

Personnel Placement

Only those employers and individuals who do not discriminate on the basis of race, sex, religion, age, color, or national origin should submit Personnel Placement advertising.

POSITIONS WANTED: 40¢ per word; use of Box Number counts as 10 additional words. Minimum charge \$10. Prepayment required. This rate applies to individuals only; personnel agencies, companies, colleges, and universities take display rate for all advertising.

DISPLAY (POSITIONS OPEN, MARKET PLACE, AND SO FORTH): \$130 per inch, minimum, per insertion (1 inch is equivalent to 12 lines of 48 characters each). Ads over 1 inch billed to nearest quarter inch. No charge for Box Number. Rates net. No agency commission allowed for ads under 4 inches. No cash discount. Prepayment required for foreign advertising. Purchase orders and billing information must accompany all other advertising.

COPY for ads must reach SCIENCE by Wednesday, 3-1/2 weeks before issue date (Friday of each week) requested. Send copy for all positions wanted ads and display ads under 5 inches to:

SCIENCE, Room 207
1515 Massachusetts Ave., NW
Washington, D.C. 20005

Send copy for display ads, 1/6 page and larger, to:

Scherago Associates, Inc.
11 West 42nd Street
New York, N.Y. 10036

BLIND AD replies should be addressed as follows:

Box (give number)
SCIENCE
1515 Massachusetts Ave., NW
Washington, D.C. 20005

POSITIONS WANTED

Biochemist, Ph.D. 1972. Over 3 years of postdoctoral research in nucleic acid chemistry and metabolism. Publications. Seeks a position in industry or academia. Box 211, SCIENCE. 4/30; 5/7, 14

Biochemist-Chemist, Ph.D. 1966. Broad research and teaching experience. Publications. Research interest includes lipid biochemistry, neurochemistry, membranes, proteins. Research in metabolic disorders, natural product chemistry. Strong background in analytical methods and radioisotopes. For last 6 years on medical school faculty. Seeks challenging research/teaching position. Box 212, SCIENCE. X

Biochemist, Ph.D. Postdoctoral experience. Training in enzymology and metabolism. Seeks position combining research with teaching. Box 184, SCIENCE. 4/30; 5/7

Biological Scientist, A.B. (1975) Indiana University, seeks research technician's position in lab setting. Box 202, SCIENCE. X

Developmental Biologist/Teratologist, Ph.D. postdoctorate, senior staff scientist. Seeks industrial, government, or academic position. Publications in developmental biology, teratology, biochemistry. Box 213, SCIENCE. 4/30; 5/7

Immunochemist/Developmental Biochemist, Ph.D. 1971. Research/teaching/consulting experience. Expertise in tumor antigens and onco-developmental proteins. Broad background in isoenzymology and developmental biology. Versatile experience in purification, characterization, localization, and quantitation by modern biochemical and immunological techniques (radioimmunoassay, complement fixation, and so forth). Seeks challenging career-oriented position. Box 214, SCIENCE. X

Ph.D. Microbiologist/Immunologist. Clinical laboratory oriented. Practical experience in RIA, clinical immunology, current electrophoresis techniques and procedures. Research in immunology of leukemia. Postdoctorate, 1 year. Seeks clinical lab or teaching lab position. Box 216, SCIENCE. X

POSITIONS WANTED

Industrial Hygienist, B.S.Ch.E. 1973. Three years of comprehensive experience in industry. Seeking challenging position in industrial health field. Box 215, SCIENCE. X

Neurophysiologist/Neurobiologist, M.D. currently assistant professor in medical school with own grants and publications. Seeks stable position in a healthy intellectual environment, preferably suburban. Box 217, SCIENCE. 4/30; 5/7, 14

Physicist, Ph.D. 1970. Two years of teaching and program development experience in 4-year college. Four years of remote sensing experience in large university developing techniques to extract information from satellite image data for ecological and meteorological purposes. Publications. Seeks teaching/research faculty position in growing college or university. Will also consider industry position. Box 218, SCIENCE. X

Physiological-Comparative Psychologist, Ph.D. by August 1976. Papers and publications in sexual, maternal, aggressive, and play behavior in several species. Research experience in lesion, pharmacological, and hormonal manipulations. Desires research or postdoctoral position involving training in neurochemical or neuroendocrinological techniques in academic, clinical, or industrial setting. Box 206, SCIENCE. X

POSITIONS OPEN

ANALYTICAL CHEMIST, GROUP LEADER, Environmental Research and Monitoring, Coastal Zone: Responsible for assisting in management of commercial analytical laboratory involved in contract research and monitoring in field of land-water management. Scientific competence, organizational abilities, and thorough knowledge of analytical procedures essential. Experience with autoanalyzer, atomic absorption, TOC and CHN analyzers, in situ probes, and computer handling of large data files desirable. Salary range: \$14,000 to \$18,000. Send applications to **Director, Environmental Quality Laboratory, 590-D NW Olean Boulevard, Port Charlotte, Fla. 33952.**

Two positions in **ANATOMY** with rank of instructor or assistant professor open 1 July 1976. Ph.D. and/or M.D. required. Applicants should be proficient in teaching both medical gross and microscopic anatomy or medical gross and neuroanatomy. Independent research is expected.

