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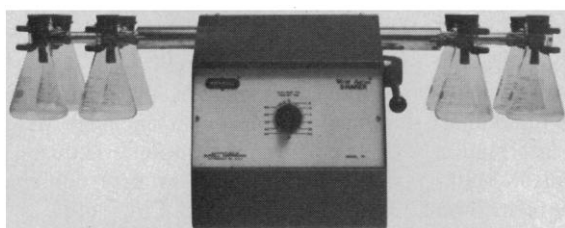
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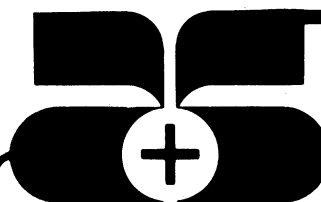
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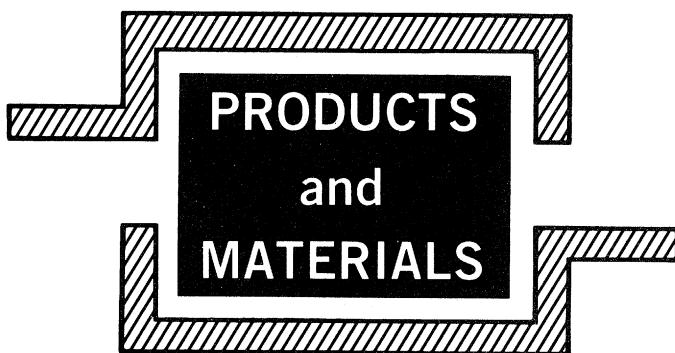
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The 6100 series Accu-Trak Imperial III carbon dioxide monitors offer digital set points for temperature and carbon dioxide and calibrated set points for relative humidity. A digital readout provides continuous monitoring of all three parameters or set monitoring of any one of them. Interaction of measurement and control by electronics and with a feedback system offers more precise control of conditions in the chamber. Radiant warm-wall heating gives good uniformity and rapid recovery. Lab-Line Instruments. Circle 681.

### Programmable Diagnostic Ultrasound Imaging System

Octoson is designed for examination of internal organs with minimum stress for the patient. Whole-body scans may be made in pediatric cases. The image acquisition protocol, rapidity of scan, and water-path interface minimize involvement of the operator, reduce the need for repeat scans, and reduce stress for the patient, respectively. Rapid scanning and water coupling offer the best combination of clarity of detail and diagnostic value as well. Ausonics. Circle 682.

### Mössbauer-Effect Sources

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nesses. Matrices include palladium, platinum, chromium, copper, and others. Sources are available in foils with a thin acrylic coating, in plastic capsules, and in windowless plastic holders for cobalt-57 and in these and other forms for other isotopes. Spire. Circle 683.

### Micro Kjeldahl Analyzer

The Kjeltac III analyzer requires samples up to 500 milligrams or 5 milliliters. Basic modules include a digestion system that incorporates a temperature control unit and all accessories and an automated distilling unit with accessories. Up to 2 to 150 milligrams of nitrogen may be detected in typical samples of 0.1 to 0.5 gram solid or up to 3 milliliters of liquid. The analyses are usually reproducible to within  $\pm 1$  percent and are highly accurate. Up to 40 samples may be digested per batch. Tecator. Circle 685.

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### Dew-Point Hygrometer

The 1200APS is a condensation-type instrument that features automatic control of reflectance, error correction, and a digital display. The device is compact and rugged enough for field operation. The error-reduction module, Pacer, automatically maintains the optical reflectance of the system and overcomes the ef-

fects of salt-type contaminants in the atmosphere. Sensors may be used at up to 300 pounds per square inch and over a temperature range from  $-80^{\circ}\text{F}$  to  $200^{\circ}\text{F}$ . General Eastern. Circle 687.

### Kilowatt-Hour Meter

The J series instruments measure voltages and currents produced by alternative generating systems and provide a digital readout of the resulting energy produced or used. They measure either direct or alternating current or a combination without anyone's having to select or distinguish between the two. The display is preserved if power is lost. There is also an output for peripheral instrumentation. Spectrex. Circle 684.

### Literature

*Monochromators and Systems* introduces new light-processing apparatus for spectral analysis. Schoeffel Instrument. Circle 679.

*Oxides of Nitrogen Analyzer* gives the specifications and applications of model 1600. Columbia Scientific Industries. Circle 680.

*Fume Adsorber* describes an enclosure designed to remove harmful vapors from the laboratory work area. Lab-conco. Circle 688.

*Radiochemicals* is a catalog supplement that lists 35 new products for chemical, physical, and biological analysis. Amersham. Circle 689.

*Scanning Spectrofluorometer* incorporates spectra, precise ratiometric polarization, and subnanosecond-lifetime measurements in a single instrument. SLM Instruments. Circle 690.

*Microprocessor Programmer for Environmental Chambers* includes descriptions of formerly optional features that are now standard on new equipment. Tenney Engineering. Circle 691.

*Liquid Phase Epitaxial Films on Gallium Gallium Garnet for Bubble Domain Memories* provides specifications of this implanted magnetic material for semiconductor processing. Union Carbide, Electronics Division. Circle 692.

*Electron Microscopy* includes supplies, accessories, and instruments to facilitate investigations of biologic and physical characteristics of specimens at high magnifications. Ted Pella. Circle 693.

*Fluorine Compounds* lists more than 200 specialty chemicals from this highly reactive element. Ozark-Mahoning, Special Chemicals Division. Circle 694.

Newly offered instrumentation, apparatus, and laboratory materials of interest to researchers in all disciplines in academic, industrial, and government organizations are featured in this space. Emphasis is given to purpose, chief characteristics, and availability of products and materials. Endorsement by *Science* or AAAS is not implied. Additional information may be obtained from the manufacturers or suppliers named by circling the appropriate number on the Readers' Service Card (on pages 818A and 906A) and placing it in the mailbox. Postage is free.

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# Personnel Placement

Personnel advertising is accepted only with the understanding that the advertiser does not discriminate among applicants on the basis of race, sex, religion, age, color, national origin, or handicap.

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SCIENCE is published weekly, on Friday. Copy must be received in writing by Wednesday, 3½ weeks before Friday issue date required. Send copy for all positions wanted ads and display ads under 5 inches to:

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## POSITIONS WANTED

**Biologist/Manager.** Ph.D. Six plus years of experience involving aquatic project management, consulting, aquaculture, and bioassay as administrator and scientist. Seeks new position. Box 357, SCIENCE.

11/24; 12/1

**Biology (Microbiology).** M.S. 1978, training in virology, immunology, tissue culture, cytology, cancer research. Strong background in scanning electron microscopy, laboratory techniques. Seeks academic, industrial, or hospital position. O.I.S., 491 Sherman Street, Akron, Ohio 44311. X

**Cell Biochemist/Nutritionist.** Ph.D. medical science, 1975. Development of culture conditions and nutrient media for growth and establishment of human cancer cell lines. Cellular studies on osmolality and electrolyte requirements. Intermediary metabolism. Protein isolation-purification. Growth factors. Teaching. Desires industrial or academic position. Box 330, SCIENCE. X

**Organic Ph.D.** 1975; 3 years of postdoctoral experience in synthesis of radiopharmaceuticals, development of RIA, and chemical carcinogenesis. Publications. Seeks challenging position in cancer-related research. Box 360, SCIENCE. X

**Synthetic Organic Chemist.** Ph.D. 1971. Five years of industrial experience in controlled drug and pesticide release via microencapsulation and films. Seeks industry, government, or academia. Box 359, SCIENCE. 11/24; 12/1

**Virologist/Cell Biologist.** Ph.D. Seeking research, service, or administration position in carcinogenesis (viral and/or chemical); considerable experience in both. Available immediately. Box 354, SCIENCE. X

**Zoologist/Ecologist.** M.S. botany, Ph.D. entomology. Over 2 years of experience as environmental consultant; laboratory and field research in entomology and ichthyology; experience in preparation of reference bibliographies. Desires research, consulting, or environmental education position. Résumé and references available on request. Available from December 1978. Box 358, SCIENCE. X

## POSITIONS OPEN

**ANATOMISTS (two).** Assistant professor level. Ph.D. or M.D. with postdoctoral research experience who shows evidence of developing an active research program. Research area open but some preference given to developmental and cell biology, pulmonary and reproductive biology. Teaching responsibility confined to one semester. New Jersey Medical School has moved to new health science campus and the department has new facilities with well-equipped laboratories. Salaries are highly competitive. One position available in the spring. *Applications from women and minority candidates are encouraged.* Interested individuals should submit current curriculum vitae before 15 January 1979 to: **Dr. Anthony V. Boccabella, Chairman, Department of Anatomy, College of Medicine and Dentistry of New Jersey, New Jersey Medical School, 100 Bergen Street, Newark, N.J. 07103. Affirmative Action/Equal Opportunity Employer.**

### ANATOMIST

Position of anatomist available 1 July 1979 as chief of the Section of Gross Anatomy in the Department of Surgery. Rank and salary subject to negotiation based on experience and qualifications. Research interests and experience desirable. Submit curriculum vitae and three recent letters of recommendation to: **Bernard Lytton, M.D., Department of Surgery (Urology), Yale University School of Medicine, 789 Howard Avenue, New Haven, Connecticut 06504. Yale University is an Equal Opportunity/Affirmative Action Employer.**

### ANIMAL PHYSIOLOGY

Duke University seeks a physiologist of outstanding caliber with demonstrated research ability, as assistant professor, beginning September 1979 in a continuing position. The appointed applicant is expected to establish a productive research program, instruct graduate students, and teach a one-semester undergraduate course in physiology above the cellular level. Postdoctoral experience highly desirable. Applicants should send curriculum vitae, list of publications, a one-page description of present and future research interests, and the names of three persons who may be contacted for reference to: **Dr. K. Schmidt-Nielsen, Department of Zoology, Duke University, Durham, North Carolina 27706.**

*An Affirmative Action/Equal Opportunity Employer*

University of Delaware announces tenure-track position for **PRE-HISTORIC ARCHAEOLOGIST** at rank of assistant professor beginning September 1979. Ph.D. required. Background and experience in mid-Atlantic or southeastern United States archaeology required. Preference will be given applicants with teaching experience and publications and who are prepared to develop a research focus in mid-Atlantic archaeology. Position requires excellence in undergraduate teaching, development of a local archaeological summer field school, and development of working relationship with archaeologically related state agencies. Send curriculum vitae and three reference letters to: **Kenneth Ackerman, Search Committee, Department of Anthropology, University of Delaware, Newark, Del. 19711. Equal Opportunity/Affirmative Action Employer.**

### ASSISTANT PROFESSORSHIP

The Department of Nutrition and Food Science at Massachusetts Institute of Technology (MIT) has an opening at the assistant professor level beginning July 1979 for an individual with a background in **CHEMISTRY** or **BIOCHEMISTRY**. The position will be associated with an established faculty in food chemistry, and the individual would be expected to develop an independent teaching and research program. A doctoral degree and demonstrated ability to conduct independent research are required.

