**
- Doctoral-level individual desired to establish a laboratory program utilizing basic and applied approaches to study the metabolic disposition of drugs in laboratory animals.
- Strong background needed in analytical methods, chemistry, and pharmacology.
- Experience necessary in HPLC and in developing other quantitative bioanalytical methods to study absorption, distribution, metabolism and excretion of drugs in animal models.
- Postdoctoral experience desirable.

**Kinetics/Disposition**
- Doctoral-level scientist wanted to establish a laboratory program to evaluate the physiologic/pharmacologic mechanisms governing the behavior of drugs in laboratory animals.
- Strong background in pharmacologic and pharmacokinetic mechanisms as it relates to drug disposition is essential.
- An understanding of analytical methods and chemistry is preferable.
- Postdoctoral experience desirable.

In addition, these scientists must have the leadership capabilities needed—technical, communication, interpersonal, and organizational skills—to build a research program.

Eli Lilly and Company is committed to scientific excellence. Lilly provides a stimulating professional atmosphere with many opportunities for collaborative, multidisciplinary research.

The company offers an attractive total compensation program. Entry level and salary will be based upon each candidate’s experience.

For prompt consideration, please forward your *curriculum vitae* to:

John W. Crooks, Manager
Ph.D. Recruitment (DMD)
Eli Lilly and Company
Lilly Corporate Center
Indianapolis, Indiana 46285

_Equal Opportunity Employer_
ASSISTANT/ASSOCIATE PROFESSOR OF OCEANOGRAPHY (GSO)

Limited to December 1991 with possibility of becoming a tenure-track position. Teach and pursue active research program in the application of satellite-derived data to research programs in oceanography and record for interactions with groups in biological, environmental, and physical sciences. Successful applicants include curriculum vitae, references, and a demonstrated record of excellence. Department Chairperson.

ASSISTANT/ASSOCIATE PROFESSORS OF BIOCHEMISTRY

Bradford College, a small liberal arts college 35 miles north of Philadelphia, seeks professors with positions in the areas of biochemistry and molecular biology. Several recent restrictions on the use of research funds have led to an increased interest in independent research. The position requires a Ph.D. in biochemistry and appropriate postdoctoral experience. Complete applications should be submitted by 15 January 1989.

ASSISTANT/ASSOCIATE PROFESSOR OF MICROBIOLOGY

Applications are invited for a position in the Department of Microbiology, Loyola University of Chicago, Stritch School of Medicine, 2610 South First Avenue, Maywood, IL 60153. Loyola University of Chicago is an Equal Opportunity/Affirmative Action Employer.
MRC GROUP IN PROTEIN STRUCTURE AND FUNCTION

University of Alberta, Edmonton

FACULTY POSITION IN X-RAY CRYSTALLOGRAPHY

The Medical Research Council of Canada Group in Protein Structure and Function at the University of Alberta invites applications for a Faculty position in the Department of Biochemistry. Applicants should have a strong background in protein/macromolecular crystallography and will be expected to develop a research project that will complement and contribute to the overall research efforts in the group. Appointments can be made at any level from Assistant to Full Professor depending upon the qualifications.

The MRC Group in Protein Structure and Function was established in 1974 and has undergone two successful renewals. In addition to X-ray crystallography, the major techniques of physical biochemistry are included in the hydrodynamic and spectrosopic methods, 2D nuclear magnetic resonance spectroscopy, protein micro-sequencing techniques, solid phase synthesis of peptides, recombinant DNA and protein engineering. The X-ray crystallographic laboratories are supported by excellent facilities, two single crystal diffractometers, two rotating anode generators, an SDMO system area detector with two detectors, two molecular graphics systems. The computing facilities at The University of Alberta are excellent. The University mainframe is an Amdahl 5870 operating under MTS. Access to supercomputing facilities is also possible at the Universities of Toronto (Cray) and Calgary (Cyber 205).

In accordance with Canada Immigration regulations, priority will be given to Canadian citizens and permanent residents. The deadline for the position is Dec. 31. Applicants should forward curriculum vitae, list of publications and names of three referees as soon as possible to Professor M. N. G. James, Department of Biochemistry, University of Alberta, Edmonton, Alberta, Canada T6G 2H7.

The University of Alberta is committed to the principle of equity in employment.

Oncology Research

Washington DC Area

Molecular Oncology, Inc. is a young, fast-growing biotech research company involved in the transfer of the latest molecular diagnostics to the clinical laboratory. If you're an enthusiastic individual with the demonstrated ability to apply advanced management and research skills to cancer diagnosis, we have a place for you on our team.

Laboratory Director—Molecular Biology

Duties include the daily supervision of a staff of investigators examining the correlation of DNA arrangement and protein expression with tumor identification and progression. M.D., Ph.D., or M.S. degree with 2 to 5 years supervisory experience required.

Laboratory Director—Cytometry

Responsible for the daily supervision of a staff of investigators applying the latest techniques in flow cytometry and image analysis to problems of protein expression and DNA analysis related to tumor diagnosis and progression. M.D., Ph.D., or M.S. degree with 2 to 5 years supervisory experience required.

Mol is an equal opportunity employer.

Graduate Opportunities

In Space Biology

The DIVISION OF BIOLOGY at KANSAS STATE UNIVERSITY is offering an exciting opportunity for you in BIOSERVE SPACE TECHNOLOGIES, A NASA CENTER FOR THE COMMERCIAL DEVELOPMENT OF SPACE. Graduate assistantships, with an annual stipend of $10,200, are being awarded to qualified students for studies that combine interests in SPACE with research careers in BIOLOGY.

Applications are invited for graduate studies in:

- virology & oncology
- microbiology & immunology
- cell & developmental biology
- molecular biology & genetics
- physiology & ecology

Taking Life Sciences to New Heights

For further information write:

BIOSERVE SPACE TECHNOLOGIES
DIVISION OF BIOLOGY - ACKERT HALL
KANSAS STATE UNIVERSITY
MANHATTAN, KS 66506

KSU is an equal opportunity/affirmative action employer.

Provost's Laboratory Safety Officer

The Provost's Laboratory Safety Officer is responsible for formulating needs, policies, and solutions related to health and safety in the academic units of the University. The Provost is Stanford's senior academic officer responsible for the University's teaching and research programs; the Laboratory Safety Officer works on the Provost's behalf to insure implementation of laboratory safety programs throughout the schools and academic departments in ways that best support the conduct of teaching and research at Stanford. The Safety Officer will be a key partner in the planning of academic laboratories and buildings with respect to standards used for hazardous agent containment facilities and equipment, and will be responsible for overseeing implementation of laboratory safety programs and systems within those research laboratories. This is a new position at Stanford, reporting within the Provost's Office to the University's Associate Dean of Research.

QUALIFICATIONS: Advanced degree in a scientific field, preferably related to biology or chemistry; minimum three years of laboratory research experience in a university or comparable environment and demonstrated experience in the management of laboratory safety/industrial hygiene programs; knowledge of health and safety regulations and their applicability within university settings; effective communication skills. Salary to $63K/Y. (depending on yrs. of applicable exp.).

TO APPLY: Please send resume and cover letter highlighting qualifications to: Carol VonderLinden, #49709-SM, 101 Mitchell Bldg., Stanford University, Stanford, CA 94305-2210. An equal opportunity employer through affirmative action.

Stanford University


**POSITIONS OPEN**

**BIOCHEMIST/MOLECULAR IMMUNOLOGIST**

The Department of Biochemistry and Biophysics at Iowa State University invites applications for a tenure-track position. Rank and salary will depend on qualifications. We seek an individual who is highly motivated toward excellence in research and teaching. We are interested in a research program in molecular aspects of the immune system or other macromolecular recognition systems. Applicants must have a Ph.D. or equivalent degree in Biochemistry, Immunology, or a closely related field and must be committed to excellence in teaching. Applicants should send a letter of application, curriculum vitae, and the names, addresses, and telephone numbers of three references to: Dr. Jack Horowitz, Department of Biochemistry and Biophysics, Iowa State University, Ames, IA 50011 by 16 January 1989. Iowa State University is an Equal Opportunity/Affirmative Action Employer. Women, minorities, and other protected groups are encouraged to apply.

**BIOCHEMISTRY FACULTY POSITION IN MOLECULAR BIOLOGY UNIVERSITY OF WISCONSIN—MADISON**

The Biochemistry Department, University of Wisconsin—Madison, invites applications for a position at the assistant, associate or full professor level. We are particularly interested in candidates whose research emphasizes molecular neurobiology. Outstanding individuals in other areas of biochemistry will be considered. Positions will be available to develop a vigorous, independent research program and to participate in the department's undergraduate and graduate teaching programs. Applicants, including curriculum vitae, publication list, summary of creative work and accomplishments, and a statement of future research plans, should be sent to: Professor William S. Reznikoff, Chairman, Department of Biochemistry, University of Wisconsin—Madison, 420 Henry Mall, Madison, WI 53706. In addition, applicants should arrange for three letters of reference to be mailed to the same address. Applications and/or other materials should be received by 1 January 1989. The University is an Affirmative Action/Equal Opportunity Employer. It encourages applications from women and minorities.

**BIOCHEMIST UNIVERSITY OF CINCINNATI COLLEGE OF BIODRUG DEPARTMENT OF DERMATOLOGY**

Department of Dermatology at the University of Cincinnati College of Medicine seeks Ph.D. as postdoctoral fellow/assistant professor for isolation of new cutaneous growth factors in wounds. The applicant should be knowledgeable about HPLC and similar technologies for purification of proteoglycans and/or peptides; and with hormone mechanisms of cell regulation of cell growth. Position immediately available. Submit résumé to: James J. Nordlund, M.D., U.C. College of Medicine, Department of Dermatology, 231 Bethesda Avenue, Mail Location 899, Cincinnati, OH 45267-0592. U.C. is an Equal Opportunity Employer.

**LYNCHBURG COLLEGE IN VIRGINIA**

Lynchburg College seeks modern BIOLOGIST to chair six-person department reivsing curriculum, improving instruction, and planning facilities renovation and addition. Seek individual who can teach microbiology, plus either physiology or cell biology. The position is tenure-track and requires the doctorate. Review of applications will begin in late November and continue until an appointment is made. Lynchburg is a coeducational, liberal arts institution of over 2,200 students, affiliated with the Christian Church (Disciples of Christ). Liberal arts curriculum is general education. Lynchburg is a community of 15,000 people located near the Blue Ridge Mountains, 3½ hours south of Washington, D.C. The city has a diversified economic base, excellent recreation, a mild climate, and many opportunities for recreation. Five colleges enhance its cultural life. Lynchburg College encourages applications from women and from members of minority groups. Please send credentials, including curriculum vitae and names of references, to: Dean of the College, Department of Biology, Lynchburg College, Lynchburg, VA 24501. Equal Opportunity Employer.