Candidates who qualify may send curriculum vitae and three letters of recommendation to:

Adrian F. Reed, M.D.
Head, Department of Anatomy
Louisiana State University School of Medicine
in Shreveport
P.O. Box 3932
Shreveport, Louisiana 71130

An Equal Opportunity/Affirmative Action Employer

ANATOMIST

Applications for a faculty position (rank negotiable) in research and teaching at the professional (veterinary) and graduate level are solicited.

Minimum training: doctorate (academic or professional) with postdoctoral experience indicating maturing research interests. The position requires experience in veterinary surgical anatomy. Research interests should deal with fundamental processes relevant to medicine and biology. Send résumé by 15 May 1976 to **Dr. John H. Venable, Chairman, Department of Anatomy, College of Veterinary Anatomy, Colorado State University, Fort Collins, Colorado 80523. Colorado State is an Affirmative Action/Equal Opportunity Employer.**

ANESTHESIOLOGIST—Board-certified or -eligible. Active residency and teaching program with Louisiana State University Medical Center—School of Medicine in Shreveport. Moderate climate. Submit curriculum vitae to **Dr. M. T. Metzgar, P.O. Box 3932, Shreveport, Louisiana 71130, or telephone 318-266-3306. An Equal Opportunity Employer.**

POSITIONS OPEN

ANATOMY

Two junior faculty positions available as of 1 July 1976. Ph.D., M.D., or D.O. required. A strong background in neuroanatomy is desirable for one position. Broad background in gross anatomy and microscopic anatomy essential. Submit curriculum vitae and the names of three references to:

Dr. M. W. DuBois, Chairman
Department of Anatomy
Chicago College of Osteopathic Medicine
1122 East 53 Street
Chicago, Illinois 60615
An Equal Opportunity Employer

ANATOMY RESEARCH/TEACHING

Research position available in field of experimental anatomy as adjunct professor of appropriate rank at the University of California, Irvine. Collaborative studies of experimental animals undergoing exposure to pollutants in food and air requires knowledge of normal and pathologic anatomy by light and electron microscopy. Opportunity to teach normal and pathologic anatomy to graduate students in toxicology. Requires Ph.D. in anatomy or related field and 2 years of postdoctoral research preferably including electron microscopy. Closing date for applications is 1 June 1976. *Applications from all qualified candidates are welcome; minorities and women are encouraged to apply.* Submit complete curriculum vitae and names of at least three references to **Dr. T. Timothy Crocker, Professor and Chairman, Community and Environmental Medicine, College of Medicine, University of California, Irvine, Calif. 92717.**

Biology. **ANIMAL ECOLOGIST:** research open but preference given to candidates whose research utilizes the opportunities of the greater Rocky Mountain region. **MICROBIOLOGIST:** research open but preference given to broadly trained candidate. Microbiology position is a 1-year appointment with a strong possibility of reappointment. Both positions require Ph.D. and strong commitment to teaching and research. Realistic teaching load. Detailed job description available upon request. To apply send résumé and names and addresses of three references to **Dr. Gordon E. Stone, Professor and Chairman, Department of Biological Sciences, University of Denver, Denver, Colorado 80210.**

UNIVERSITY OF MICHIGAN ASSISTANT PROFESSOR

Position available in the Department of Anatomy. Candidate must have a Ph.D. in anatomy or physiology with postgraduate training in electron and intravital microscopy and microvascular research. Teaching experience in cell biology and histology. Send résumé to **Dr. Johannes Rhodin, Room 4643 Medical Science II, Department of Anatomy, University of Michigan, Ann Arbor, Michigan 48109. Code #1300F0. A Nondiscriminatory, Affirmative Action Employer.**

Applications are invited for a position at the **INSTRUCTOR OR ASSISTANT PROFESSOR** level with a Ph.D. in anatomy. Specialization in microscopic anatomy and neuroanatomy required. Individuals should be qualified to conduct an active research program in related areas. This full-time position involves teaching medical, nursing, and graduate students. Faculty cooperate in the teaching program and in utilization of facilities. Qualified applicants should send a curriculum vitae and references to **Dr. H. N. Schnitzlein, Chairman, Department of Anatomy, College of Medicine, University of South Florida, Tampa, Fla. 33620. The University of South Florida is an Affirmative Action/Equal Opportunity Employer.**

ASSISTANT PROFESSOR IN AGRICULTURE AND BIOLOGY. Effective August 1976. Must have B.S. in forestry, animal science, horticulture, or agronomy and an earned Ph.D. with a strong background in both agriculture and biology. Must demonstrate potential in counseling, teaching, and research. Duties are to counsel agriculture, forestry, and pre-vet students and to teach and/or do research in person's specialty.