Send résumé, statement of professional interests, and names of at least three references to: **Dr. Steven R. Tannenbaum, Department of Nutrition and Food Science, MIT, Cambridge, Mass. 02139. MIT is an Equal Opportunity/Affirmative Action Employer.**

**ASSISTANT PROFESSOR.** Ph.D. Immunologist with training in biochemistry, or biochemist with training in immunology. Permanent faculty position. Strong interest in research and in teaching fundamental immunology are required. Research grant support available for first year. Send application, including three references, to: **Dr. G. C. Webster, Department of Biological Sciences, Florida Institute of Technology, Melbourne, Florida 32901. An Equal Opportunity/Affirmative Action Employer.**

## POSITIONS OPEN

**ASSISTANT DEAN FOR ADMINISTRATION.** The University of Alabama in Huntsville, School of Primary Medical Care, a 5-year-old community-based clinical branch of the University of Alabama School of Medicine.

A senior administrative officer of the school reporting directly to the dean, the assistant dean will have general responsibility for the school's administrative staff, budget preparation, and data systems development, as well as assisting the dean with a wide variety of management functions. Experience on the faculty or in administration of a medical school or university is essential. M.D., Ph.D., or master's degree in a related field required; successful candidate may qualify for a faculty appointment.

Send curriculum vitae by 15 December 1978 to:

**Colin Campbell, M.D., Dean  
School of Primary Medical Care  
University of Alabama in Huntsville  
Clinical Science Center  
109 Governors Drive, SE  
Huntsville, Alabama 35801  
Telephone: 205-539-7757**

*The University of Alabama in Huntsville is an Affirmative Action/Equal Opportunity Institution.*

### ASSISTANT PROFESSOR

The Sidney Farber Cancer Institute is recruiting candidates for basic science positions at the assistant professor level in the areas of cell growth and regulation, tumor virology, and cancer genetics. Demonstrated outstanding research ability is essential. Candidates will establish their own programs of research and are expected to seek outside funding. A concomitant appointment with an academic department at Harvard Medical School will be required. Send curriculum vitae, list of publications, names of references, and summary of proposed research to:

**Dr. Arthur B. Pardee, Director  
Laboratory of Tumor Biology  
Sidney Farber Cancer Institute  
44 Binney Street  
Boston, Massachusetts 02115**

*An Affirmative Action/Equal Opportunity Employer*

**ASSISTANT PROFESSOR.** Applications are invited for a faculty position in the Department of Anesthesia at the Veterans Administration Hospital, Stanford University School of Medicine. Candidates must have a Ph.D. degree in pharmacology and/or toxicology and research experiences with enzyme purification, assay, and kinetic techniques. The successful applicant will be expected to collaborate in an ongoing research program examining inhalational anesthetic metabolism and toxicity and there also will be ample opportunity to establish an independent research program. The candidate should have experience beyond the postgraduate level and administrative and supervisory skills. Interested individuals please submit curriculum vitae and bibliography to: **Richard I. Mazze, M.D., Department of Anesthesia, Stanford University School of Medicine, Stanford, California 94305. Stanford is an Equal Opportunity Employer and welcomes applications from women and minority group members.**

### ASSISTANT PROFESSOR

The Department of Pharmacology, Harvard Medical School, is seeking an assistant professor with experience in the isolation and reconstitution of membrane transport systems and their interaction with drugs and other molecules. The position also involves teaching of medical, dental, and graduate students. Candidates should send a copy of their curriculum vitae and bibliography and the names of three people who may be contacted for reference to: **Chairman, Department of Pharmacology, Harvard Medical School, 250 Longwood Avenue, Boston, Massachusetts 02115. Harvard University is an Equal Opportunity/Affirmative Action Employer.**

Applications are invited for appointment as **ASSISTANT PROFESSOR in the Environmental Engineering Program.** Specialization in biological or physical processes in water and wastewater treatment is desired. Duties will include teaching in both graduate and undergraduate courses as well as development of an active program of research and scholarship. Send curriculum vitae and list of three references to: **Dr. Joseph S. Devinny, Search Committee, BHE 213, University of Southern California (USC), University Park, Los Angeles, Calif. 90007. USC is an Equal Opportunity/Affirmative Action Employer.**

## POSITIONS OPEN

### ASSISTANT PROFESSOR: BIOCHEMISTRY

The Department of Biochemistry at the University of Minnesota Medical School invites applications for a tenure-track position at the assistant professor level. Preference will be given to individuals who have had 1 or 2 years of postdoctoral experience with a strong background in fundamental biochemical disciplines and who show promise of developing a vigorous research program. Applicants must be qualified to teach biochemistry in graduate and professional school courses. Applications must be received by 15 January 1979. Send curriculum vitae, a coherent and comprehensive plan for future research, and names of three references to: **Search Committee, Department of Biochemistry, University of Minnesota Medical School, 435 Delaware Street, SE, 227 Millard Hall, Minneapolis, Minnesota 55455.** *The University of Minnesota is an Equal Opportunity Educator and Employer.*

**ASSISTANT PROFESSOR OF HEMATOLOGY/ONCOLOGY AND ASSISTANT PROFESSOR OF ENDOCRINOLOGY/METABOLISM**—The Department of Pediatrics, University of Massachusetts Medical School, is seeking candidates at the assistant professor level. Qualifications include strong research interests with capabilities in teaching and patient care, and with Board-certification in pediatrics and subspecialty Boards where applicable. Send curriculum vitae and names of three references to: **James B. Hanshaw, M.D., Department of Pediatrics, University of Massachusetts Medical School, 55 Lake Avenue North, Worcester, Massachusetts 01605.** *An Equal Opportunity/Affirmative Action Employer.*

The Department of Physiology of the University of Texas Health Science Center at San Antonio is seeking an **ASSISTANT PROFESSOR** with teaching experience in all areas of **mammalian physiology**. It is also expected that this faculty member will be actively engaged in research in an area of his or her choosing. This position is a tenure-earning one as described by the guidelines of the institution. If interested, please send curriculum vitae and names of persons familiar with your teaching and research activities to: **Dr. Edward J. Masoro, Chairman, Department of Physiology, University of Texas Health Science Center, 7703 Floyd Curl Drive, San Antonio, Texas 78284.** *An Equal Opportunity/Affirmative Action Employer*

University of California, Los Angeles, Department of Earth and Space Sciences, invites applications for an **ASSISTANT PROFESSORSHIP** in **marine geology-geophysics, biological, physical or chemical oceanography, and/or invertebrate paleontology** to begin about 1 July 1979. The Ph.D. is required; the applicant should be an earth scientist who has demonstrated truly superior capabilities in one or more of these fields; successful candidate will be expected to walk on water. Send résumé and three letters of recommendation by 1 February 1979 to: **W. G. Ernst, Chairman, Department of Earth and Space Sciences, University of California, Los Angeles, California 90024.** *An Equal Opportunity/Affirmative Action Employer.*

**ATHEROSCLEROSIS RESEARCH.** Research staff position available May 1979 for a Ph.D. or M.D. with training and experience in the areas of platelet physiology, tissue culture techniques, and lipid research. Studies will deal mainly with the role of platelets in the regulation of cell growth in vitro. Person appointed will also serve as director of the core lipid laboratory of a research center. Interested candidates should send complete curriculum vitae and the names of at least three references to: **DeWitt S. Goodman, M.D., Department of Medicine, Columbia University College of Physicians and Surgeons, 630 West 168 Street, N.Y., N.Y. 10032.** *An Equal Opportunity/Affirmative Action Employer.*

**BEHAVIORAL GENETICIST—NORTHWESTERN UNIVERSITY.** Assistant professor, tenure-track. Applicants should be well trained in genetics: postdoctoral experience is required. Prefer individual using genetic techniques to study behavior at the level of the nervous system. Send curriculum vitae, reprints, other supporting documentation, and names of at least three references to: **Search Committee, Department of Biological Sciences, Northwestern University, Evanston, Illinois 60201.** *Equal Opportunity/Affirmative Action Employer*

## POSITIONS OPEN

The **DEPARTMENT OF NEUROBIOLOGY** at Stanford University School of Medicine invites applications from qualified individuals for a faculty position at the level of **assistant or associate professor**. The successful candidate will have major responsibilities in the teaching of neuroanatomy and be expected to maintain an independent research program of high quality. Applications, including curriculum vitae, and the names of three references, should be addressed to: **Chairman, Department of Neurobiology, Stanford University School of Medicine, Stanford, California 94305.** *Stanford is an Equal Opportunity Employer and welcomes nominations of women and minority group members and applications from them.*

### ASSISTANT OR ASSOCIATE PROFESSOR OF PHYSIOLOGY AND BIOPHYSICS

The Department of Physiology and Biophysics, University of Louisville Health Sciences Center, Louisville, Kentucky, has a faculty opening (Ph.D.) at the assistant or associate professor level. Teaching responsibilities will include participation in graduate courses and team-taught courses for medical, dental, and nursing students.