**BIOCHEMISTRY, SENIOR FACULTY POSITION**

The Chemistry Department, Wayne State University, is seeking an outstanding individual whose research interests are in a contemporary biochemical area to fill a tenured full professor position. A candidate should have a strong publication record and substantial teaching experience. An excellent publication record and considerable stature in the field are desirable. An attractive, competitive package including excellent research and office space, and research support will be offered the successful candidate. Women and members of minority groups are encouraged to apply. Applications will be accepted until the position is filled. Wayne State University is an Equal Opportunity/Affirmative Action Employer. Women, minorities, and other protected groups are encouraged to apply.

**BIOCHEMISTRY POSITION RHODES COLLEGE**

The Department of Chemistry of Rhodes College invites applications for a tenure-track position with an anticipated appointment in biochemistry for 1989 to 1990. The department currently has seven faculty members and is ACS certified. Candidates should possess a Ph.D. in chemistry with background in biochemistry and have a strong commitment to undergraduate teaching. A successful candidate will be expected to develop an active research program and to participate in the department's undergraduate and graduate teaching programs. The Department of Chemistry is located in a new four-story building near the center of campus. Candidates should send curriculum vitae, publication list, summary of research and teaching experience, and a statement of future research plans to: Dr. Robert Cyriac, Department of Chemistry, Rhodes College, Memphis, TN 38112. Rhodes College is an Affirmative Action/Equal Employment Opportunity Employer and encourages applications from minority and women candidates.

**BIOLOGY (BACTERIOLOGY/MICROBIOLOGY)**

The Department of Bacteriology and Microbiology, University of Texas at Tyler, Texas, invites applications for an ASSISTANT PROFESSOR position at the assistant professor level, Ph.D. required, beginning fall 1989. Teaching responsibilities will include: introductory courses in biology, microbiology, and immunology; and undergraduate and graduate courses in bacteriology. Development of a research program is expected. The successful candidate will be responsible for supervision of thesis research for masters students. A complete resume and three or more letters of recommendation should be received by 10 February 1989. Address inquiries and materials to: Dr. David T. Anderson, Department of Biology, Box 53, University of Texas at Tyler, Tyler, TX 75701.

**BIOLOGICAL SCIENCES: AQUATIC ECOLOGY AND BOTANY**

Two tenure-track positions, ASSISTANT PROFESSOR rank, August, 1989, starting date. The University is committed to the development of a strong program in aquatic ecology and botany, including courses in general and systematics with the major focus on plankton, vascular, and non-vascular plants. Opportunities for cross-listing with other departments are available. Submit letter of application, curriculum vitae, and three letters of recommendation to: Dr. Donald Bruce, Department of Biology, University of Iowa, Iowa City, IA 52242. Faculty positions will be open for the Fall 1989 semester. Application deadline: 1 February 1989. University of Iowa is an Affirmative Action/Equal Opportunity Employer.

**BIOLOGICAL SCIENCES: AQUATIC ECOLOGY AND BOTANY**

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**B OTANY**

To begin August 1989. Instructor/Laboratory Coordinator. Non-tenure appoint- ment. Introductory botany, general botany, plant taxonomy, ecology, and some administrative duties. Greenhouse, herbarium, and plant distribution are integrated into all classes. Offered every semester. Preference given to applicants holding Master's degree minimum. Agnes Scott is a four-year liberal arts college for women in the Atlanta area. Send letter of application, curriculum vitae, three references, and names of at least three references to: Dr. Sandra T. Bowden, Depart- ment of Biology, Agnes Scott College, Decatur, GA 30030. Applications should be received by 5 December 1988.

**CANCER PHARMACOLOGIST**

A tenure-track position at the assistant professor level is open in the Pharmacology Section of the Division of Hematology-Oncology, Department of Medicine, University of Southern California at Childrens Hospital. Candidates will also be considered for a joint appointment in a basic sciences department and will be involved in the Children's Hospital Comprehensive Cancer Center. Excellent laboratory space is available on the pharmacology floor of our new research tower. Candidates should have a Ph.D. in medicinal chemistry or a closely related field and postdoctoral training in cancer pharmacology or molecular biology related to potential anticancer drug discoveries. Research programs include drug metabolism, drug interactions, receptor and enzyme interactions, pharmacological mechanisms, and biological effects. Submit curriculum vitae and names of three references to: Dr. John Holeenberg, M.D., Division of Hematology-Oncology, Children's Hospital Los Angeles, 4650 Sunset Boulevard, Los Angeles, CA 90027. Equal Opportunity Employer.
Search Extended for Director, University Office of Grant and Contract Administration

Yale University is extending its search for an individual to assume responsibility for directing the Office of Grant and Contract Administration in efforts that provide maximum support for researchers in the University community to explore opportunities for external support from non-profit sources.

Responsibilities include developing personal relationships within governmental agencies and foundations and with Yale faculty members to establish an effective interface that will promote identification of where and with whom the greatest interest lies for the research in question and in providing support for it. On behalf of the Provost and the University, will authorize and transmit all proposals to the appropriate agencies and coordinate any action necessary with the Director of Corporate and Foundation Relations in the Development Office or other appropriate University staff.

The selected individual will also be accountable for the management of office staff in the entire process of proposal submission and negotiations to the receipt of an award including insuring compliance with University and grantor/contractor requirements and regulations, and inclusion of appropriate, accurate and complete financial information.

Requirements include a Doctoral degree or equivalent, preferably in natural sciences or engineering; and 3-5 years experience as a program officer in a federal research-supporting agency or as a university faculty member. Significant knowledge/experience in grant and contract administration within the academic sector is highly desirable.

Liberal fringe benefit program includes 1 month vacation, 13 holiday/recess days, comprehensive group health and life insurance, pension plan and tuition assistance.

Forward resume, salary history and salary requirements by Dec. 1, 1988 to: C.E. Parler, Yale University Department of Human Resources, 155 Whitney Ave., P.O. Box 1404, Yale Station, New Haven, CT 06520-1404.

Yale University is an affirmative action, equal opportunity employer.
COGNITIVE SCIENTIST

The Department of Psychology of the University of Minnesota is seeking applications for a tenure-track position in cognitive science, at the assistant professor level. The applicant should have a Ph.D. and demonstrate competence in both computational modeling and empirical research. The individual should be qualified to teach graduate and undergraduate courses in cognitive science and to undertake independently research to create an active research program. Specialized specialization is in the area of computational vision, particularly in the interaction between lower and higher-level vision, but candidates with strong research credentials in other areas of cognitive science are also encouraged to apply. This is a faculty position; 100% time is anticipated during the academic year, with the initial appointment to begin 1 September 1988. Salary is competitive and will depend on the candidate's qualifications and experience. The University of Minnesota is an Equal Opportunity Employer and Educator and specifically invites and encourages applications from women and minorities.

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PROGRAM OF EXCELLENCE IN MOLECULAR BIOLOGY

New Investigator Positions

The National Heart, Lung and Blood Institute of the NIH has awarded the University of Cincinnati Medical Center a “Program of Excellence in Molecular Biology.” The goals of the University of Cincinnati Program are to provide skills development and research opportunities in the molecular biology of heart and lung. Specifically, the Program will concentrate on gene regulation and structure-function analysis of proteins which play a central role in heart and lung. In addition, the role these genes play in human health will be investigated. The skills development program includes a 5 year program, initiating at the postdoctoral level and progressing to junior faculty status in the final years. New Investigators will initially work closely with the sponsor but in the final year will develop a research problem separate from that of the sponsor, and apply for independent funding to enable the Investigator to move to another institution if desired.

We are presently recruiting 12 such individuals with an additional twelve to be added in the second year. Ph.D.s or M.D.s with a strong background in molecular genetics who wish to apply their skills to significant problems of heart and lung or individuals with strong backgrounds in heart and lung who wish to develop molecular genetic tools for continued study of these problems are encouraged to apply. We are particularly interested in recruiting minorities to the Program. Stipends are competitive, beginning at $25,000 per year and moving to $37,000 in final years. The core faculty are:

1. Jerry Lingrel, Ph.D. – Regulation of the Na,K-ATPase genes and RFLP analysis of diseases such as familial hypertension. Identification of the cardiac glycoside binding site using site specific mutagenesis.

2. Jeffrey Whitsett, M.D. – Characterization of lung surfactant proteins and genes.

3. Winston Kao, Ph.D. – Collagen gene expression in the lung.


7. Steven Potter, Ph.D. – Insertional mutagenesis for identifying critical genes in heart and lung development.

8. Arnold Schwartz, Ph.D. – Structure and function of Ca++ channel proteins and gene regulation; isolation of receptors for calcium antagonists.

9. Judith Harmony, Ph.D. – Proteins and genes involved in neutral lipid transfer; the regulation of cell proliferation and differentiation by apolipoproteins.

10. Thomas Doetschman, Ph.D. – Gene targeting in ES cells using homologous recombination. Focus will be on vasculogenesis, angiogenesis and cardiogenesis.

Applicants should submit a C.V. and the names of three references to Jerry B. Lingrel, Ph.D., Director, Program of Excellence in Molecular Biology, Department of Molecular Genetics, Biochemistry and Microbiology, University of Cincinnati College of Medicine, 231 Bethesda Avenue, Cincinnati, Ohio 45267-0524.

Affirmative Action/Equal Opportunity Employer
DIRECTOR
MARY BABB RANDOLPH
CANCER CENTER
WEST VIRGINIA UNIVERSITY

Applications and nominations for the position of Director of the Mary Babb Randolph Cancer Center at West Virginia University, which is currently under construction, will have 43,000 net square feet of space immediately adjacent to the new Ruby Memorial Hospital. West Virginia University is committed to developing a center devoted to excellence in multidisciplinary cancer research, education, and patient care. Both state and federal funding is committed to meet the Cancer Center’s needs.

The Director will be a widely recognized scientific leader in the mainstream of cancer research, care and education. The Director must have proven ability in scientific program planning and administration, and be able to interact effectively with faculty from all segments of the University, health care practitioners, state agencies, elected public officials, and the public. The Director will have responsibility for and authority over all cancer center personnel, facilities, core services, equipment and budgets, and reports directly to the University’s senior vice president for academic programs.

Send curriculum vitae and three references by 1 January 1989 to:

Stephen Wetmore, M.D.
Chairman, Department of Oncology
University Cancer Center Committee
West Virginia University
Morgantown, WV 26506

West Virginia University is an Equal Opportunity Employer.