Deadline: 15 May 1976.

For information, write **M. E. Juillerat, Indiana University—Purdue University at Indianapolis, 355 North Lansing, Indianapolis, Ind. 46202. IUPUI is an Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

ASSISTANT PROFESSORSHIP IN BIOCHEMISTRY

Department of Animal Biology. Applicants should have a Ph.D. in biochemistry and preferably with research experience in membrane or developmental biology. Exposure to veterinary medicine desirable. *Women and minority candidates are encouraged to apply.* Send résumé and references to: **Dr. M. R. Iyengar, Head, Laboratories of Biochemistry, School of Veterinary Medicine H1, University of Pennsylvania, Philadelphia, Pa. 19174.**

ASSISTANT PROFESSOR—BIOCHEMISTRY

The Department of Biochemistry of Purdue University invites applications from highly qualified individuals with a strong commitment to teaching and to the development of an independent research program. Candidates should be prepared to teach courses in their area of expertise as well as courses in general biochemistry. Preference will be given to candidates having an ongoing research program or interests in one of the following areas: regulation in animal or plant cells, mechanism of hormone and vitamin action, metabolic disorders and nutritional deficiencies, or structural analyses of macromolecules. Inquiries for further information and nominations and supporting biographical information should be directed to **Dr. Don M. Carlson, Department of Biochemistry, Purdue University, West Lafayette, Indiana 47907.** *Purdue University Is an Equal Access/Equal Opportunity Employer.*

ASSISTANT PROFESSOR OF PHARMACOLOGY. One or more faculty positions available 1 July for Ph.D. in pharmacology with 1 or 2 years of postdoctoral research and/or teaching experience. Appointee expected to participate in teaching programs and to develop an independent research program, preferably in cardiovascular pharmacology, toxicology, or drug metabolism. Send curriculum vitae, publications, and references to **Dr. Joanne I. Moore, Department of Pharmacology, University of Oklahoma Health Sciences Center, P.O. Box 26901, Oklahoma City, Oklahoma 73190.** *An Equal Opportunity/Affirmative Action Employer.*

ASSISTANT/ASSOCIATE PROFESSOR PHYSIOLOGY AND BIOPHYSICS

The Department of Physiology and Biophysics, University of Iowa College of Medicine, invites applications from well-qualified individuals for several openings at the assistant and associate professor level. Applicants must hold the M.D. and/or Ph.D. degree and have a minimum of 2 years of postdoctoral training in cellular physiology or biophysics with publications demonstrating productivity in original research. Candidates should be prepared to develop strong independent research programs and to participate in the medical and graduate teaching and doctoral training activities of the department. While a preference exists for individuals with well-defined interests and research accomplishments in membrane physiology and biophysics, cellular cardiovascular physiology, or cellular and molecular endocrinology, full consideration will be given to others showing promise of outstanding contribution to the research and teaching missions of this department. Please send curriculum vitae, including bibliography and a brief description of research interests, teaching experience, and career objectives, with names of at least three references to:

**Dr. Robert E. Fellows
Department of Physiology and Biophysics
University of Iowa College of Medicine
Iowa City, Iowa 52242**

The University of Iowa Is an Equal Opportunity Employer

CELLULAR IMMUNOLOGIST, CLINICAL MICROBIOLOGIST

The Department of Microbiology has two openings for assistant professors, one with strong background in cellular immunology and/or tumor immunology and the other with specialized training in medical microbiology. Please send a curriculum vitae and three letters of reference to **John M. McKenna, Chairman, Department of Microbiology, Texas Tech University School of Medicine, Lubbock, Texas 79409.** *Texas Tech University School of Medicine is an Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR

The Department of Physics at Northern Michigan University has an opening at the Assistant Professor level starting 25 August 1976. The candidate will be judged on his/her potential as a teacher at the undergraduate level with expertise in one or more of the following: medical physics, astronomy, or quantum theory. Send résumé and at least three letters of recommendation to **Professor William W. Ralph, Acting Department Head, Physics Department, Northern Michigan University, Marquette, Michigan 49855.**