Evidence of research ability and productivity is necessary. The field of training and of research should be primarily in the area of neurophysiology. Successful applicant is expected to conduct independent research programs and guide graduate students.

The Department of Physiology and Biophysics occupies relatively new facilities and has extremely well-equipped laboratory and office space. *The University of Louisville is an Affirmative Action/Equal Opportunity Employer.*

Individual interested in this position should send curriculum vitae and three letters of recommendation to: **Thomas B. Calhoun, Ph.D., Professor and Chairman, Department of Physiology and Biophysics, University of Louisville School of Medicine, Health Sciences Center, P.O. Box 35260, Louisville, Kentucky 40232.**

**ASSOCIATE PROFESSOR/PROFESSOR, BIOCHEMISTRY.** Applications are invited for an established investigator in the area of protein primary structure analysis and/or enzyme regulation in mammalian cells. Highly qualified candidates in other areas of biochemistry will also be considered. The candidate should be an effective teacher as well as a recognized authority in his/her field. This Department of Biochemistry has grown significantly during the past year. Established fields of investigation relate to developmental biology, nucleic acids and protein synthesis, x-ray crystallography, membrane biochemistry, and structure and cloning of immunoglobulin genes. The department is well equipped for most areas of modern biochemistry, and a P3 facility for recombinant DNA research is presently under construction. Send curriculum vitae, bibliography, and three references by 22 December 1978, to: **Dr. A. J. Wahba, Chairman, Department of Biochemistry, University of Mississippi Medical Center, 2500 North State Street, Jackson, Miss. 39216.** *An Equal Opportunity Employer, M/F.*

### UNIVERSITY OF SOUTH FLORIDA CHAIRMAN OF THE MARINE SCIENCE DEPARTMENT

The Department of Marine Science of the University of South Florida (USF) located at St. Petersburg announces the availability of the position of chairman of the department. Marine Science at USF has been designated by the Board of Regents of the State University System for special funding by the state legislature for its development as a graduate Center of Excellence.

The department now consists of ten faculty members. Six additional faculty members are being recruited. The department's primary mission is research and graduate training.

The chairman should be a Ph.D. with excellent research credentials and considerable administrative experience. A background of work in a marine station or oceanographic institute is highly desirable. The rank is professor. Salary will depend on experience and professional accomplishment but the 12-month minimum is \$35,000. The appointment can be made at any time during the academic year. The closing date for the receipt of applications is 1 January 1979.

Applicants should send complete résumés to: **Dr. T. L. Hopkins, Chairman of Search Committee, Department of Marine Science, University of South Florida, St. Petersburg, Florida 33701.** *The University is an Affirmative Action/Equal Opportunity Employer.*

## POSITIONS OPEN

### BIOCHEMISTRY FACULTY POSITION

Indiana University School of Medicine, Department of Biochemistry, invites applications for the position of assistant or associate professor of biochemistry, effective July 1979. Those whose research interests focus on the biochemistry of metabolic and endocrine systems are especially encouraged to apply. Applicants are expected to have postdoctoral training and/or publications demonstrating productivity and originality in research. Preference will be given to applicants who have the background, motivation, and ability to be excellent teachers of professional and graduate students and to develop vigorous productive research programs. Please send curriculum vitae, bibliography, a short statement of future research goals, and the names of three references by 15 January 1979 to: **Dr. R. A. Harris, Chairman, Search Committee, Department of Biochemistry, Indiana University School of Medicine, Indianapolis, Indiana 46223.** *Indiana University is an Equal Opportunity/Affirmative Action Employer.*

**BIOCHEMIST.** Three-year project involving synthesis of labeled forms of vitamin B<sub>6</sub> and analysis of urinary metabolites using HPLC and GLC. Starting salary: \$16,380, plus full benefit package. Position available immediately. Send résumé and transcripts to: **Jackie Byrd, Employment Manager, Fort Wayne State Hospital and Training Center, 4900 St. Joe Road, Fort Wayne, Indiana 46815.** *We are an Equal Opportunity Employer, M/F/H.*

**BIOCHEMIST/VIROLOGIST.** Postdoctoral position available from 1 January 1979 for a Ph.D. graduate in biochemistry, virology, or related area interested in studying the structure and replication of mammalian picornaviruses. Applicants must have received the Ph.D. degree no earlier than 1 April 1978. Salary is \$11,600 for the first year. Send curriculum vitae and names of two references to: **Dr. D. G. Scraba, Department of Biochemistry, University of Alberta, Edmonton, Alberta, Canada T6G 2H7.**

**BIOCHEMIST.** The Research Division of the Department of Ophthalmology, Columbia University, is seeking a biochemist with an M.S. degree or equivalent. Extensive experience essential in viscometry, carbohydrate biochemistry, column separation procedures, and operating autoanalyzers. Full-time faculty position as staff associate; annual appointment; salary: \$15,456 per year. Send curriculum vitae with list of publications to: **Director, Eye Research, 630 West 168 Street, New York, N.Y. 10032.** *An Affirmative Action/Equal Opportunity Employer.*

### BIOLOGY

**Biology instructor (environmental biology).** Candidates for this position will be expected to instruct in introductory biology courses and to assist in the development of a program in environmental biology. Preference will be given to candidates with training in mammalogy, fisheries, or wildlife biology.

Minimum qualifications: Ph.D. degree and evidence of teaching proficiency on the college level or equivalent professional experience. Salary range from \$11,200 to \$15,356, based on experience.

Send curriculum vitae and three letters of recommendation to: **Dr. Chester T. Roskey, Chairman, Biology Department, Framingham State College, Framingham, Massachusetts 01760.**

The deadline for submission of application is 8 December 1978.

*Framingham State College is an Equal Opportunity/Affirmative Action Employer.*

### BIOLOGY

**Biology instructor (genetics).** Primary responsibility will be to teach undergraduates laboratory courses in genetics. In addition, the candidate will be expected to participate in and contribute to the continuing development of the allied health curriculum.

Minimum qualifications: Ph.D. degree and evidence of teaching proficiency on the college level or equivalent professional experience. Salary range from \$11,200 to \$15,356, based on experience.

Send curriculum vitae and three letters of recommendation to: **Dr. Chester T. Roskey, Chairman, Biology Department, Framingham State College, Framingham, Massachusetts 01760.**

The deadline for submission of application is 8 December 1978.

*Framingham State College is an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

**BIOLOGY.** Applications are invited for three assistant professor positions, available fall 1979. Ph.D. in biology required. (i) **Invertebrate zoologist**, with a specialization in ecology or physiology preferred. (ii) **Mammalogist** with a specialization in physiological ecology preferred. (iii) **Vertebrate systems physiologist** experienced in use of electronic equipment. All successful candidates will be required to teach and do research. Completed application containing curriculum vitae and three letters of recommendation must be received by 1 January 1979. Send to: **Search Committee, Biology Department, California State University, Los Angeles, Calif. 90032.**

*An Equal Opportunity/Affirmative Action/Handicapped/Title IX Employer.*

**BIOLOGY POSITION.** One-year sabbatical replacement to teach (i) a two-semester course of general biology primarily for nonmajors; (ii) a one-semester human anatomy-physiology course at the introductory level, primarily for nonmajors; and (iii) an advanced course for majors. Ph.D. required. Teaching experience desirable. Send letter of application, all transcripts, curriculum vitae, and three letters of recommendation to: **Dr. Charles M. Drabek, Chairman, Biology Department, Whitman College, Walla Walla, Washington 99362.** *Whitman is an Equal Opportunity/Affirmative Action Employer.*

**CHAIRPERSON, DEPARTMENT OF MICROBIOLOGY—University of Massachusetts Medical School.** Applications are invited from established scholars with a strong commitment to research and teaching in microbiology. Candidates must be capable of leading and administering a department with a full-time faculty of ten and a total staff of 40. The faculty has vigorous research interests in prokaryotic and eukaryotic molecular biology. Specific fields of interest include gene structure and regulation in bacteriophage, yeast, slime molds, and insects; virology, membrane biology, bacterial sporulation, and regulation of the immune response. Departmental teaching responsibilities include a clinically integrated course in medical immunology and microbiology, Ph.D. training in microbiology, and participation in a developing interdepartmental Ph.D. program in health sciences. Send curriculum vitae, bibliography, and three references by 31 December 1978 to: **Dr. Neal C. Brown, Chairman, Search Committee, Department of Pharmacology, University of Massachusetts Medical School, Worcester, Mass. 01605.** *Minority and women candidates are encouraged to apply. The University of Massachusetts is an Equal Opportunity/Affirmative Action Employer.*

**CHAIRPERSON—BIOLOGY** for a department of eight full-time faculty in a liberal arts institution of 1800 students; the department currently has over 90 junior-senior majors. Field of specialization open. Salary competitive. Candidates should have doctoral degree, experience in teaching and continuing productive research, leadership potential, and commitment to excellent undergraduate liberal arts education. Send letter, curriculum vitae, and letters of recommendation to: **Dean J. E. Helmreich, Allegheny College, Meadville, Pa. 16335.** *An Equal Opportunity Employer.*

### CHIEF, DEPARTMENT OF PSYCHIATRIC GENETICS

Outstanding psychiatric geneticist (M.D. or Ph.D.) with skills in psychiatric nosology and biological psychiatry and evidence of administrative leadership abilities. Position involves senior faculty appointment, Department of Psychiatry, College of Physicians and Surgeons, Columbia University, and a senior staff appointment, New York State Psychiatric Institute. Program of research and training will be directed by the person selected.