DIRECTOR OF RESEARCH—The Marie Selby Botanical Gardens. Responsibilities: Coordinate and manage the Gardens’ program of research, edit the Gardens’ research journal (Selbyana), and conduct own research program. Qualifications: strong interest and background in tropical botany, including doctoral degree, research publications and tropical field experience. To apply: Send curriculum vitae, with references to:
The Executive Director
Selby Botanical Gardens
811 South Palm Avenue
 Sarasota FL 34236

ECOLOGY/POPULATION BIOLOGY. Applications are sought for two TENURE-TRACK POSITIONS, the first in plant population biology and the second in cell/molecular biology or terrestrial ecosystem ecology. Successful candidates will be expected to establish outstanding teaching and research programs. Each will include an introductory course in ecology or evolution, and an advanced undergraduate course in alternate years. Both individuals will be encouraged, in addition, to offer a graduate-level course or seminar in their area of specialization. It is expected that both positions will be filled at the rank of assistant professor, though an exceptional candidate with appropriate experience for one of the two positions may be considered for appointment at a higher level. The positions will be available in September 1989. We will start reviewing applications after 31 December 1988. Applicants should send curriculum vitae, copies of representative publications, a statement of teaching interests and experience, and a description of research plans. They should also make arrangements to have three letters of recommendation sent to: Dr. Paul Feeny, Chairman, Section of Ecology and Systematics, Division of Biological Sciences, 1485 Cornell Hall, Cornell University, Ithaca, NY 14853–2701.

Cornell University is an Affirmative Action/Equal Opportunity Employer.

ENDOCRINE ASSAY LABORATORY MANAGER—Position available immediately for experienced endocrine technician (B.S./M.S.) with management experience. Located in rural Piedmont of Blue Ridge Mountains. Duties include personnel supervision, budgetary management, development and implementation of technol- ogy and quality control. Experience with immunoassay, radioimmunoassay, steroid technology, ligand binding as- says, and hormone receptor assays. Contact: Dr. Don Korit- nik, Department of Comparative Medicine, Bowman Gray School of Medicine, 300 South Hawthorne Road, Winston-Salem, NC 27103. Affirmative Action/Equal Opportunity Employer.

ENVIRONMENTAL HEALTH

The Program in Social Ecology at the University of California, Irvine, is recruiting for an ASSISTANT PROFESSOR, tenure-track, position in the area of environmental health. Ph.D. in environmental sciences, organic chemistry, molecular genetics, or biochemistry is preferred with experience in laboratory of field research related to environmental health sciences. Ability to teach statistics and environmental testing methodology is desirable. Please send cover letter, curriculum vitae, and names of three references to: Dr. Betty H. Olson, Environmental Health Department, 261 Social Science, Social Ecology, University of California, Irvine, CA 92717, by 15 January 1989. UC is an Equal Opportunity Employer/Affirmative Action Employer.

EVOLUTIONARY BIOLOGIST

The Department of Biology at the University of Houston seeks to fill tenure-track positions at the assistant or associate professor level within the Evolutionary Biology Program. Successful candidates are expected to develop national or international graduate training programs. We are especially interested in the area of molecular evolution but actively solicit a wider range of candidates. In addition to a Ph.D. in an area relevant to the position, candidates are expected to have a distinguished record of research, teaching and service in the area of evolutionary biology. The University of Houston is an Affirmative Action/Equal Opportunity Employer.

EVOLUTIONARY BIOLOGIST

The Department of Biology at the University of California at Berkeley expects to make an appointment at the assistant, tenured associate, or full professor level, effective 1 September 1989, pending budgetary approval. We encourage applications from both experimentalists and theorists in a broad range of fields, including developmental biology, evolutionary biology, molecular biology, anatomy, neurobiology, and genomics. We are particularly interested in candidates with evidence of ability to make significant contributions in a broad range of fields, including developmental biology, systematics, and genomics.

Applications should consist of curriculum vitae, a description of research, teaching, and service activities, and three letters of recommendation. Mailing address to: Dr. Martin Nowak, Chairman, Department of Evolutionary Biology, University of California at Berkeley, Berkeley, CA 94720, by 15 February 1989. The University of California is an Equal Opportunity/Affirmative Action Employer.

FACULTY OPENING IN PHYSICS—UNIVERSITY OF CALIFORNIA AT BERKELEY

The Department of Physics at the University of California at Berkeley expects to make an appointment at the assistant, tenured associate, or full professor level, effective 1 September 1989, pending budgetary approval. We encourage applications from both experimentalists and theorists in a broad range of fields, including developmental biology, evolutionary biology, molecular biology, anatomy, neurobiology, and genomics. We are particularly interested in candidates with evidence of ability to make significant contributions in a broad range of fields, including developmental biology, systematics, and genomics.

Applications should consist of curriculum vitae, a description of research, teaching, and service activities, and three letters of recommendation. Mailing address to: Dr. Martin Nowak, Chairman, Department of Evolutionary Biology, University of California at Berkeley, Berkeley, CA 94720, by 15 February 1989. The University of California is an Equal Opportunity/Affirmative Action Employer.

FACULTY POSITION—BIOCHEMISTRY

CARLETON COLLEGE

The Department of Biology of Carleton College invites applications for a 1-year, non-renewal position. Teaching responsibilities will include biochemistry and associated laboratory, cell/molecular physiology, a seminar in the candidates research specialty and participation in a 1-year, non-renewal position. The position is expected to be available from 1 September 1989. Interested candidates should send curriculum vitae, transcripts, and letters of recommendation by 15 January 1989 to: Dr. John Tymoczko, Department of Biology, Carleton College, Northfield, MN 55057–4025. Carleton College is an Equal Opportunity/Affirmative Action Employer.
ASSISTANT PROFESSOR

The Dept. of Anatomy, Temple University School of Medicine, has a tenure track position available at the Assistant Professor level with an anticipated starting date of July 1, 1989.

The successful candidate will be expected to establish and support an active research program, using modern approaches to study contemporary biological issues, and to participate initially in teaching histology to medical students. Although no specific research experience is required, research strengths in the Department include cell, developmental, reproductive, radiation, bone and neurobiology. Applicants should have a PhD or MD degree, teaching experience in the anatomical sciences, post doctoral training, and a continuous record of research accomplishments. Persons interested in applying for the position, should send a detailed curriculum vitae, which includes a statement of research plans and the extent of exposure to Anatomical Sciences, and the names and addresses of three references by December 15, 1988 to Dr. Mark M. Black, Chairperson, Recruitment Committee, Dept. of Anatomy, Temple University School of Medicine, 3400 N. Broad St., Phila., PA 19140.

Temple is an affirmative action, equal opportunity employer.

Tissue Culture Scientists

CIBA-GEIGY’s Agricultural Division has excellent opportunities for multi-faceted scientists in our genetic engineering and crop improvement program. Long recognized as one of the world’s foremost producers of crop protection chemicals, we have made a major commitment to expanded biotechnology research at our new facility in Research Triangle Park, NC.

The scientists we seek will assist in the development and engineering of plants using a variety of techniques such as callus, suspension and protoplast cultures, as well as plant regeneration and transformation.

A BS or MS in plant science or a related field is required, as is 2-5 years of lab experience. Preference will be given to candidates with experience in one or more of the following areas:

- Microinjection
- Cereal tissue culture
- Protoplast culture and transformation

You will find that CIBA-GEIGY offers exceptional career support and advancement opportunities, as well as a competitive salary and generous company-paid benefits. Please forward your resume, including three letters of professional reference, in confidence, to: CIBA-GEIGY Corporation, Agricultural Division, Dr. Mary Dell Chilton, P.O. Box 12257, Research Triangle Park, NC 27709. We Are An Equal Opportunity Employer M/F/H/V.

Science Serving Mankind

CIBA-GEIGY

Request For Applications

Cystic Fibrosis Research Grants for

NIH-APPROVED

BUT

UNFUNDED APPLICATIONS

The Cystic Fibrosis Foundation (CFF) announces the availability of funding for highly meritorious applications that have been submitted to and approved by the National Institutes of Health (NIH) but remain unfunded.

This new CFF research grant offers support for outstanding CF-related research projects until NIH or other agency funding can be obtained. The program recognizes the need for support of excellent projects that fall below the NIH’s cut-off scores but that may contribute to the understanding of cystic fibrosis.

Applications must meet the following criteria:

- The project must have been reviewed by an NIH study section and presented to an institute council within 12 months of application to this program;
- The application must fall within the 50th percentile, with a maximum scientific score of 250;
- The application must be clearly relevant to cystic fibrosis;
- The applicant must not have received other funding for this work.

A maximum of $75,000 in annual support will be available for up to two years. Support will be terminated upon award of funds from the NIH or other agency.

Applications are being accepted on a continuing basis. Investigators are encouraged to contact the Foundation to discuss the potential relevance of their work. For more information, contact Robert J. Beall, Ph.D., Executive Vice President for Medical Affairs, at the:

Cystic Fibrosis Foundation

6931 Arlington Road
Bethesda, MD 20814
(301) 951-4422
FACULTY POSITION AT THE MOLECULAR BIOLOGY INSTITUTE UNIVERSITY OF CALIFORNIA, LOS ANGELES

A tenure-track position is available at the assistant professor level for a molecular biologist who uses structural, biochemical, and computational approaches to study fundamental problems in biology. The individual will have the opportunity to interact with and complement existing groups in macromolecular structure and function, cell and developmental biology, and neurobiology. Please send resume, a statement of research and teaching interests, and three letters of reference by 15 December 1988.

Molecular Biology Search Committee

FACULTY POSITION IN BIOLOGY: Applications are invited for a tenure-track position, assistant professor rank, beginning August 1989. Primary responsibility will be to develop a Research Laboratory to majors and non-majors. Applicants must have the Ph.D. degree and strong training in teaching and research interests related to experimental methodology. Evidence of effective teaching will be strongly considered. Subject to final budget approval, an assistant professorship will be available in basic science with names and addresses of three references by 15 January 1989 to: Dr. Luccket V. Davis, Chair, Biology Department, Winthrop College, Rock Hill, SC 29733. Winthrop is an Equal Opportunity/Affirmative Action Employer.

FACULTY POSITION IN BIOCHEMISTRY/NEUROSCIENCE

Twelve-month, tenure-track appointment. Responsibilities include baccalaureate and graduate level teaching, research, and service. Opportunity to interact with bioengineering and conduct research in laboratory equipped for measurement in EMMAQUE, X-ray, and ground reactions; analyses via computer and on-line imaging system. Minimum requirements are 3 years of clinical experience, licensure or eligibility in Kentucky, and a Ph.D. Opportunity to work clinically, in Outpatient University Hospital rehabilitation center. Applications will be accepted until position is filled. Send letter of application, curriculum vitae, and names of three references to: Dean P. Currier, P.T., Ph.D., Division of Physical Therapy Department of Allied Health Sciences University of Kentucky Medical Center Annex 003 Lexington, KY 40536-0079Equal Opportunity Employer.

FACULTY POSITIONS IN MOLECULAR BIOLOGY, BIOCHEMISTRY, CELL BIOLOGY

The Department of Dermatology at Case Western Reserve University and University Hospitals of Cleveland has established the Skin Diseases Research Center of Northeast Ohio. To build a leading center for research and education in skin disease, we are planning a major expansion of our research programs by recruiting new investigators and expanding our facilities. It is hoped that individuals with an interest in joint appointment in both Department of Dermatology as part of the Center's interdisciplinary approach to biomedical research. Several junior and senior tenure-track faculty positions are available for Ph.D. or M.D. candidates with strong biomedical research programs in molecular biology, biochemistry and/or cell biology as applied to the skin. Special expertise in protein structure/function, immunomodulation, photobiology and carcinogenesis is desirable.

Submit curriculum vitae, statement of research interests, names and addresses of three references and selected reprints to: David R. Bickers, M.D., Director, Skin Diseases Research Center, Case Western Reserve University, 20746 Abington Road, Cleveland, OH 44106.

CWRU is an Equal Opportunity/Affirmative Action Employer.

FACULTY POSITION IN BIOCHEMISTRY

The Chemistry Department, Wayne State University, is seeking to fill a tenure-track position in biochemistry at the assistant professor level. Candidates will be expected to establish an active laboratory that complements the existing faculty and to teach in the departmental curriculum. Women and minority candidates are especially urged to apply. The department is very well equipped with modern instrumentation, including the automated DNA sequencing, fortification, high field NMR, mass spectrometry, X-ray crystallography, and an array of equipment for macromolecular modeling. Successful applicants will participate in the University Centers for Molecular Biology, Chemical Toxicology, and the Comprehensive Cancer Center. Applicants must have a Ph.D. and postdoctoral experience is strongly preferred. Senior curriculum vitae, copies of research summary, and three letters of recommendation to: Dr. Richard L. Lintvedt, Chairman, Department of Chemistry, Wayne State University, Detroit, MI 48202. Wayne State University is an Equal Opportunity/Affirmative Action Employer.

FACULTY POSITION IN THEORETICAL CHEMISTRY AT IOWA STATE UNIVERSITY

Applications and nominations of candidates are invited for a faculty position in any area of theoretical chemistry to begin Fall 1989. Each candidate will participate in a new center involving chemical biology, and cellular and molecular techniques. In addition, the applicant should be able to teach college biology and general chemistry as the need arises. Appointment anticipated at rank of assistant professor. Salary will be competitive and dependent upon qualifications. An earned doctorate as well as demonstrated competence in teaching and research is required. Applications should be submitted by 10 January 1988 to: Dr. Werner, Department of Chemistry, University of Iowa, Iowa City, IA 52242. The University of Iowa is an Affirmative Action/Equal Opportunity Employer.

FACULTY POSITION IN MOLECULAR BIOLOGY MILLERSTOWN UNIVERSITY

The Biology Department invites applications for a tenure-track position starting August, 1989. Principal responsibility will be teaching cellular biology and molecular techniques. In addition, the applicant should be able to teach cell biology and general biology as the need arises. Appointment anticipated at rank of assistant professor. Salary will be competitive and dependent upon qualifications. An earned doctorate as well as demonstrated competence in teaching and research is required. Applications should be submitted by 10 January 1988 to: Dr. C. E. Heptner, Chair, Biology Search Committee, Department of Biology, SC 11-11, Millersville University, Millersville, PA 17551. Review of applications will begin 1 December 1988, and continue until the position is filled. Millersville University is an Equal Opportunity/Affirmative Action Employer.

DARTMOUTH COLLEGE FACULTY POSITIONS

Thayer School of Engineering is expanding and is seeking new faculty in the following areas: Electro-optics, materials science/solid state physics, mechanical engineering, and materials processing. The successful candidate will be an expert in one of the following areas: transport phenomena, computational mechanics (solid mechanics), geosciences (groundwater or computational fluid dynamics), manufacturing (senior level endowed chair), and computer engineering (senior level endowed chair). For more information or to apply (submit résumé and names of three references), write to: Dr. Carol B. Muller, Assistant Dean, Thayer School of Engineering, Dartmouth College, Exeter, NH 03832. Review of applications will begin 15 November 1988. Dartmouth College is an Equal Opportunity/Affirmative Action Employer and encourages applications from women and members of minority groups.

MAYO CLINIC FACULTY POSITIONS IN CANCER RESEARCH

The Department of Oncology invites applications for two faculty members open at any rank. Candidates with expertise in cell molecular biology, biophysics, or immunopathology interested in working in a multidisciplinary program directed toward the molecular characterization, screening and detection of cancer markers. Joint appointments in other departments as appropriate. Please send curriculum vitae and names of three references to: Matthew H. Hepfer, M.D., Director, Oncology Search Committee, Department of Oncology, Mayo Clinic, Guggenheim 4, Rochester, MN 55905. An Equal Opportunity/Affirmative Action Institution.

FIELD BIOLOGY (two temporary positions)— Middlebury College. One-year leave replacements in Ecology and in Vertebrate Biology for INSTRUCTORS OR BEGNNING ASSISTANT PROFES- SORS. The ecologist will be responsible for an introduc- tory lecture/laboratory course in general ecology required of majors, and an advanced course in course in ecology and an advanced seminar of her or his own choosing. The field biologist will be responsible for an intermediate lecture/laboratory course in vertebrate biol- ogy, an advanced vertebrate system course and an advanced seminar. Either candidate might offer an introductory course in population genetics and evolution, in lieu of one currently being offered. Both positions begin in Fall 1989 and also be active in research and committed to excellence in under- graduate biology education. Ph.D. or ADB required. Send resume, copies of publications, and three recom- mendations to: Dr. C. W. Watters, Middlebury College, Middlebury, VT 05753. Phone: 802-388-3711, extension 5433. An Equal Opportunity Employer.
JUNIOR RESEARCH BIOCHEMIST

Merck Sharp & Dohme Research Laboratories, a world leader in the development of ethical pharmaceuticals for human and animal health, is currently offering an excellent career opportunity for a biochemist to join the Department of Fermentation Microbiology in a junior research position.

The position will require a M.S. degree or B.S. plus two or more years of biochemical experience and will entail supervised research into the enzymology and intermediary metabolism of polyketide-producing Actinomycetes. Experience with HPLC, FPLC and enzyme assay and purification would be especially helpful.

Salary and benefits are excellent. Our location is Rahway, New Jersey, 25 miles from New York City. Interested applicants should submit a resume to Ms. Dolores Barefield, Merck Sharp and Dohme Research Laboratories, P.O. Box 2001, WBD-362, Rahway, New Jersey 07065.

EQUAL OPPORTUNITY EMPLOYER

RESEARCH AND DEVELOPMENT OPPORTUNITIES IN THE UK

Amersham International, a world leader in immuno-diagnostic products, is aggressively expanding its research and development efforts particularly in the area of infectious diseases and is seeking the creative and managerial scientific talent to make this happen.

Due to ambitious goals for its Diagnostic Products Division, the company has begun a worldwide search for British nationals, who wish to return to the U.K., as well as for Americans, who desire to relocate abroad, to fill a number of bench research and scientific management positions. The scientists we seek possess degrees in a life science discipline (doctorates are an asset) and several years of industrial experience in the research and development of immuno-diagnostics ideally in infectious disease testing. Appropriate post-doctoral experience in academia or in the hospital sector may partially substitute. Experience using a multi-disciplinary approach to solving research problems is desirable.

Amersham International can offer you a challenging opportunity in the UK within a fast-paced expanding environment where creativity and innovation are recognized. In addition we are offering a competitive starting salary and a relocation package. Please submit your curriculum vitae with your salary requirements to:

Human Resources (CLB)
Amersham Corporation
2636 S. Clearbrook Drive
Arlington Heights, IL 60005-4692
Equal Opportunity Employer, M/F/V/H

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Equal Opportunity Employer, M/F/V/H
GROUP LEADER/BIO SCIENCES. Establish and maintain a capability for research in molecular biology, recombinant DNA and microbial genetics; to use these techniques to develop novel microbial strains for improved phenylalanine production and potential new products. Specifically, to bring special skills in microbial genetics, biochemistry, and coordinate activities of the other group members; generate, evaluate and implement new projects; establish and maintain links with other groups in the Company and serve as a channel of communication with higher management. Ph.D. in bacteriology or microbiology required together with 1 year and 6 months of experience in the job offered or 1 year and 1 year of related experience as a research associate or scientist. The required experience must involve the conduct of research and development in the production of phenylalanine by constructing bacterial strains having functional genetic modifications specific for improved amino acid biosynthesis. Forty hours: Monday/Friday; 9 a.m. to 5 p.m., $58,000 per year. Send curriculum vitae and three letters of recommendation to: M. E. Anstead, Chair, Committee, Group Leader/Bio SCIENCES Department of Employment Security, 401 South State Street—3 South, Chicago, IL 60605, Attention: Mr. Robert S. Felton, Reference # V-116 8261-F. An Employer paid ad.

HEAD DEPARTMENT OF PATHOLOGY
Texas A&M University, College of Medicine, College Station, Texas, is searching for a replacement for the retiring Head of the Department of Pathology and Laboratory Medicine. The Department is a member of the College of Medicine and invites applications for a tenure-track position as assistant professor to begin in August 1989. A Ph.D. is required, and teaching experience is preferred. The successful candidate will be expected to maintain upper level, undergraduate courses in general genetics with lab, including some genetics human, and introductory techniques in recombinant DNA. The candidate will also serve as undergraduate研究 assistant and mentor undergraduate students. Albinon College encourages applications from female and minority candidates. Send letter of application, current curriculum vitae, transcripts, and three letters of recommendation to: Dr. Geoffrey C. Carrier, Chair, Biology Department, Albion College, Albion, MI 49224. Deadline for applications is 1 December 1988. Albion College is an Equal Opportunity Employer.

HUMAN GENETICIST
The Department of Molecular Genetics, Biochemistry, and Microbiology is searching for a human geneticist, particularly an individual who is currently interested in genetic diseases affecting the cardiovascular system. The appointment is in the tenure-track and can be at any level. Generous space and start-up monies are available. The current department has 44 faculty and 50 graduate students and maintains core facilities in tissue culture, DNA technology and transgenic mice. Interested applicants should submit their curriculum vitae, a short write-up of their anticipated research, and names of three individuals who can be contacted to judge their abilities to: Dr. Jerry B. Lingrel, Ph.D., Professor and Chair, Molecular Genetics, Biochemistry and Microbiology, University of Cincinnati College of Medicine, 251 Bethesda Avenue, Cincinnati, OH 45267—0624. The University of Cincinnati is an Equal Opportunity/Affirmative Action Employer.

NEURON TOPOLOGY/MORPHOLOGY
Tenure-track ASSOCIATE/ASSOCIATE PROFESSOR, Ph.D. OR D.V.M. IN NEUROPHYSIOLOGY/MORPHOLOGY, including molecular approaches. Appointee will conduct independent research, teach insect morphology, and participate in editorial group publishing. Send curriculum vitae and names of five references to: Dr. T. L. Payne, Department of Entomology, Virginia Polytechnic Institute and State University, Blacksburg, VA 24061, by 15 January 1989. An Equal Opportunity Employer.