Send curriculum vitae and letter of interest to:

**Donald F. Klein, M.D.  
Director of Psychiatric Research  
New York State Psychiatric Institute  
722 West 168 Street  
New York, New York 10032**

*We are an Equal Opportunity/Affirmative Action Employer.*

## POSITIONS OPEN

### COASTAL PROCESSES UNIVERSITY OF MASSACHUSETTS

The Department of Geology and Geography seeks a faculty member with research interests centered on processes in the coastal zone. We will consider candidates with any of the following interests: sedimentology, geomorphology/physical geography, engineering geology, and natural hazards so long as a substantial proportion of his/her research effort involves problems relevant to the coastal zone. Applicants should send curriculum vitae and the names of at least three referees to: **Professor Charles W. Pirat, Department of Geology and Geography, University of Massachusetts, Amherst, Mass. 01003.** Closing date: 15 January 1979. *The University of Massachusetts is an Affirmative Action/Equal Opportunity Employer.*

### THREE OPENINGS FOR CREATIVE SCIENTISTS

As an institution, NCI-funded to plan a Specialized Cancer Research Center in Oncodevelopmental Sciences, we invite the interest of NIH-funded investigators who can make definitive contributions in embryology, molecular biology, and viral and chemical carcinogenesis. Superb new facilities contain 20 laboratories with P-2 to P-3 capability adjacent to the major biomedical institutions in La Jolla. P.I.'s who can participate effectively in program projects are preferred. Salaries, benefits, retirement, tenure, staff independence, and opportunities are competitive with equivalent institutions. Reply with curriculum vitae and names of three references to:

**Chairman, Search Committee  
La Jolla Cancer Research Foundation  
P.O. Box 1376  
La Jolla, Calif. 92038**

*We are an Equal Opportunity Employer.*

### DEAN, COLLEGE OF PHARMACY WASHINGTON STATE UNIVERSITY

Applications and nominations are sought for the position of dean, College of Pharmacy at Washington State University.

Nominations should be submitted by 1 January, and applications by 1 February 1979 to:

**Philip D. Hansten, Chair  
Screening Committee for Dean  
College of Pharmacy  
422 French Administration Building  
Washington State University  
Pullman, Wash. 99164**

*An Affirmative Action/Equal Opportunity Employer*

California—**DIRECTOR**, Center for Craniofacial Anomalies, Department of Growth and Development. Primary duties include coordination of an ongoing research program in craniofacial growth and coordination of clinical treatment of craniofacial anomalies with associated teaching responsibilities. Rank and salary determined by experience and credentials. Available 1 July 1979. *University of California, San Francisco, is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.* Send curriculum vitae to: **Dr. Robert J. Isaacson, Department of Growth and Development, School of Dentistry, University of California, San Francisco, San Francisco, Calif. 94143.**

### SIMON FRASER UNIVERSITY BRITISH COLUMBIA, CANADA DEPARTMENT OF BIOLOGICAL SCIENCES ENTOMOLOGIST

The Department of Biological Sciences invites applications for a tenure-track position in entomology. The successful applicant will be expected to develop a strong research programme and to participate in the teaching programme at both the undergraduate and graduate level, including courses in the master of pest-management programme. Candidate must have a Ph.D. degree in entomology or related subjects; preference may be given to individuals with teaching and research experience in agricultural pest management. The position is available, subject to budgetary constraints, from 1 September 1979. The initial appointment is for a period of 2 years, renewable. Salary will depend on experience; the base salary for the assistant professor rank currently is \$18,604 per annum.

Applications, including an up-to-date curriculum vitae, reprints of published research, and the names of three referees, should be sent to: **Dr. M. MacKauer, Chairman, Department of Biological Sciences, Simon Fraser University, Burnaby, British Columbia, Canada, V5A 1S6.** Deadline for receipt of applications is 31 January 1979 or when position is filled.

## POSITIONS OPEN

### DIRECTOR OF RESEARCH AND DEVELOPMENT

A New England-based NYSE health care company currently has an opening in its expanding Diagnostics Division for a director of research and development. The ideal candidate must be a Ph.D. with at least 5 years of research experience in diagnostic and/or biomedically related fields. Previous management of people in various scientific disciplines is also required.

The job will involve setting up clinical evaluations of new diagnostic or medically related products and introducing these products to the marketplace. You must be capable of arranging and implementing clinical trials, preparing a formal product presentation, and delivering it to the appropriate audience.

Qualified candidates should forward complete curriculum vitae, including salary requirements, in confidence to:

**Professional Staffing Department  
Damon Corporation  
115 Fourth Avenue  
Needham Heights, Mass. 02194**

**EXTENSION ENTOMOLOGIST.** Entomology Department, Rutgers University, seeks an entomologist to conduct applied research and develop pest-management procedures for vegetable crops, at the Rutgers Research and Development Center, Center-ton, N.J. Assistant professor rank, 12-month, tenure-track position available immediately. Applications accepted until 1 January 1979. Send to: **Herbert T. Streu, Chairperson, Department of Entomology and Economic Zoology, Rutgers-The State University, Cook College, P.O. Box 231, New Brunswick, N.J. 08903.**

### University of South Florida (USF) EIGHT NEW FACULTY FOR THE DEPARTMENT OF MARINE SCIENCE

The Department of Marine Science at the University of South Florida, St. Petersburg, announces the establishment of up to eight new faculty positions. Marine Science at USF has been designated by the Board of Regents for the State University System for special funding by the state legislature for its development of a graduate Center of Excellence. The Florida Institute for Oceanography, also located in St. Petersburg, provides research vessel use and equipment for oceanographers in the State University System.

Applications from persons in the following oceanographic specialties are encouraged:

**Phytoplanktonology, marine animal physiology, fishery biology, microbiology, organic geochemistry, physical chemistry, radiochemistry, geotechnical properties of sediments, carbonate petrology/sedimentation, and high-resolution geophysics.**

Rank and salary will depend upon professional experience and accomplishment. The minimum for a 9-month appointment for professor is \$24,000; associate professor, \$17,000; and assistant professor, \$15,000. The positions are fully state-supported and tenure-earning. Duties will involve approximately 75 percent research and 25 percent teaching.

The new appointments may be made at any time prior to the 1979-1980 academic year. Applicants must have the Ph.D. in fields appropriate to their specialties and promising records of research accomplishment. The closing date for the receipt of applications is 1 January 1979.

Applicants should send complete résumés with three references to: **Dr. John C. Briggs, Department of Marine Science, University of South Florida, 830 First Street South, St. Petersburg, Florida 33701.** *The University is an Affirmative Action/Equal Opportunity Institution.*

Applications are invited for a **FACULTY POSITION** in the Department of Physiology, University of Rochester School of Medicine.

Candidates should have demonstrated ability in teaching and in independent research. Preference will be given to individuals with principal interests in the physiology of the regulation of body fluids and in mechanisms of epithelial cell function. However, applications are encouraged from outstanding candidates irrespective of field of interest.

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

Send résumé, a brief outline of teaching interests, future research plans, and the names of three references to: **Dr. Paul Horowitz, Chairman, Department of Physiology, Box 642, University of Rochester, Rochester, New York 14642.**



## POSITIONS OPEN

**ECONOMIC ENTOMOLOGIST.** Assistant professor rank or, if especially qualified, associate professor. Teach an undergraduate course in economic entomology, team-teach an upper division-graduate course in insect transmission of plant diseases. Undergraduate and graduate advising. Research preferred in field aspects of insect-vectored diseases of crops. Postdoctoral experience desirable. Send résumé and transcript with three letters of recommendation to: Dr. Milton W. Weller, Head, Department of Entomology, Fisheries, and Wildlife, University of Minnesota, 219 Hodson Hall, 1980 Folwell Avenue, St. Paul, Minn. 55108, by 31 January 1979. Position available 1 July 1979. *Equal Opportunity/Affirmative Action Employer.*

### UNIVERSITY OF CHICAGO

The Department of Anatomy invites applications for a **FACULTY POSITION** in the area of **neurobiology**. We prefer an individual with research interests and background in the analysis of the CNS components of motor or sensory systems, particularly in birds or mammals. Primary teaching responsibility will be in neurobiology; however, the successful candidate will interact with the departmental programs in functional morphology and organismal and evolutionary biology as well as with the divisional Neurobiology Program.

*The University of Chicago is an Equal Opportunity Employer; women and members of minority groups are specifically encouraged to apply.* Please send résumé, including a statement of research goals, by 30 December, and arrange to have three letters of recommendation sent to: **Neurobiology Search Committee, Anatomy Department, University of Chicago, 1025 East 57 Street, Chicago, Ill. 60637.**

**INSTRUCTOR OF MEDICINE (ENDOCRINOLOGY).** Applications are invited for a Ph.D. to conduct a research program contributing to the research activities of the Endocrine Division, Department of Medicine, Emory University School of Medicine, in the biochemistry and physiology of gonadal steroids and steroid conjugates. Starting salary \$16,000 to \$18,000 per year. Available 1 January 1979. Send curriculum vitae to: **Dr. John R. K. Preedy, Director, Division of Endocrinology, Department of Medicine, 69 Butler Street, SE, Atlanta, Ga. 30303** by 1 December 1978. *Emory University is an Equal Opportunity/Affirmative Action Employer. Applications from minorities and women are especially encouraged.*

### UNIVERSITY OF MELBOURNE LECTURESHIP (LIMITED TENURE) in the DEPARTMENT OF ZOOLOGY

Applications are sought from zoologists with training and experience in animal ecology or ecophysiology. The appointee will be expected to teach in undergraduate courses in ecology, marine zoology, and systematic zoology, to maintain an active research programme, and to supervise the research projects of B.Sc. (honours) and postgraduate students. A research interest in the biology of invertebrates or lower vertebrates is preferred, with an experimental and field-oriented approach.

The position is available from 1 June 1979 for a period of 3 to 5 years.

Salary: A\$15,179 to A\$19,940 per annum.

For further details about the position consult the **Chairman of the Department of Zoology, Professor G. Campbell.**

Further information, including details of application procedure and conditions of appointment, is available from: **Registrar, University of Melbourne, Parkville, Victoria, 3052, Australia.** Applications referring to position number 654 011 should be addressed to the Registrar and close on 31 January 1979.