IMMUNOLOGIST—VIROLOGIST
The Department of Biologic Sciences at Wright State University invites applications for a tenure-track assistant professor. A Ph.D. with specialties in immunology, virology, and/or molecular biology is required. The candidate should be an active researcher, with expected publication record, and other accomplishments. Send curriculum vitae including transcripts and three letters of recommendation to: Dr. W. C. Austin, Chairman, Box 130035, SFA: Nacogdoches, TX 75962. An Equal Opportunity/Affirmative Action Employer.

INTERNATIONAL MEDICINE: Positions as ASSISTANT, ASSOCIATE OR PROFESSOR level available in Allergy/Immunology, Rheumatology, Endocrinology/Metabolism, Nephrology, Hematology/Oncology, and Epidemiology/AIDS. Locations: Los Angeles County/County/County. Charles R. Drew University of Medicine and Science/UCLA School of Medicine. Applicants must be eligible to practice medicine and have demonstrated academic excellence. Please send curriculum vitae and three references to: M. Thadeoulli, M.D., Internal Medicine, King's County Medical Center, 12021 South Williamson Avenue, Los Angeles, CA 90059, Telephone: 213-603-4574. Affirmative Action/Equal Opportunity Employer.

JUNIOR FACULTY POSITIONS available in the Pharmacology and Developmental Therapeutics of anti-neoplastic agents targeted for specific human cancer types. Candidates should have the Ph.D. degree with a minimum of 3 years of postdoctoral experience in a related field. The two positions are:
1) Colon adenocarcinoma. The biochemistry and pharmacology of modulation of antimetabolites with thymidylate synthase as the primary target. Studies will focus on biochemical and pharmacological approach toward reduced folate pools and to optimize drug scheduling for therapeutic gain. Research will also identify factors that influence the regulation and expression of the thymidylate synthase in elucidating the importance of the enzyme as a therapeutic target.
Applicant should have a Ph.D. A. Houghton, Salary negotiable.
2) Pediatric rhabdomysarcoma. Drug targeting against differentiation antigens in tumors of skeletal muscle. This will involve the molecular cloning of differentiation antigens together with their identification and characterization, and targeting drugs against appropriate antigens in vitro and in vivo using antibodies as carriers. Apply: Dr. J. Houghton, Salary negotiable.
Send curriculum vitae and names of three references to: Laboratories for Developmental Therapeutics, Department of Pharmacology, St. Jude Children's Research Hospital, 332 North Lauderdale, Memphis, TN 38101. Equal Opportunity/Affirmative Action Employer.
positions open

the university of sydney
australia

school of biological sciences

lectureship in plant sciences—ref. no. 40/01:
preference may be given to suitable qualified applicants with interests in fungal biology or cryptogamic botany.

lectureship in animal biology—ref. no. 40/02:
preference may be given to suitably qualified applicants with interests in the physiology of terrestrial vertebrates.

general: appointments to lectureships have the potential to lead to tenure and are usually probationary for 3 years. with the approval of the university staff with the rank of lecturer and above may undertake limited consulting work. the university reserves the right not to proceed with an appointment for financial or other reasons.

salary: a$29,842 to a$38,932 per annum.

applications, quoting reference number and including curriculum vitae, list of publications and the names, addresses, and fax numbers of three references, to: the registrar, staff office, university of sydney, new south wales 2006 australia (or fax: 61-692-4316) by 25 novem-

equal employment opportunity is university policy.

molecular biologist: associate or full professor.
carthage college is seeking an experienced molecular biologist who is dedicated to both excellent undergraduate teaching and research and who is willing to accept the challenge of integrating molecular biology into what has been a more traditional program in the biological sciences. this is a tenure-track appointment at the successful person with a ph.d. degree who is enthusiastic about working closely with undergraduates and sharing research expertise with them in the setting of a small liberal arts college.

three letters of recommendation to: search com-
mite, c/o dr. evelyn crump, biology department, carthage college, kenosha, wi 53141. closing date is 15 december 1988. carthage is an equal opportunity employer.

positions open

yale university/metamorphic petrology.

the department of geology and geophysics invites applications for a junior faculty appointment in the topic area of metamorphic petrology. we are partic-
ularly interested in field-based studies of regional-scale metamorphism. examples of research areas include the tec-tonic evolution of metamorphic belts, fluid and heat flow during metamorphism, physico-chemical and kinetic constraints on the history and evolution of metamorphic rocks, and the chronology of metamorphic events.

the appointment will complement existing programs in stable isotope geochemistry, diagenesis, reaction kinetics, genesis of mineral deposits, fluid-rock interactions, tec-tonics of convergent margins, and processes of granitic magmatism.

applicants should submit a letter of application, cur-
rriculum vitae, publications, and the names and addresses of at least three references to: dr. barry saltzman, chairman, department of geology and geophysics, yale university, p.o. box 6666, new haven, ct 06520. completed applications must be received by 1 march 1989.

yale university is an equal opportunity/affirmative action employer.

positions open

medical director, immunopathology.

associate professor/professor level; college of medi-
cine at suny health science center at syracuse (uni-
versity hospital position). applicants should be board-certified in anatomic, clinical or anatomic/clinical pathol-
ogy, or have equivalent qualifications.

applicants should have advanced training in immunology/immunopathology and have research and teaching experience. responsibilities include supervi-

sion of immunology laboratory, close affiliation with clinical services, collaborative research involvement and teaching. applications accepted through 31 december 1988.

yale university is an equal opportunity/affirmative action employer.

computational biologist

the biological and chemical data department of merck sharp & dohme research laboratories is seeking highly talented indi-

viduals with a background in biochemistry and/or molecular biology who have an interest in (1) applying computer technology to problems of storing, querying, and linking biological and chemical data and (2) using computer technology to analyse molecular biological data. vacancies presently exist in each of these areas.

the successful candidate for position (1) should have a b.s./m.s. or equivalent in a biological science with 2 to 3 years of experience and should have knowledge of the fundamentals of computer programming in a vax environment. experience with rsa and oracle is desired.

for position (2), located in west point, pa, the successful can-
didate should have a ph.d. or equivalent in biochemistry, molecular biology, or microbiology or a lesser degree with appro-

priate experience and should have knowledge of molecular biology software such as intelligenetics or the university of Wisconsin package.

both positions require excellent interpersonal skills and require extensive interactions with other computer professionals and scientific researchers. teaching experience is desired.

merck is noted for its professional environment, excellent salaries and outstanding benefit program. to explore these oppor-
tunities please forward credentials with salary history in confidence to: dr. van etten, merck & co., inc., p.o. box 351, freddericks-
burg, va 22401-3538. equal employment opportunity/affirmative action employer.
NEUROBIOLOGIST AND DEVELOPMENTAL BIOLOGIST

Applications are invited for two tenure-track faculty positions to begin August, 1989. We anticipate the possibility of filling one position at the DEPARTMENTAL LEVEL and one at the ASSISTANT PROFESSOR level. Requirements include the Ph.D. and the ability to teach introductory or full professor level courses. Responsibilities include teaching introductory and specialty courses at undergraduate and Master's levels, conducting extramurally funded research, and fulfilling service/leadership responsibilities. To apply submit curriculum vitae, three letters of support, and a statement of teaching philosophy and research plans. For chairperson, also summarize your vision of the academic mission. Send to: Biology Search Committee Chairperson, Department of Biological Sciences, c/o Office of Human Resources Management, Duquesne University, Pittsburgh, PA 15282.

An Equal Opportunity/Affirmative Action Employer.

NEUROBIOLOGISTS. Department of Anatomy and Neurobiology has two tenure-track positions at the assistant or associate professor level. Candidates with expertise in experimental neuroendocrineology and molecular cellular biology are especially encouraged to apply. Responsibilities include teaching undergraduate and graduate courses and addressing problems in neuroendocrinology and reproductive neuroendocrinology. Excellent opportunities exist for research collaboration with several neuroendocrinology laboratories. Successful candidates are expected to develop independent research programs and compete for extramural funding. Send curriculum vitae and a statement of research interests to one of the chairs.

The person appointed will participate in graduate and professional teaching. Interested individuals should submit curriculum vitae and names of three references to:

Neuroscience Search Committee Department of Physiology University of California San Francisco, CA 94143-0444

Applications and letters should be received by 1 January 1989. UCSF is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.

POSTDOCTORAL fellow in ANTIHEMORRHEIC AND ANTIALLERGIC DRUG DISCOVERY, IMMUNOLOGY, and/or IMMUNOCHEMISTRY

Molecular pharmacology of anti-inflammatory and immunosuppressive agents for use in cardiovascular disease, immune system hypertension, and atopic dermatitis. You will work in a vibrant drug discovery group. Applicants should have completed a Ph.D. degree, have a record of outstanding research with the potential for excellence and originality of research. Although we welcome applicants in any area of neuroscience, we are particularly interested in candidates with expertise in computational approaches. The person appointed will participate in graduate and professional teaching. Interested individuals should submit curriculum vitae and names of three references to:

Neuroscience Search Committee Department of Physiology University of California San Francisco, CA 94143-0444

Applications and letters should be received by 1 January 1989. UCSF is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.

POSTDOCTORAL FELLOW in NMR PHYSIOLOGY

We are seeking a postdoctoral fellow to work in our laboratories on the development and application of new techniques for low-field NMR physiology. Experience in low-field NMR should be included in the candidate's background. A Ph.D. degree and a strong background in biochemical and biophysical research are required. The candidate will work closely with a team of scientists and will be responsible for developing new techniques for physiological measurement. The candidate will be expected to publish research results in peer-reviewed journals. A Ph.D. degree and experience in low-field NMR are required. Send curriculum vitae and a letter describing experience with NMR to:

Dr. David Goldman, Associate Professor, Department of Physiology, Children's Hospital of Philadelphia, 34th Street and Civic Center Boulevard, Philadelphia, PA 19104.

Applications are considered on an ongoing basis. Women and minorities are encouraged to apply.

POSTDOCTORAL FELLOW in MOLECULAR IMMUNOLOGY

We are seeking a postdoctoral fellow to work in our laboratories on the development and application of new techniques for low-field NMR physiology. Experience in low-field NMR should be included in the candidate's background. A Ph.D. degree and a strong background in biochemical and biophysical research are required. The candidate will work closely with a team of scientists and will be responsible for developing new techniques for physiological measurement. The candidate will be expected to publish research results in peer-reviewed journals. A Ph.D. degree and experience in low-field NMR are required. Send curriculum vitae and a letter describing experience with NMR to:

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Applications are considered on an ongoing basis. Women and minorities are encouraged to apply.

POSTDOCTORAL FELLOW in MOLECULAR IMMUNOLOGY

We are seeking a postdoctoral fellow to work in our laboratories on the development and application of new techniques for low-field NMR physiology. Experience in low-field NMR should be included in the candidate's background. A Ph.D. degree and a strong background in biochemical and biophysical research are required. The candidate will work closely with a team of scientists and will be responsible for developing new techniques for physiological measurement. The candidate will be expected to publish research results in peer-reviewed journals. A Ph.D. degree and experience in low-field NMR are required. Send curriculum vitae and a letter describing experience with NMR to:

Dr. David Goldman, Associate Professor, Department of Physiology, Children's Hospital of Philadelphia, 34th Street and Civic Center Boulevard, Philadelphia, PA 19104.

Applications are considered on an ongoing basis. Women and minorities are encouraged to apply.
DIRECTOR
CARdiovascular/PULMONARY RESEARCH institute

Deborah Research Institute has a position available for Ph.D. with broad research experience to serve as Scientific Director of our cardiovascular and pulmonary institute. The successful candidate should have experience with myocardial protection, new perfusion methods, left-ventricular assist devices, laser surgery, heart transplantation research or valve and blood vessel transplantation research.

In addition, the candidate will be able to bring about a balance between basic and clinical research, as well as direct efforts in extramural grant writing, grant distribution and the direction and planning of the scientific activities of our institute.

We adjoin Deborah Heart and Lung Hospital. For confidential consideration, please forward your resume to:

Chairman of the Board

DEBORAH RESEARCH INSTITUTE
Trenton Road
Browns Mills, NJ 08015
Equal Opportunity Employer

POSTDOCTORAL FELLOWSHIPS
in MOLECULAR BIOLOGY
Howard Hughes Medical Institute
at The University of Chicago

Postdoctoral positions are available for study in the following areas:


2. The function and regulation of heat shock proteins. Utilizing genetic, molecular and immunological methods to study heat shock gene regulation at the level of translation and RNA splicing and to investigate the molecular functions of the major hsps in Saccharomyces cerevisiae and Drosophila melanogaster.

Applicants should submit a curriculum vitae and names of three references to:

(1) Dr. Elaine Fuchs or
(2) Dr. Susan Lindquist
Howard Hughes Medical Institute
Department of Molecular Genetics and Cell Biology

THE UNIVERSITY OF CHICAGO
Chicago, IL 60637

The Howard Hughes Medical Institute is an Equal Opportunity/Affirmative Action Employer.

TOXICOLOGIST
Regulatory Safety Studies

COMMitted TO SCIENTIFIC EXCELLENCE

The Sterling Research Group, the worldwide pharmaceutical research and development organization of Sterling Drug Inc., announces openings for a Senior Research Biologist in the Toxicology Department at its Rensselaer, New York facility.

Our expanding Drug Safety Evaluation Group is seeking a Toxicologist with 4–6 years experience in conducting regulatory safety studies. Experience with the safety evaluation of diagnostic imaging agents is highly desirable, but not mandatory. The successful candidate will have a Ph.D. in toxicology, pharmacology or a related discipline and be diplomate of the American Board of Toxicology or board eligible.

The Rensselaer facility is located in upstate New York near Albany, a center for summer and winter recreational activities. Sterling offers attractive salary and benefit programs and an exciting work environment based on a project team approach to research and development.

Please send resume including salary requirements in confidence to:

Mr. William F. Sheldon
Employment Manager

STERLING RESEARCH GROUP
A Division of Sterling Drug Inc.
Columbia Turnpike
Rensselaer, New York 1214
A Subsidiary of the
EASTMAN KODAK COMPANY
An Equal Opportunity Employer M/F/H/V

Research Opportunities in X-Ray and UV Radiation

The National Synchrotron Light Source (NSLS) at Brookhaven National Laboratory is a dedicated synchrotron radiation user facility with two electron storage rings. The NSLS X-ray ring operates at 2.5 GeV providing an intense photon source from 1 keV to 20 keV. The UV ring operates at 750 MeV to optimize radiation at energies from 10 eV to 1 keV. Beam time is available without charge to users. Proprietary work can also be done on a full cost recovery basis.

Experimental facilities using numerous research techniques are available for scientists wishing to conduct experiments. Among the techniques are EXAFS (extended X-ray absorption fine structure), scattering, diffraction, topography, fluorescence, lithography, microscopy, gas phase spectroscopy, photoemission, circular dichroism, and infrared vibrational spectroscopy.

Scientists interested in utilizing existing facilities or in establishing new research programs at the NSLS should contact: Michael L. Knotek, Chairman National Synchrotron Light Source Department, Building 725, Brookhaven National Laboratory, Associated Universities, Inc., Upton, Long Island, NY 11973. (516) 282-4966. Equal Opportunity Employer m/f.

BROOKHAVEN NATIONAL LABORATORY
ASSOCIATED UNIVERSITIES INC.
POSTDOCTORAL POSITION available in a new program project involving the molecular analyses of hemoglobinopathies. Applicant should have experience in gene mapping, cloning, and sequencing of DNA. Salary negotiable. Applicants should send curriculum vitae and names and addresses of three references to: Dr. Titus H. J. Huismans, Department of Cell and Molecular Biology, Molecular Medicine, University of Georgia, Augusta, GA 30912–2100. An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION available to study mechanisms of glucocorticoid action [JBO 263, 3474–3481 (1988)]. Experience in molecular biology desirable. Send curriculum vitae and names and addresses of three references to: R. J. Parry, Department of Chemistry, Rice University, P.O. Box 1892, Houston, TX 77251. Rice University is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION in BIOCHEMISTRY OF PLANT-INSECT INTERACTION

USDAn-sponsored postdoctoral position for studies on role of anti-oxidant enzymes in defending insects against pro-oxidant allelochemicals. Primary and secondary anti-oxidant enzymes will be measured and characterized in a phycological insect model. D. in appropriate molecular or biological science. Candidate must have a demonstrated record of research experience and participation in publications in areas relevant to position. Send curriculum vitae, and three letters of recommendation by 1 January 1989 to: Dr. Ronald S. Fardini, Biochemistry, University of Nevada Reno, 89557–0014. An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION IN DEVELOPMENTAL NEUROBIOLOGY

A postdoctoral position is immediately available in the Neurobiology Research Center at the State University of New York at Stony Brook. Research is on regulation, structure, and development. Specific projects center on activity-dependent synaptic changes in the developing cat visual system (S. B. Tetzlaff), the retinal projection of goldfish (J. T. Schmidt), the visual system of Drosophila (G. A. Lienicka), Drosophila visual system (H. V. B. Hirsch) or Aplysia nervous system (J. Jackett). Candidates should have a Ph.D. in a related field and demonstrated expertise in one of the following: electrophysiology, monocular antibody production, immunohistochemistry, electrophoeresis, HRP staining, tissue culture, Drosophila genetics or recombinant DNA technology. Send curriculum vitae and the names of three references to: Dr. Ronald S. Fardini, Biochemistry, University of Nevada Reno, 89557–0014. An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION in MOLECULAR CARCINOGENESIS is available immediately to study the processing of specific DNA base modifications in defined genes within mammalian cells and evaluate the biological consequences of persistent damage. Experience in molecular, cellular, or biochemical approaches is desirable. Send curriculum vitae and three letters of reference to: Dr. Alaf A. Wani, Department of Radiology, The College of Medicine, The Ohio State University, Columbus, OH 43210.

POSTDOCTORAL POSITION IN MOLECULAR BIOLOGY/PHYSIOLOGY

Available from 1 November 1988. We are presently studying the metabolism of plant cells under low oxygen conditions (hypoxia and anoxia). We can support a postdoctoral worker to study aspects of energy metabolism, e.g. C- and O2- dependent carbohydrate metabolism. Additionally, we will explore gene regulation in stressed cells using DNA technology and a model plant transformation system in tobacco. Experience in any or all of these areas is essential. The position offers an opportunity to become a member of a research team examining fundamental aspects of plant stress. Salary: $20,000–$22,000, plus benefits. Send curriculum vitae and three letters of recommendation to: Dr. Malcolm Drew or Dr. Greg Cobb, Texas A&M University, Department of Agricultural Sciences, College Station, TX 77843–2133. Telephone: 409–845–5341. An Equal Opportunity Employer.

POSTDOCTORAL POSITION

A postdoctoral position is available to study molecular relationships between plants and insects. The candidate should be able to interact with on-going programs in molecular and cellular biology as well as with programs on insect control. Applicant should have a Ph.D. in molecular or cellular biology or related discipline. Any experience with insects is desirable and will be appreciated.

The position is available immediately and will extend for up to, beginning when the successful candidate is identified.

The location is in the Research Center of Rhone-Poulenc Agrochimie in Lyon (France). After these 2 years, the researcher will have the opportunity to work as a postdoc in the Molecular and Cellular Biology Team in the Research Center of Rhone-Poulenc Agrochimie in Lyon (France).

Send curriculum vitae and three references to: Georges Freyssinet, Rhone-Poulenc Agrochimie, 14 Rue Pierre Basset, 69009 Lyon, France.

POSTDOCTORAL POSITIONS

Several positions exist for postdoctoral research fellows within the Henry M. Jackson Foundation, Retrovirus Laboratory in Rockville, Maryland. Applicants should have a major concentration in virology, microbiology, immunology, biochemistry, or protein chemistry. The Jackson Foundation is a nonprofit organization associated with the Uniformed Services University of the Health Sciences. Among other projects, the Foundation is engaged in a long-term study of human immunodeficiency virus (HIV) infections of military personnel. This research endeavor will be integrated with collaborative virologic and immunologic studies carried out in support of a variety of ongoing and planned clinical investigations in HIV infected humans. The Foundation will be recruiting postdoctoral fellows with established senior scientists in new laboratory facilities with ample resources for supplies and equipment. The positions will include a competitive salary and liberal benefits. Applicants should submit their curriculum vitae, a statement of current research interest and professional goals, together with the names and addresses of three references to: Dr. John M. T. Oldstone, Chief, Retrovirus Laboratory, The Jackson Foundation, 11426 Rockville Pike, Suite 400, Rockville, MD 20852–3007. The Foundation is an Equal Opportunity Employer.
The Squibb Institute for Medical Research is recognized internationally as a leader in the research and development of novel pharmaceuticals. We have recently established a Molecular Biology Department to study the molecular basis of human cancer. Research in the fields of oncogenes, growth factors and their receptors, and genes involved in the control of cell proliferation will be of primary interest. Exceptional opportunities for experienced research associates are available in the following areas:

**MOLECULAR CLONING**
cDNA and genomic cloning in plasmid and phage vectors. Screening of libraries, subcloning, large scale DNA isolation. New approaches in rapid genomic cloning and sequence analysis.

**GENE EXPRESSION**
Vectors for the expression of foreign genes in bacteria, insect and/or mammalian cells. Transient and long term expression assays for regulatory elements and trans acting proteins.

Candidates should have a BS or MS degree and a minimum of one year of related research experience.