### MEMBRANE BIOPHYSICIST/BIOCHEMIST

The Department of Radiation Biology and Biophysics, of the University of Rochester, has a regular faculty position, rank open, for an individual having an active research program in mammalian cell membranes. Desired areas of interest: receptors, cell-cell interaction, membrane protein chemistry, and reconstitution. Send curriculum vitae and names of three references to:

**Dr. Adil E. Shamoo**  
Chairman of Search Committee  
Department of Radiation Biology and Biophysics  
University of Rochester  
School of Medicine and Dentistry  
Rochester, N.Y. 14642

*An Equal Opportunity Employer, M/F*

## POSITIONS OPEN

**HUMAN GENETICIST.** To teach human and general genetics and to conduct research in human genetics. **Assistant or associate professor level.** Apply with curriculum vitae, including research interests and names of three references. Position open through 28 February 1979. Write to:

**James B. Boyd**  
Department of Genetics  
University of California  
Davis, California 95616

*The University of California is an Equal Opportunity/Affirmative Action Employer and invites applications from all qualified individuals.*

**IMMUNOCHEMIST.** Position as research associate available 1 January 1979 for Ph.D. with recent postdoctoral experience. Position requires experience in analysis and isolation of immunologically active factors. Background in membrane chemistry and cellular immunology desirable. Salary negotiable. Send curriculum vitae and names of four referees from whom references may be obtained to: **Dr. Stephen T. Sonis, Building E-1, Harvard Medical School, 25 Shattuck Street, Boston, Mass. 02115.**

### IMMUNOLOGIST

Assistant professor with Ph.D. to develop courses and research program in immunology, teach mammalian histology, and participate in general biology program. Applicant is expected to develop research program in immunology for undergraduate and graduate students. Tenure-track, 9-month appointment starting August 1979. Money available to purchase equipment and supplies over the first 3 years. Please submit curriculum vitae and references before deadline of 31 January 1979. Send to: **Dr. Harold D. Murray, Chairman, Department of Biology, Trinity University, San Antonio, Texas 78284.** *An Equal Opportunity/Affirmative Action Employer.*

### MICROBIAL GENETICS FACULTY POSITIONS

Two positions now open. Doctoral degree with training/experience and research productivity in microbial genetics. Responsibilities include active research program and teaching of graduate, medical, and/or allied health students. Rank and salary open. Send curriculum vitae, bibliography, and three letters of reference to: **Richard L. Crowell, Ph.D., Chairman, Department of Microbiology and Immunology, Hahnemann Medical College, 230 North Broad Street, Philadelphia, Pa. 19102.** *Equal Opportunity/Affirmative Action Employer.*

**MICROBIOLOGIST (SOIL MICROBIOLOGIST/MICROBIAL ECOLOGIST).** Ph.D. required; postdoctoral experience recommended. Teaching consistent with other science faculty and research in soil microbiology/microbial ecology through Agricultural Experiment Station. Start: 1 July 1979.

Assistant professor, 12-month (Departments of Microbiology and Soil Science). Application closing date: 1 February 1979. Send résumé, transcripts, and three letters of recommendation to: **J. L. Fryer, Chairman, Department of Microbiology, Oregon State University, Corvallis, Ore. 97331.** *Oregon State University is an Affirmative Action/Equal Opportunity Employer and complies with Section 504 of the Rehabilitation Act of 1973.*

**MICROBIOLOGIST/IMMUNOLOGIST.** A full-time research scientist position offering opportunities for independent and collaborative research is available immediately for a Ph.D. with an interest in studying infectious disease, immunochemistry, or immunogenetics in nonhuman primates. Submit curriculum vitae and names of references before 15 January 1979 to: **Dr. Louis N. Martin, Department of Microbiology, Delta Regional Primate Research Center, Tulane University, Covington, La. 70433.** *Tulane University is an Equal Opportunity/Affirmative Action Employer. Applications from women and minority group members are especially encouraged.*

**MOLECULAR VIROLOGIST.** Permanent staff position available January 1979. Conduct own program relative to simian or human viruses with collaborative opportunities in immunology, tumor virology, and viral pathogenesis. Position carried adjunct academic appointment with teaching possibilities. Send résumé to: **Dr. Kenneth Soike, Tulane University, Delta Regional Primate Research Center, Covington, Louisiana 70433.** *Tulane University is an Equal Opportunity/Affirmative Action Employer, and applications from qualified women and minority group members are especially encouraged.* Application deadline: 15 January 1979.

## POSITIONS OPEN

### University of California, Berkeley MICROPALEONTOLOGIST

The Department of Paleontology, University of California, Berkeley, invites applications for a faculty position at the assistant professor level that is pending final budgetary authorization. Applicants must have a strong interest in undergraduate and graduate instruction and an active research program in some aspect of marine micropaleontology. Demonstrated ability in quantitative paleobiology is highly desirable. Applicants should send résumé, statements of research and teaching programs, and letters from three references to: **Chairman, Department of Paleontology, University of California, Berkeley, California 94720.** The closing date for receipt of applications will be 1 February 1979. *The University of California is an Affirmative Action Employer.*

### MOLECULAR BIOLOGIST

A tenure-track assistant professor is being sought for fall 1979. The successful candidate will be expected to initiate and maintain a vigorous research program on molecular aspects of **cellular differentiation, eukaryotic gene regulation**, or a closely related area. Teaching of an undergraduate course and a graduate course in the area of specialty is expected. Substantial initial research support will be provided. Deadline for receiving applications is 31 January 1979. Send curriculum vitae, three letters of recommendation, statement of future research objectives, and publications to: **Michael R. Felder, Molecular Biologist Search Committee, Department of Biology, University of South Carolina, Columbia, S.C. 29208.** *The University of South Carolina is an Equal Opportunity/Affirmative Action Employer.*

### NEUROANATOMIST DEPARTMENT OF PHYSIOLOGY-ANATOMY UNIVERSITY OF CALIFORNIA BERKELEY

Invites applications and nominations for the position of assistant professor of anatomy which will become available 1 July 1979. The successful candidate must be able to assume primary teaching responsibility for one undergraduate and one graduate neuroanatomy course in alternate years and to participate in the department's teaching program in the anatomical sciences. Preference will be given to applicants with two or more years of postdoctoral training and research competence in developmental and/or functional anatomy of the nervous system. Candidates will be evaluated on the basis of their dedication to excellence in teaching and research and their capacities to develop a vigorous and independent research program in neurobiology. Interested individuals should reply by letter, explaining their qualifications, with current curriculum vitae and a list of three or more persons who could act as referees, to: **Search Committee, Department of Physiology-Anatomy, 2549 Life Sciences Building, University of California, Berkeley, California 94720.** Deadline for applications and nominations: 1 January 1979. *The University of California is an Affirmative Action Employer.*

The Division of Clinical Nutrition, the Hospital for Sick Children, Toronto, Ontario, is seeking applicants for a position as a geographical full-time staff member. The applicant should be a trained **PAEDIATRIC PHYSICIAN OR SURGEON**, with a demonstrated interest and competence in **nutrition research**. The position will entail patient care, teaching, and the conduct of original research in the area of human nutrition. Applicants are requested to correspond with: **Dr. P. B. Pencharz, Head, Division of Clinical Nutrition, The Hospital for Sick Children, 555 University Avenue, Toronto, Ontario, Canada M5G 1X8.**

### BERKELEY—PHYSICS

The Physics Department of the University of California, Berkeley, expects during the next 2 years to be making one or two appointments at the assistant professor level. Preferred areas of research are astrophysics, atomic and plasma physics, condensed matter physics, nuclear physics, and particle physics, with some priority given to theoretical condensed matter physics, experimental plasma physics, and theoretical particle physics.

Applicants should write before 1 February 1979, to: **Chairman of the Physics Department, University of California, Berkeley, Calif. 94720**, giving curriculum vitae, publication list, and references. *The University of California is an Affirmative Action Employer.*

## POSITIONS OPEN

### THE UNIVERSITY OF CHICAGO DIVISION OF THE BIOLOGICAL SCIENCES

The Department of Pharmacological and Physiological Sciences is considering appointments in the area of **NEUROBIOLOGY**. From the time of its original charter, the principle of the University of Chicago has been to appoint scholars without regard to race, color, religion, sex, or national origin. Please have three professional persons write us concerning you and send your résumé, together with your most significant publications, to:

**Alfred Heller, Professor and Chairman**  
Department of Pharmacological and  
Physiological Sciences  
University of Chicago  
947 East 58 Street  
Chicago, Illinois 60637

### NEUROPHYSIOLOGY UCR/UCLA PROGRAM IN BIOMEDICAL SCIENCES

The UCR/UCLA Program in Biomedical Sciences, which offers an accelerated M.D. curriculum jointly between the University of California, Riverside, and the University of California, Los Angeles, School of Medicine, has a faculty opening in **NEUROPHYSIOLOGY** at the assistant or associate professor level. Teaching responsibilities will be in neurophysiology and neuroanatomy for medical students. Applicants should have postdoctoral experience and be able to continue with or develop an independent research program. *The University of California is an Affirmative Action/Equal Opportunity Employer.* Applications, including curriculum vitae and names of references, should be sent to:

**Dr. Mary Ann Baker, Chair**  
Neurophysiology Search Committee  
Division of Biomedical Sciences  
University of California, Riverside  
Riverside, California 92521

### PHARMACOLOGIST-TOXICOLOGIST

Applications are invited from qualified individuals for a position at the research assistant professor level in the Department of Biochemical Pharmacology and Toxicology, University of Utah. The appointee must be committed to excellence in teaching and research and will participate in the professional teaching activities of the department as well as instruction in the graduate program that is funded by an NIH training grant. Postdoctoral experience is required and it is anticipated that the applicant will establish an independent research program of high quality in an area that will augment existing research of the department. Interested applicants should send curriculum vitae and names of three references to: **Dr. James W. Gibb, Chairman, Department of Biochemical Pharmacology and Toxicology, University of Utah, Salt Lake City, Utah 84112.** *The University of Utah is an Equal Opportunity/Affirmative Action Employer.*

**PHARMACOLOGIST OR BIOLOGIST**—Postdoctoral position available immediately. Chemotherapy of ocular tumors in animal models, drug penetration in the eye, drug metabolism. Send résumé to: **Personnel Office, Eye Research Institute of Retina Foundation, 20 Staniford Street, Boston, Massachusetts 02114.** *Equal Opportunity/Affirmative Action Employer, M/F.*

### POPULATION BIOLOGIST

The Department of Biology at the University of California at Riverside invites applications for a faculty position in population biology beginning 1 September 1979. Candidates must show evidence of ability to initiate and sustain a productive, high-quality research program and show enthusiasm and skill in teaching at both the undergraduate and graduate levels. Teaching duties would include an introductory population biology course and a graduate field course. Appointment will be made at the assistant professor level. Applicants should send curriculum vitae, statement of teaching and research interests, reprints, and letters from three referees. *The University of California is an Equal Opportunity/Affirmative Action Employer. Applications are invited from all qualified individuals, especially women and members of minority groups.* Send applications to:

**Irwin W. Sherman, Chairman**  
Department of Biology  
University of California  
Riverside, California 92521

## POSITIONS OPEN

### PHARMACOLOGIST

Battelle, one of the world's leaders in research and development, is seeking a Ph.D. in pharmacology or related area. Applicants must have 2 to 5 years of experience in drug metabolism, excretion, and distribution; and must be familiar with instrumentation such as GC, HPLC, fluorometry, scintillation counters, and so forth. A strong background in chemistry is desirable.