We can offer an excellent salary and comprehensive benefits package as well as the opportunity to pursue a stimulating and rewarding career. For confidential consideration, please submit your resume to: The Squibb Institute for Medical Research, Human Resources Department 65, P.O. Box 4000, Princeton, NJ 08543-4000. An equal opportunity employer.
PHARMACOLOGIST

The ICI Pharmaceuticals Group, which includes Stuart Pharmaceuticals and ICI Pharma, is one of the fastest-growing producers of quality pharmaceuticals in the United States.

We have an excellent opportunity for a Pharmacologist at our state-of-the-art laboratories in Wilmington, DE, to work in IN VITRO tests using isolated tissues for characterization of pharmacological activity of compounds. Familiarity with receptor function and electrolyte transport and membrane pharmacology/physiology is preferred. Knowledge of epithelial tissues desirable. BS/MS in biological sciences or related disciplines is required.

We offer an excellent salary and benefits program with opportunities for professional growth.

Please send your resume including salary requirement, in confidence, to:

Paul S. Flynn
ICI Pharmaceuticals Group
Wilmington, DE 19897

An Equal Opportunity Employer M/F.

RESEARCH INVESTIGATOR VIROLOGY

The Squibb Institute for Medical Research is recognized internationally as a leader in the research and development of novel therapeutic agents for the treatment of infectious diseases. We currently have an exceptional opportunity available for a research scientist to join an established Virology Department with an emphasis on mechanisms of herpesvirus replication and antiviral research.

You will be responsible for establishing a basic research project dealing with influenza virus replication with the goal of identifying selective antiviral drugs. You will be expected to interact with both the synthetic chemistry and natural products screening groups in order to carry out your research objectives.

Qualified candidates will have a Ph.D in Molecular Virology/Biochemistry and a minimum of 2 years postdoctoral experience in influenza or related research.

For confidential consideration please send your curriculum vitae to Squibb Institute for Medical Research, Human Resources Department 119, P.O. Box 4000, Princeton, NJ 08543.

SQUIBB

RESEARCH ASSOCIATE/EXPERIMENTAL PATHOLOGY

Amgen is a dynamic and growing organization producing products for human health care through applied biotechnology. Our continued growth and development has created an immediate opportunity for a Research Associate in our Experimental Pathology Group. Responsibilities for this position will include management of a full service histology laboratory.

Qualified applicants must have a BS or MS in Cell Biology, Immunology, or a Histology-related discipline with a minimum of 2 years' research or clinical laboratory experience. (An interest in IN VITRO and IN VIVO models of growth factor mediated tissue repair and inflammation is also desirable).

Specific knowledge of all routine histologic procedures is necessary. Experience in procedures involving immunohistochemistry and IN SITU hybridization is desirable.

Amgen offers a stimulating and challenging research environment as well as an excellent compensation and benefits package. Our location, about an hour northwest of Los Angeles, offers the best in Southern California living.

Interested candidates with the required background should send a resume, including references, in confidence to:

Recruitment, Dept. #320
AMGEN
1900 Oak Terrace Lane
Thousand Oaks
CA 91320

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BIOANALYTICAL CHEMIST

The Bristol-Myers Pharmaceutical Research and Development Division in Syracuse has an excellent career opportunity for a chemist, biochemist or medical technologist who can perform with minimal direction in key experimental areas.

The selected candidate will be responsible for implementation and optimization of the analysis of monoclonal antibodies and other genetically derived products. This will include developing enzyme and immunoassays and electrophoretic techniques as well as providing analysis, evaluation and interpretation of experimental results as the basis for oral/written reports.

To qualify, you'll need a BS or MS in Biochemistry, Chemistry or Medical Technology with experience in immunoassays, genetic assays and electrophoresis.

We offer a competitive salary, comprehensive benefits and a working environment conducive to professional development. For prompt, confidential consideration, we invite you to forward a resume with salary requirement to:

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Syracuse, New York 13221-4755
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RESEARCH ASSOCIATE AND POSTDOCTORAL POSITIONS available to study insulin and growth factor action. Focus on receptors, tyrosine kinase function, receptor turnover and internalization and molecular biology of growth factor and receptor cDNAs. Salary as per M.R.C. Canada scale. Send curriculum vitae and names of three references to: Dr. Barry I. Posner, Polyoma Virus Laboratory, Mount Sinai Medical Center, New York City, New York 10029.

RESEARCH ASSOCIATE POSITION in the cell and molecular biology of clathrin coated vesicles available in the Fed. Institute for Cancer Research and Molecular Biology. Focus is on aspects of protein-protein and protein-membrane interactions within the secretory and endocytic traffic and regulation of coat assembly in clathrin coated vesicles. Experience in protein biochemistry or molecular biology required. Send resume and names of three references to: Dr. James H. Kean, Pena Institute for Cancer Research and Molecular Biology, Temple University School of Medicine, Philadelphia, PA 19140. An Equal Opportunity/Affirmative Action Employer.

RESEARCH INVESTIGATOR. Design and synthesize novel compounds leading to potential new sweetener products in an assigned area using modern principled approaches. A Ph.D. in chemical biology with major reliance on computer modelling, design practical synthetic routes to target compounds; identify structure of synthesized materials using relevant techniques; analyze properties of target compounds by applying implications and limitations of testing results; synthesizing additional derivatives after preliminary results are obtained; serve as consultant to other technical personnel; applies for patents and publishes appropriate research. Ph.D. in organic chemistry or microbiology required together with 1 year and 6 months of experience in the job offered or 1 year and 6 months of experience as a postdoctoral research associate or scientist. Industrial or academic research must have involved the synthesis of photofunctionality labeling reagents and spatiotemporally and region of coat synthesized in clathrin coated vesicles. Must be able to prepare 48,000 or more of the following areas is preferred: recombinant DNA technology, blotting techniques, gels, biochemical instrumentation, long-term tissue culture work, or hybridoma technology. B.S./B.A. in the life sciences required. We offer an excellent compensation package, a state-of-the-art environment, and a superb opportunity for professional growth. Those interested should send correspondence to: E. L. Kleiner, Employment Department, The Rockefeller University, 1230 York Avenue, New York, NY 10021. An Equal Opportunity Employer, M/F/H/V.

SENIOR SCIENTIST I
Sandoz Crop Protection, a company widely recognized for excellence in agricultural research and manufacturing, has an opening for a Senior Scientist I in biological development. The function of his position will involve research, both at the institutional and industry level, in the evaluation of new microbial formulations. Responsibilities include an entry-level Ph.D. or M.S. degree in biology or related field. This person should have some course work in microbiology and at least 2 years of experience in the development and scale-up of microbial processes. For consideration apply at and send résumé to: Sandoz Crop Protection, Zocon Research Institute, 978 California Avenue, Palo Alto, CA 94304–1104. An Equal Opportunity/Affirmative Action Employer.

TENURE-TRACK POSITION
MOLECULAR GENETICS
The Division of Basic Medical Sciences, Mercer University School of Medicine, is seeking applicants for a tenure-track assistant/associate professor in the area of molecular genetics. Requirements include training and postdoctoral experience and a strong record of research funding or potential for research funding. The appointee is expected to participate in the problem-based teaching of medical students and to develop an independent research program with a molecular orientation in some area of medical genetics. The Mercer School of Medicine has a tradition of interaction, both at the institutional and research levels, among the diverse basic scientists and the clinical units. Recruitment will continue until the position is filled. Applicants should submit a complete curriculum vitae, including names of three references and a description of research interests, to: Dr. Robert Moon, Chairman, Division of Basic Medical Sciences, Mercer University, Macon, GA 31207. An Equal Opportunity/Affirmative Action Employer.

THEORETICAL PARTICLE PHYSICIST
The Department of Physics and Astronomy, Johns Hopkins University, invites applications for a tenure-track faculty position in theoretical physics. The successful candidate is expected to conduct research in the area of theoretical particle physics/quantum field theory. Theoretical research in the Department is being conducted within the framework of the Theoretical Interdisciplinary Physics Program and it includes research in quantum gravity, particle physics, condensed matter physics, astrophysics and atomic physics. Applications should be sent to: Professor J. E. Carter, Chair, Department of Physics and Astronomy, The Johns Hopkins University, 3400 North Charles Street, Baltimore, MD 21218. Johns Hopkins University is an Equal Opportunity/Equal Access Employer.

TOXICOLOGIST, ENVIRONMENTAL West Coast environmental consulting firm seeks Ph.D. in toxicology or related field with at least 2 years of experience in environmental science or the federal or superfund site. Candidate should have excellent community relations. Excellent skills, competitive salary in pleasant Bay Area location. Send resume with salary requirements to: Mr. John H. Hooton, 5166 West 16th Street, New York, NY 10032. Columbia University takes Affirmative Action to Equal Opportunity Employer.

Seniior STAFF Associate—Ph.D. required. The Department of Ophthalmology at Columbia University is seeking a biochemist with expertise in retinoid biochemistry and the identification of proteins unique to vision. The position will be involved with the development of a new retinoid analog drug and will be responsible for the administration, collaboration, and construction of cDNA libraries. Send curriculum vitae to: Dr. F. Gouras, Department of Ophthalmology, 630 West 16th Street, New York, New York 10032. Columbia University takes Affirmative Action to Equal Opportunity Employer.

DEPARTMENT OF PATHOLOGY AND LABORATORY MEDICINE UNIVERSITY OF PENNSYLVANIA SCHOOLS OF MEDICINE PHILADELPHIA, PA 19104
TENURE-TRACK POSITION in neuropathology is available as of September, 1989. Individuals with training in diagnostic neuropathology and research should apply to Nicholas K. Konatas, M.D., 436 Johnson Pavilion/0679, University of Pennsylvania School of Medicine, Philadelphia, PA 19104. Telephone 215-892-6679. Applications will be considered for the right individual at any stage of training and will be commensurate with training and experience. The University of Pennsylvania is an Equal Opportunity Employer.

AWARDS
GRADUATE STUDENT RESEARCH AWARDS, Ecology and Environmental Policy. The Science Division of the National Audubon Society invites applications for graduate student research support in ecology and environmental policy. Awards are available as an early stage in their doctoral program. Applications in two general areas are especially encouraged: 1. Field work on ecological processes with broad relevance to the management of National Audubon Society sanctuaries and other managed lands, for example on hydrological cycles, nutrient limitation, prescribed burning, or grazing impacts on natural communities. 2. Analyses of emerging national environmental issues, for examples on the role of electric vehicles in moderating global climate change and the effects of nuclear power plants, using the permit-review process as a conservation tool, or comparing the conservation implications of food irradiation vs. pesticides. These grants are part of an ongoing effort to broaden the base of the Audubon Society's research, and therefore, proposals for ornithological research are ineligible for funding under this program. Approximately three grants of up to $3,600 each will be awarded; no extensions will be renewable for a period of 2 to 3 years. In addition, a number of smaller, one-time grants may be awarded. For information, write: National Audubon Society, 700 East 59th Street, New York, New York 10022. Completed applications are due by 15 February 1989. Winners will be announced by early May.
**MRC GROUP IN PROTEIN STRUCTURE AND FUNCTION**

**University of Alberta, Edmonton**

**FACULTY POSITION IN PROTEIN CHEMISTRY**

The Medical Research Council of Canada Group in Protein Structure and Function at the University of Alberta invites applications for a Faculty position in the Department of Biochemistry. Applicants should have a strong background in protein chemistry and will be expected to develop a research project that will complement and contribute to the overall research efforts in the group. Some areas currently under investigation by the Group include: chemistry and structure of contractile proteins of both muscle and non-muscle systems and the molecular mechanism by which calcium triggers muscle contraction; structure-function relationships of calcium binding proteins; mechanistic studies of serine and asparyl proteinases through the establishment of their high resolution X-ray structures and protein-nuclic acid interactions as represented by the Cro repressor system. Preference in the selection process will be given to those individuals who have a background in the cloning and expression of novel proteins and are interested in establishing their structure-function relationships. Representative protein systems could include: cytoskeletal proteins, receptors and signal transduction proteins. Appointments can be made at any level from Assistant to Full Professor depending upon the qualifications.