Excellent career development opportunities, professional atmosphere; excellent salaries and generous benefits. Send résumé in confidence to: **Leslie G. Hill, Manager, Employment,**



Columbus Laboratories  
505 King Avenue  
Columbus, Ohio 43201

*An Equal Opportunity Employer*

### POSTDOCTORAL APPOINTMENTS

The Ames Laboratory of the U.S. Department of Energy has a number of vacancies for postdoctoral fellows in the fields of chemistry, physics, metallurgy, and engineering. The appointments would be for 1 year, renewable for a second year if mutually agreeable. In some instances there may be a possibility for continued employment beyond the 2-year postdoctoral appointment if circumstances warrant.

Interested persons should submit a complete résumé, along with the names and addresses of three professional references, to:

**Ames Laboratory  
Personnel Office  
127 Spedding Hall  
Iowa State University  
Ames, Iowa 50011**

*An Equal Opportunity Employer*

### POSTDOCTORAL FELLOW TUMOR BIOLOGY/RADIOBIOLOGY

Available after December 1978; duration: 1 to 3 years. To join established group studying effects of chemotherapy and x-rays on experimental tumors in vivo; some in vitro work possible. Send curriculum vitae and names of three references to: **Dr. Karen Fu, Department of Radiation Oncology M330, University of California, San Francisco, California 94143.**

### POSTDOCTORAL POSITION Microbiology/Molecular Biology

Research in the area of membrane adaptation to alcohol and related drugs; alcohol tolerance and its biochemical basis. Available about January 1979. Send curriculum vitae to: **L. O. Ingram, Department of Microbiology and Cell Science, University of Florida, Gainesville, Fla. 32611.** *An Equal Opportunity Employer.*

**POSTDOCTORAL POSITION.** Available immediately. Research associate with Ph.D. is being sought to participate in a study of the regulation of hepatic glucose production. Background in the biochemistry of carbohydrates and lipids is desirable. Send curriculum vitae and names of references to:

**Dr. Stanley Blumenthal**  
VA Medical Center  
Irving Avenue and University Place  
Syracuse, New York 13210

**POSTDOCTORAL POSITIONS** available immediately:

1) Ph.D. in microbiology or biochemistry interested in surface proteins of lymphoid cells and/or genetics of immunoglobulins.

2) Ph.D. in microbiology or immunology interested in the identification and functional classification of human lymphocyte subpopulations.

Send curriculum vitae and three recommendations to: **Dr. Katherine Knight (1) or Dr. Marius Teodorescu (2), Department of Microbiology and Immunology, University of Illinois at the Medical Center, P.O. Box 6998, Chicago, Ill. 60680.**

## FACULTY POSITIONS

1979-1980

**KING FAISAL UNIVERSITY  
COLLEGE OF MEDICINE  
DAMMAM, SAUDI ARABIA**

The expanding College of Medicine, now in its fourth year, is accepting applications from qualified men and women for the 1979-1980 academic year in:

|                     |                     |
|---------------------|---------------------|
| <b>CHEMISTRY</b>    | <b>PATHOLOGY</b>    |
| <b>BIOLOGY</b>      | <b>COMMUNITY</b>    |
| <b>PHYSICS</b>      | <b>MEDICINE</b>     |
| <b>BIOCHEMISTRY</b> | <b>EPIDEMIOLOGY</b> |
| <b>ANATOMY</b>      | <b>MICROBIOLOGY</b> |
| <b>PHYSIOLOGY</b>   | <b>PARASITOLOGY</b> |
| <b>PHARMACOLOGY</b> |                     |

Doctorate or equivalent degree required. Language of instruction is English. Interviews to be held in London and Houston in late February 1979.

**SALARY RANGES** (annual, paid monthly in Saudi riyals):

Professor: \$26,118 to \$33,378

Associate Professor: \$23,359 to \$29,712

Assistant Professor: \$19,039 to \$24,757

Lecturer: \$11,906 to \$16,444

(30 percent allowance for M.D. degree)

### BENEFITS:

Free furnished housing, educational allowances, airfare to and from Saudi Arabia for family of four, 60-day paid vacation, liberal overweight allowance. No Saudi income tax.

Send two copies of résumé and three references to:

**Dr. Tawfik Tamimi**  
Dean, Faculty of Medicine  
King Faisal University  
c/o Saudi Arabian Educational Mission  
2221 West Loop, South  
Houston, Texas 77027

OR

c/o P.O. Box 2  
Sunbury on Thames  
Middlesex TW16 6EH England

## Epidemiologist

**Lawrence Berkeley  
Laboratory**  
University of California

Epidemiologist to participate in a research program to investigate the health and disease effects of environmental pollution with initial and particular emphasis on effects of air pollution and low-level radiation. Future studies will be concerned with emerging energy technologies, and present an opportunity to work with other researchers in integrated programs involving assessment of potential human health hazards. Will work with advanced graduate students. Possibility of affiliation with University of California, Berkeley, School of Public Health. Requires experience in the design and implementation of epidemiological studies. Strong background in biology, physical science, and air pollution research desirable.

Please submit two resumes, including salary history and three references to: **R. Lowder, Employment Office, Lawrence**

**Berkeley Laboratory**  
1 Cyclotron Rd.,  
Berkeley, CA 94720  
(415) 843-2740  
Ext. 5149 or 6271  
Equal Oppty. Emp.



## POSITIONS OPEN

**Department of Developmental and Cell Biology**  
**University of California, Irvine**

**POSTDOCTORAL POSITIONS**—available immediately:

**Neurobiologists** (two), to study neuronal specificity in invertebrates; microelectrode experience desirable. Contact: **H. Koopowitz** or **R. Josephson**.

**Cell biologist**, to study the biology and immunology of tumor metastasis; will involve the development of animal models. Contact: **G. Nicolson**.

**Cell immunologist**, to work on project developing monoclonal cell lines. Contact: **M. Berns**.

*Applications from all qualified candidates are welcome; minorities and women are encouraged to apply.*

**Department of Developmental and Cell Biology**  
**University of California, Irvine**  
**Irvine, California 92717**

**POSTDOCTORAL POSITIONS.** Two positions available immediately and for next summer for biochemical and biophysical studies on the regulation and mechanisms of gene expression and the nucleic acid-protein interaction. Experience in molecular biology or physical biochemistry desirable. Interested applicants should send curriculum vitae and three letters of recommendation to: **Dr. C.-W. Wu, Department of Biochemistry, Albert Einstein College of Medicine, Building U-205, Bronx, N.Y. 10461. An Equal Opportunity Employer.**

**POSTDOCTORAL POSITION** available immediately for work on relationship of neurotransmitters to reproductive behavior. Salary: \$11,000 to start. Prefer background in neurosciences, physiological psychology, biochemistry, or pharmacology. Send curriculum vitae and names of three references to: **Dr. Lynwood Clemens, Department of Zoology, Michigan State University, East Lansing, Mich. 48824. An Equal Opportunity/Affirmative Action Employer.**

Two **POSTDOCTORAL POSITIONS**, available immediately, interaction of combined modalities of hyperthermia, chemotherapeutic agents, and ionizing radiation on cell kinetics and cell survival in synchronous mammalian cells in culture, and in Chinese hamster normal and tumor tissues in vivo. Background in radiation biology, hyperthermia, or mammalian cell culture required. Salary commensurate with experience, renewable for 2 or 3 years. Please send résumé and names of three references to: **Dr. D. B. Leeper, Laboratory of Experimental Radiation Oncology, Department of Radiation Therapy, Thomas Jefferson University Hospital, Philadelphia, Pa. 19107. An Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL POSITION** available immediately to investigate the biochemistry of cytoskeleton-membrane interaction. Experience in biochemical techniques and electron microscopy preferred. Position is renewable for 3 years and is supported by an NIH grant jointly held with Dr. William Dentler. Send résumé and the names of three references to: **Dr. L. L. Houston, Department of Biochemistry, University of Kansas, Lawrence, Kan. 66045. An Equal Opportunity Employer.**

**POSTDOCTORAL POSITION.** For biochemical research on the role of epoxide hydrolase and microsomal protein/lipid alterations during hepatocarcinogenesis. Recent Ph.D. required. Position available immediately; annual salary: \$12,000 to \$13,500 range. Submit curriculum vitae to: **Martin J. Griffin, Ph.D., Cancer Research Program, Oklahoma Medical Research Foundation, 825 N.E. 13 Street, Oklahoma City, Okla. 73104. An Equal Opportunity/Affirmative Action Employer.**

**POSTDOCTORAL RESEARCH ASSOCIATE** to study the interaction of membranes of eukaryotic cells with the cell cytoskeleton. This is a full-time position beginning 1 December 1978 for 1 year with the possibility of continuation for two additional years. Duties include carrying out research on microtubules and actin isolated from brain tissue and from single-cell organisms. Experience with neurobiology and biochemical techniques of protein purification is highly desirable. A Ph.D. is required. Applicant should send curriculum vitae and three letters of reference to: **Dr. L. L. Houston, University of Kansas, Department of Biochemistry, Lawrence, Kan. 66045. The University of Kansas is an Equal Opportunity/Affirmative Action Employer.**

## POSITIONS OPEN

**POSTDOCTORAL POSITIONS** available immediately through January 1979 in NIH training program in the physiology of exercise. Current support grant expires 30 June 1979; renewal submitted. Program designed to raise level of research accomplishment in cardiorespiratory disease research programs. Must have Ph.D. or M.D. Send résumé and three letters of recommendation to: **Steven M. Horvath, Institute of Environmental Stress, University of California, Santa Barbara, Calif. 93106. An Affirmative Action Employer.**

**POSTDOCTORAL POSITION** available now for a biochemical study of capillaries isolated from brain and retina. Goals are to define the cellular basis of capillary failure in diabetes, brain edema, and lead poisoning. Areas under current investigation include membrane transport, pinocytosis, biochemical composition, and cellular metabolism. Experience in tissue culture or cytochemistry is helpful. Salary to \$16,000. Applicants with Ph.D. or M.D. send curriculum vitae and letters of recommendation to: **Dr. G. Goldstein, Department of Neurology, M-794, University of California, San Francisco, Calif. 94143.**

Two **POSTDOCTORAL POSITIONS** (1 to 3 years) available immediately in laboratory of Dr. Stuart Smith. Salary: \$13,400. (i) Structural studies on enzymes of fatty acid biosynthesis; experience in protein chemistry and/or enzymology is desirable. (ii) Regulation of enzyme activities in developing mammary gland; experience in enzymology, protein synthesis, or developmental biochemistry would be an advantage. Send résumé and names of three references to: **Children's Hospital Medical Center, Personnel Department, 51st and Grove Streets, Oakland, Calif. 94609.**

**POSTDOCTORAL POSITION.** Biochemist to study the interaction of membrane-active chemicals with biological membranes. Research background in membrane or protein biochemistry desirable. Salary up to \$12,500. Send curriculum vitae and names of three references, before 15 December 1978, to: **Dr. Terry L. Miller, Department of Agricultural Chemistry and Environmental Health Sciences Center, Oregon State University, Corvallis, Oregon 97331. An Equal Opportunity/Affirmative Action Employer, in compliance with Section 504 of the Rehabilitation Act of 1973.**

### MIT

#### POSTDOCTORAL AND PREDOCTORAL RESEARCH POSITIONS

Several positions are available for research in genetic toxicology with emphasis on mechanisms of chemical mutation of human cells. Strong background in chemistry is desired of predoctoral researchers, and molecular biology of postdoctoral researchers. Please send résumés to: **Professor William G. Thilly, Room E18-666, Massachusetts Institute of Technology, Cambridge, Mass. 02139. MIT is an Equal Opportunity Employer.**

#### POSTDOCTORAL RESEARCH ASSOCIATES

Two positions available immediately:

1) **Biochemist/protein chemist** interested in structure and function of serum factors which inhibit cell proliferation and the mechanism and control of lymphocyte proliferation and neoplastic growth. Experience in some or all of the following areas desired: protein separation techniques, protein structure and function, biochemistry of cyclic nucleotides, electron microscopy, and tissue culture.

2) **Immunologist** interested in immunological and structural characterization of an immunosuppressive factor associated with a spontaneously regressing tumor of mice. Experience in protein separation techniques, cellular immunology, and tissue culture desired.

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Send curriculum vitae and names of three references to:

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Applications are invited for an endowed position as the Alexander Duesen Professor with tenure to participate in the undergraduate and graduate teaching programs in our department. This person would also be expected to develop a program of research involving graduate students. We especially seek someone with expertise in petroleum geology and with close contact with the energy industries. Applicants should be actively involved in the application of their special research to the finding or developing of energy resources. Applications should be received by 1 January 1979.

The position is available 1 September 1979. Interested applicants should send a complete résumé, including names of references, to:

**Robert E. Boyer, Chairman**  
**Department of Geological Sciences**  
**The University of Texas**  
**Austin, Texas 78712**

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#### PROGRAM MANAGER BASIC RESEARCH IN SOLID MECHANICS

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**Civilian Personnel Office**  
**76 ABG/DPCR**  
**Andrews AFB, Md. 20331**  
**Attention: N. J. Shepherd**

Applications will be accepted through 8 December 1978.

#### PSYCHOPHARMACOLOGY/NEUROCHEMISTRY.

A tenure-track position at the assistant professor level is available starting 1 September 1979. Applicants should be prepared to pursue an organized program of research and participate in both graduate and undergraduate instructional programs. Excellence of credentials in psychopharmacology/neurochemistry will be the primary consideration. Individuals who also have a background in behavior genetics and animal behavior are especially encouraged to apply. Please send curriculum vitae, publications, and three letters of recommendation to: **Psychopharmacology Search Committee, Department of Psychology, University of Texas at Austin, Austin, Texas 78712. An Affirmative Action/Equal Opportunity Employer.**

**RESEARCH ASSOCIATE.** Position available for an outstanding M.D. or Ph.D. investigator for full-time research in well-funded program on thyroid hormone action by the mitochondrial pathway. Associated with Columbia University, College of Physicians and Surgeons. Salary depends on previous research achievement. Send curriculum vitae, bibliography, and the names of three references to: **Dr. Kenneth Sterling, Veterans Administration Hospital, 130 West Kingsbridge Road, Bronx, N.Y. 10468.**

**SENIOR FACULTY POSITION** in magnetic resonance: applications are solicited for a senior level position effective as early as summer 1979. We seek applicants with an outstanding record of achievement in NMR, who also show evidence of a significant involvement in applications of NMR to biological systems. The successful candidate, who will hold a joint appointment in Chemistry and the Division of Health Sciences, is expected to engage in teaching to pursue a vigorous research program, and to facilitate the development and use of state-of-the-art NMR methods within the university community. Please submit curriculum vitae and names of three references within 1 month of publication of this notice to: **Professor Alvin L. Kwiram, Chairman, Department of Chemistry, BG-10, University of Washington, Seattle, Wash. 98195. The University of Washington is an Equal Opportunity/Affirmative Action Employer.**



## MEDICAL BACTERIOLO- GIST/ MYCOLOGIST

Tenure track position in Department of Biology and Muncie Center for Medical Education available no later than Sept. 1, 1979. Background in general microbiology desirable. Demonstrated teaching and research ability in medical school or university programs, publication and/or other evidence of scholarly contributions preferred. Doctorate required. Send resume to Chairman, Search and Selection Committee, Department of Biology, Ball State University, Muncie, IN 47306. Application deadline January 15, 1979.

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## PROJECT LEADER ANTIHYPERTENSIVES

Ph.D. in Pharmacology with 2-5 years industrial or industrial/academic experience in hypertension research and the development of anti-hypertensive agents. This position entails the supervision of a group of 6 individuals and interaction with the diuretic program.

## VIROLOGIST

Ph.D. in Virology, preferably with 2-5 years of post-doctoral experience. The qualified candidate must have experience in both tissue culture and in animal models used in the study of viral diseases, and will participate in a dynamic program in antiviral chemotherapy and development of new antiviral drugs.

## RESEARCH BIOLOGIST RADIOPAQUE CONTRAST AGENTS

Ph.D. with a background in radiation biology and experience in the pharmacology of radiopaque contrast agents to direct a laboratory dedicated to the development of contrast agents and their diagnostic utilization. Must have leadership and creative qualities to assume responsibility for current and future oriented basic and developmental research and to participate in clinical evaluation programs.

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or call (202) 692-0224/692-0225**

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## POSITIONS OPEN

**RESEARCH ASSOCIATE**, interested in stress related endocrine physiology and cellular responses. Ample opportunity for independent and collaborative basic research in multidisciplinary group. Excellent laboratory facilities. Concurrent staff appointments at Shriners Burns Institute, Massachusetts General Hospital, and Harvard Medical School. Postdoctoral experience preferred. Send résumé and references to: **Dr. H. H. Bode, Shriners Burns Institute, 51 Blossom Street, Boston, Massachusetts 02114. An Equal Opportunity/Affirmative Action Employer.**

The Division of Clinical Nutrition, The Hospital for Sick Children, Toronto, Ontario, is seeking applicants for a position as **RESEARCH ASSOCIATE** (full-time staff member). The applicant should have received his/her doctorate in nutritional biochemistry or animal nutrition, and should have had 1 or 2 years of postdoctoral experience. The applicant will be expected to conduct independent research in nutrition; both in human and in animal models. The position will also entail participating in the teaching load of the division. Applicants are requested to correspond with: **Dr. P. B. Pencharz, Head, Division of Clinical Nutrition, The Hospital for Sick Children, 555 University Avenue, Toronto, Ontario, Canada M5G 1X8.**

**RESEARCH ASSOCIATE.** Geneticist required for project in **environmental mutagenesis**. Two years of postdoctoral experience with mammalian cells in vivo or in vitro in this or a closely related field are required. The initial appointment will be for 1 year at \$14,000 per year from 1 January 1979; renewal for two additional years probable. Send your curriculum vitae and the names and telephone numbers of three referees to: **John A. Heddle, Department of Biology, York University, Toronto, Ontario, Canada M3J 1P3.** Canadian citizens and landed immigrants will be given preference.