The MRC Group in Protein Structure and Function was established in 1974 and has undergone two successful renewals. The major techniques of protein chemistry are included in the armament used by the group members for the study of protein systems: hydrodynamic and spectroscopic methods, 2D nuclear magnetic resonance spectroscopy, X-ray crystallography protein micro-sequence techniques, solid phase synthesis of peptides, recombinant DNA and protein engineering.

In accordance with Canada Immigration regulations, priority will be given to Canadian citizens and permanent residents. The deadline for the position is Dec. 31. Applicants should forward curriculum vitae, list of publications and names of three referees as soon as possible to Professor C.M. Kay, or Professor L. B. Smillie, Department of Biochemistry, University of Alberta, Edmonton, Alberta, Canada T6G 2H7.

The University of Alberta is committed to the principle of equity in employment.

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**Molecular Neurobiology**

**Faculty Positions**

The Ohio State University is expanding its search for faculty at all levels with expertise in gene expression in the nervous system to complement existing strengths in developmental neurobiology, neural plasticity and regeneration, structural chemistry, receptor-mediated events and molecular genetics. The College of Medicine and the Biotechnology Center have designated Molecular Neurobiology as a top priority for development. Three to five tenure track positions at the Assistant to Full Professor level are available now at the Ohio State Biotechnology Center, with appointments in appropriate academic departments. At least five additional appointments will be made as the core group develops. Candidates qualified for appointment to Professor may also be considered for the position of Associate Director of the Biotechnology Center.

These positions offer newly remodeled laboratories, start-up funds and the opportunity to participate in the development of new interdisciplinary programs at a University committed to excellence in research and graduate education.

Send nominations, or applications including C.V., a brief statement of research plans, and the names of three references to: Dr. P.E. Kolattukudy, Director, Ohio State Biotechnology Center, 206 Rightmire Hall, 1060 Carmack Road, Columbus, OH 43210-1002. Equal Opportunity/Affirmative Action Employer.

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**NEW YORK, N.Y. 10036**

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**Biochemist/Pharmacologist**

The Monsanto Agriculture Co. Environmental Health Laboratory in St. Louis, MO has an opening for a biochemist or pharmacologist who will have responsibility for conducting and reporting animal metabolism studies. These programs will usually involve determination of the rates and degrees of absorption, distribution and elimination of the administered test material. Programs may include identification of the major metabolic pathways involved.

Responsibilities include supervision of a team of technicians assigned to these programs. These studies are conducted in a GLP environment. The ideal candidate will have a Ph.D. in biochemistry, pharmacology, toxicology or a closely related field with 0-5 years' experience. Knowledge of radioisotope, animal handling and chromatographic techniques is desirable.

Monsanto provides a generous compensation package relative to your responsibilities and qualifications. Interested candidates, please forward your resume to: Vemon L. Bozarth; Mail Zone B3NA: MONSANTO COMPANY; 800 N. Lindbergh Blvd.; St. Louis, MO 63167. An Equal Opportunity/Affirmative Action Employer M/F/H/V.
This meeting will explore the interaction between tumor cells and the microcirculation. The working agenda is that cancer cells and their microcirculatory environment are both susceptible and inseparable. By combining sophisticated techniques in micro-circulation with recent advances in cell and molecular biology, new frontiers are highlighted.

The role of integrins and vascular addressins will be presented in relation to the endothelium and the underlying connective tissue, highlighting the function of attachment sites and growth factors. These elements, and tumor cell pathophysiology and microcirculation will be integrated to create a new perspective on cancer and the immune system.

Speakers and Discussants: Karl-E. Arlaa (La Jolla), Michael P. Bevilacqua (Boston), Rolando Del Maestro (London, Canada), Jeffrey Evesoch (Detroit), Ronald Goldfarb (Pittsburgh), Pietro Gullino (Turin), Frithjof Hammersen (Munich), Ronald Herberman (Pittsburgh), Marcos Intaglieta (La Jolla), Rakesh Jain (Pennsylvania-Johns Hopkins, Rockville), Peter Libby (Boston), Thomas Maciag (Rockville), Konrad Messmer (Heidelberg), Michael Palladino (San Francisco), David F. Ranney (Dallas), Daniel B. Rifkin (New York), Michael B. Russelb (La Jolla), Jeffrey Schom (Bethesda), Bruce Zetter (Boston), Benjamin W. Zweifach (La Jolla).

Conference will be held at La Jolla Cancer Research Foundation, La Jolla, California, 8, 9, and 10 January 1989. Registration fee: $715.00 per person (meals included; hotel extra). Send inquiries to:

Marcos Intaglieta, Ph.D. 
Department of AMES, R-012
University of California, San Diego
La Jolla, CA 92039

Sponsored by

The International Institute for Microcirculation

FELLOWSHIPS

The newly formed DEPARTMENT OF CELL BIOLOGY DUKE UNIVERSITY MEDICAL CENTER announces the availability of several fully-funded FELLOWSHIPS for graduate study leading to the Ph.D. degree. Research opportunities are available in areas of cell biology, structural biology, and in the Division of Physiology. The University Program in Cell and Molecular Biology provides additional fellowships and interdepartmental opportunities. For complete information write:

Director of Graduate Studies 
Department of Cell Biology, Box 3709
Duke University Medical Center
Durham, NC 27710

Affirmative Action/Equal Opportunity Employer.

FELLOWSHIPS—American Museum of Natural History/Museum Fellowships are available to postdoctoral researchers and established scholars starting in summer and fall in the departments of invertebrate zoology, paleozoology, anthropology, mineral sciences, and the field of museum education as its relates to natural history museums or planetariums. Deadline for applications, including Chapman Fellowships (ornithology), is 15 January 1989. Request information booklet and application from: Office of Grants and Fellowships, American Museum of Natural History, Central Park West at 79th Street, New York, NY 10024.

FELLOWSHIPS

USDA-GRADUATE FELLOWSHIP IN FOOD SCIENCE INSTITUTE OF FOOD SCIENCE CORNELL UNIVERSITY ITHACA, NEW YORK

Applicants are invited to apply for a USDA graduate fellowship in food science at Cornell University. The focus of this program is to study the behavior, modification, and separation of macromolecules in foods. Candidates who are U.S. citizens with an outstanding undergraduate record and excellent Graduate Record Examination scores will be considered.

The successful candidate will receive a stipend of $15,000 per year for 3 years in addition to a tuition allowance. He or she will be expected to choose from among the many diverse research programs under the direction of one of the mentors listed below.

PRINCIPAL PARTICIPANTS

J. H. Hotchkiss: Interactions between packaging matrices and food constituents

J. Regenstein: Functional properties of poultry and fish meat

S. S. H. Rizvi: Supernicial fluid extraction for food applications

J. W. Brady: Molecular mechanics studies of carbohydrate solvation

D. D. Miller: Effects of processing on the nutritional bioavailability of calcium

J. E. Kinne1la: Physicochemical properties of food proteins

C. A. Batt: Genetic modification of the structure/ function of proteins

For further information please contact:

Terry Fowler
Department of Food Science
Cornell University
Ithaca, NY 14853
Telephone: 607-255-7637

TRAINING PROGRAM

PRE- AND POSTDOCTORAL FELLOWSHIPS MOLECULAR PARASITOLOGY

The Molecular Parasitology Training Program (NHl) in the Division of Biological Sciences, University of Georgia has immediate openings for pre- and postdoctoral fellows in Molecular and Cell Biology of Parasites and Vectors. The program offers training in modern parasitology with emphasis on molecular biology, biochemistry, immunology, cell biology, and vectors. Predoctoral candidates have the option of enrolling in the departments of biochemistry, entomology, genetics, microbiology or zoology. Funding is restricted to U.S. citizens or permanent residents although candidates not meeting these restrictions are also encouraged to apply with the expectation that other funding may be available. For further information contact: Rick L. Tarleton, Ph.D., Molecular Parasitology Training Program, Department of Zoology, University of Georgia, Athens, GA 30602. Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL TRAINING OPPORTUNITIES are regularly available at the College of Biological Sciences at the University of Minnesota. Inquiries may be directed to the Departments of Biochemistry, Ecology and Behavioral Biology, Genetics and Cell Biology, and Plant Biology, as well as the following research programs. Bell Museum of Natural History, Biological Process Technology Institute, Cedar Creek Natural History Area, Gray Freshwater Biological Institute, the Lake Itasca Forestry and Biological Station, and the Plant Molecular Genetics Institute.

For information about possible openings in these programs, please write to: University of Minnesota
College of Biological Sciences 123 Snyder Hall
1475 Gortner Avenue
St. Paul, MN 55108

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

PROGRAM

CAREER CHANGE OPPORTUNITY

This unique program offers the candidate with an earned doctorate in the sciences the opportunity to obtain the Doctor of Optometry (O.D.) degree in two calendar years. Employment opportunities exist in private practice, industry, education and research. Contact: Dr. D. Chauncey, Program Director, Accelerated Program, The New England College of Optometry, Room S, 424 Beacon Street, Boston, MA 02115.

M.S. DEGREE IN APPLIED MOLECULAR BIOLOGY

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SYMPOSIUM

SECOND SYMPOSIUM ON GENETIC ENGINEERING OF ANIMALS


The Cornell University Biotechnology Program is pleased to announce that the Second Symposium on Genetic Engineering of Animals will be held 25-28 June 1989 at Cornell University in Ithaca, New York. This symposium will review the major developments in this rapidly progressing field since the inaugural symposium which was held in Davis, California, in 1986. The focus of this symposium will be the recent technical advances in genetic engineering as they apply primarily to animals of agricultural significance.

For further information and detailed registration forms please contact:

Dr. William Hansel
Department of Physiology
816 Veterinary Science Tower
New York State College of Veterinary Medicine
Cornell University
Ithaca, NY 14853-6401
Telephone: 607-253-3455
Registration deadline is 30 April 1989.

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