University of Florida. **SCIENTIFIC PROGRAMMER.** Responsibilities include developing and maintaining hardware and software for auditory and somatosensory laboratories. Experience with PDP-11 helpful. Requires bachelor's degree in mathematics or a physical or biological science, which included completion of an advanced computer programming course, and 2 years of experience in computer programming. Send complete résumé and salary requirement by 8 December 1978 to: **Jan Eller, University of Florida, Division of Personnel Relations, Second Floor Hub, Gainesville, Florida 32611. Equal Opportunity/Affirmative Action Employer.**

**TEACHING/RESEARCH POSITIONS** (three) in physical oceanography, ocean engineering (coastal and/or mining) available at the assistant or associate professor level. Ph.D. required. Undergraduate/graduate teaching with strong research interest and field orientation desirable. Send résumé and names of references to: **N. W. O'Hara, Head, Department of Oceanography and Ocean Engineering, Florida Institute of Technology, Melbourne, Fla. 32901. An Equal Opportunity Employer.**

**TEACHING POSITION.** Available March 1979. Microbiologist preferably with an aquatic orientation. Applicants must show strong teaching credentials in microbiology and general biology at the introductory level. Appointment will be at the instructor or assistant professor level. Master's degree minimum. Closing date: 1 January 1979. Applicants must send curriculum vitae, transcripts, and three letters of recommendation to: **Dr. Donald M. Meisner, Chairman, Biology Department, Raymond Walters General and Technical College, University of Cincinnati, 9555 Plainfield Road, Cincinnati, Ohio 45236. Equal Opportunity/Affirmative Action Employer.**

## TOXICOLOGIST

Expanded emphasis in environmental health research makes tenure-track position available immediately for broadly trained toxicologist. Opportunity to develop strong graduate research activities in area of specialty and interact in multidisciplinary research. Ph.D. in toxicology, pharmacology, or other pertinent field. Prior academic/postdoctoral experience desired. Academic rank and salary commensurate with qualifications. Send résumé and three references to: **Dr. Karen Yarbrough, Box 5165 Southern Station, University of Southern Mississippi, Hattiesburg, Miss. 39401. Telephone: 601-266-7269. Equal Opportunity/Affirmative Action Employer.**

## POSITIONS OPEN

**SOCIOCULTURAL ANTHROPOLOGIST.** The Department of Anthropology, The Pennsylvania State University, seeks sociocultural anthropologist with Ph.D. for tenure-track position beginning September 1979. Applicants should have strong commitment to field research and present evidence of scholarly ability. Ethnographic area is of less importance than the applicant's demonstrated interest in a strong quantitative orientation to research and experience in supervising doctoral students. Rank and salary open, depending on qualifications. Send curriculum vitae to: **Dr. Thelma S. Baker, Anthropology Department, 409 Carpenter Building, Pennsylvania State University, University Park, Pa. 16802.**

Deadline: 31 December 1978.

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## STEROID HORMONE RESEARCH AND HYPERTENSION

Postdoctoral trainee position for person interested in mechanism of steroid hormone action relating to development of diagnostic and therapeutic techniques in hypertension. This is an opportunity to spend up to 3 years in a lively research environment learning how to study steroid hormone action in vivo and in established cell lines in tissue culture. Stipend according to NIH regulations. Send résumé and names of three references to:

**Professor Darrell D. Faneuil  
Department of Medicine (M-023)  
University of California, San Diego  
La Jolla, California 92093**

## COURSES

### MOLECULAR ENDOCRINOLOGY AND TECHNIQUES FOR HORMONE ACTION

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The course will cover receptors for protein and steroid hormones, gene transcription, RNA polymerase, mRNA synthesis and protein synthesis, membranes, cyclic nucleotides, protein kinase, phosphodiesterase, and tissue culture. The course will consist of lectures in methodology, with a comprehensive syllabus. Fee: \$195 (\$145 for fellows). Contact: **Barbara Gordin, Department of Cell Biology, Baylor College of Medicine, Houston, Texas 77030. Telephone: 713-521-4701.**

## TRAINEESHIPS

### Postdoctoral Training Program CELLULAR AND MOLECULAR ENDOCRINOLOGY

Postdoctoral traineeships are available immediately and for 1979 in a new NIH-supported program. Trainees with a Ph.D. or M.D. degree will participate in a research program of one of 12 faculty from the Biochemistry Department and the Program in Biomedical Sciences on the campus of the University of California, Riverside. The purpose of the program is to provide for research training at the postdoctoral level in the following four major areas of focus.

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- 2) Intracellular events in control of cell growth and metabolism;
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- 4) Structure and properties of hormones and their receptor.

For detailed information and application forms write to:

**Dr. Anthony W. Norman, Program Director  
Department of Biochemistry  
University of California  
Riverside, California 92521  
Telephone: 714-787-4227**

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## TRAINEESHIPS

**RESPIRATORY PHYSIOLOGY TRAINING PROGRAM** funded by NHLBI. Postdoctoral traineeships available July 1979 for 1 to 3 years. Emphasizes tissue respiration, cell membranes, smooth muscle, lung metabolism, respiration control, and gas exchange. Write: **Education Officer, Respiratory Physiology Group, Department of Physiology, University of Pennsylvania School of Medicine/G4, Philadelphia, Pa. 19104. An Equal Opportunity Employer.**

## GRADUATE STUDY

**DEPARTMENT OF PATHOLOGY.** A limited number of stipend supported positions are available for Ph.D. candidates in pathobiology. Potential research areas include the use of morphological, biochemical, cytochemical, immunological, and cell biology methodology in the study of disease processes. Applicants with advanced training in biology, chemistry, or physics are especially encouraged. Contact: **Dr. Harvey Bank, Department of Pathology, Medical University of South Carolina, Charleston, S.C. 29403.**

## FELLOWSHIPS

**POSTDOCTORAL FELLOWSHIPS AND GRANTS** are available for research in which the natural resources of the Huyck Preserve are utilized. Laboratory space and housing provided for family or assistants. Summer fellowship stipend is \$2,000, plus travel allowance. Applications are due 15 January 1979. Applications and inquiries to: **Dr. R. C. Daigleish, Biological Station, E. N. Huyck Preserve, Inc., Rensselaerville, New York 12147.**

### Predoctoral and Postdoctoral Training in Reproductive Endocrinology Department of Reproductive Biology Case Western Reserve University (CWRU)

Several predoctoral and postdoctoral training fellowships (NIH training grant) in reproductive endocrinology are available for highly qualified applicants starting summer 1979. Predoctoral applicants for the Ph.D. or Ph.D.-M.D. program can obtain application forms from the Graduate Admissions Office, CWRU. Postdoctoral applicants can apply directly by sending curriculum vitae, a statement of research interests, and three letters of recommendation directly to me. Principle fields of research activity are control of ovarian function, neuroendocrinology, endocrinology of pregnancy, and steroid metabolism, action, and biosynthesis. Selection will be made in March or April 1979. Send inquiries and/or applications to:

**Reinhart B. Billiar, Ph.D.  
Department of Reproductive Biology  
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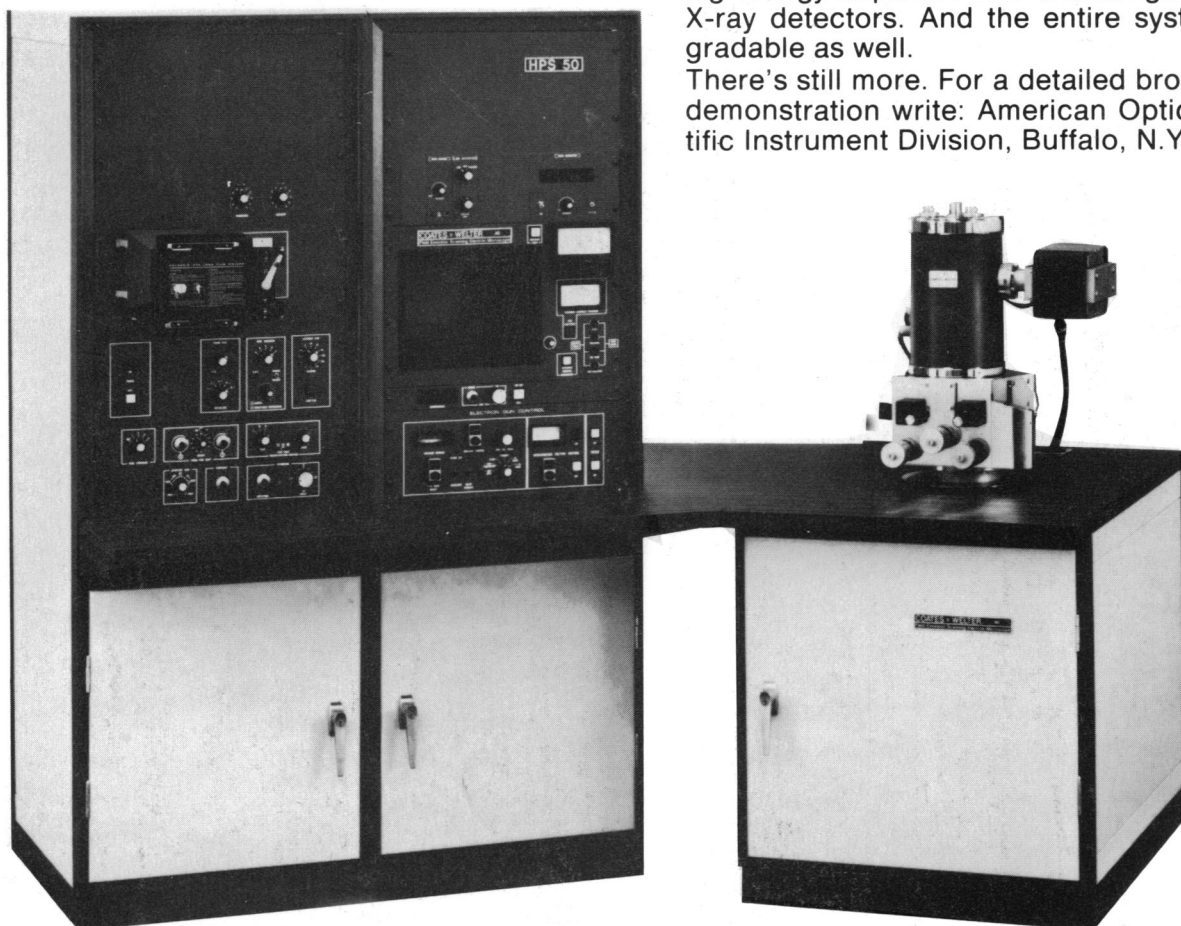
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