DEPARTMENT OF PSYCHOBIOLOGY UNIVERSITY OF CALIFORNIA, IRVINE

A position is available for an outstanding candidate at the **ASSISTANT PROFESSOR** level. Candidates should either be pursuing research in neurobiology or behavioral biology emphasizing neural or endocrine mechanisms. Postdoctoral research experience is preferred. Preference will be given to applicants whose research interests complement those of current faculty and whose research concerns some aspect of neural or behavioral plasticity. The position is available beginning fall 1976, but may be held open for fall 1977 if circumstances so warrant. Applicants should write to **Norman M. Weinberger, Chairman, Department of Psychobiology, University of California, Irvine, California 92717,** providing curriculum vitae, references, and publications. *Applications from all qualified candidates are welcome; minorities and women are encouraged to apply.*

ASSISTANT PROFESSOR WILDLIFE BIOLOGY

Develop and teach field-oriented undergraduate courses in mammalogy and ornithology and graduate courses in wildlife ecology and management. Design and execute research projects; basic and applied nongame wildlife studies preferred. Advise undergraduate and graduate students. Ph.D. in wildlife ecology or management preferred with background in vertebrate biology. Previous experience in teaching mammalogy and ornithology desirable. Starting July 1976. Send résumé to

**Box 24Q
Waterman Building
University of Vermont
Burlington, Vermont 05401**
An Affirmative Action Employer

WOODS HOLE OCEANOGRAPHIC INSTITUTION ASSISTANT SCIENTIST

Will perform research in underwater acoustics. The research will involve fundamental investigations in sound propagation in the ocean and sea floor. Significant emphasis and interest in applications of underwater acoustics to oceanic studies is expected. The desired education is a Ph.D. in physics or engineering. Desired experience is an experimental and theoretical background in wave propagation, signal and data processing, and statistical communications. Should have performed significant research in at least one of these areas. Specific experience in acoustics is not a prerequisite. Two to 3 months of sea time per year is usual. If interested, contact the **Personnel Office, Woods Hole Oceanographic Institution, Woods Hole, Massachusetts 02543.** *Equal Opportunity Employer, M/F.*

The Department of Biological Sciences, University of Illinois, Chicago, invites applications for two faculty positions which will be vacant in September 1976 at the rank of assistant professors. Preference will be given to candidates who have had at least 3 years of experience beyond the Ph.D. degree. Teaching responsibilities include undergraduate and graduate courses in their respective fields and direction of M.S. and Ph.D. candidates.

VERTEBRATE BIOLOGISTS: Preference will be given to a vertebrate functional morphologist who has research interests in some aspect of vertebrate form and function at the whole organism level.

GENETICIST: Preference will be given to an individual with demonstrated ability to conduct an independent research program in an area of eukaryotic genetics.

Applications, including curriculum vitae and letters from three references, should be sent to **Dr. Stanley K. Shapiro, Head, Department of Biological Sciences, University of Illinois, Chicago, Box 4348, Chicago Ill. 60680.** Closing date: 17 May 1976. *The University of Illinois is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

DEAN OF PHARMACY

The University of Arizona invites applications for the position of Dean, College of Pharmacy. Applicants should have a doctoral degree; a demonstrated capability for administration and management; knowledge about extramural sources of funding and support; a sensitivity to balancing the needs of a Pharmacy College with those of the state in which it is located; and a willingness to maintain strong ties with registered pharmacists in the state through, but not limited to, programs in continuing education. Applicants should forward a curriculum vitae to **Vice President for Health Sciences, Arizona Medical Center, Tucson, Arizona 85724.** *The University of Arizona is an equal opportunity/affirmative action employer under state and federal laws and regulations including Title IX, 1972 Education Amendment.*

FACULTY OPENING HARVARD UNIVERSITY

The Harvard School of Public Health has two positions open at the level of **assistant or associate professor of economics.** Applicants should have an academic background in health economics, environmental economics, or in the general problems of regulation policy. Teaching will be primarily centered at the School of Public Health, with graduate students and executives from the health field who return to school for short, intensive courses. There is also a likelihood of teaching responsibilities in the Economics Department of Faculty of Arts and Sciences and/or at the Kennedy School of Government. Ph.D. in economics required. Ph.D./M.D. preferred. Send curriculum vitae to **Box 219, SCIENCE.**

Harvard University is an Equal Opportunity/Affirmative Action Employer.

FACULTY POSITIONS—MICROBIOLOGY

The Department of Microbiology and Immunology, Wright State University School of Medicine, is seeking **assistant professors** for its developing programs.

Candidates should possess a Ph.D. and postdoctoral experience plus demonstrated potential in teaching and research. Candidates should have strong clinical interests and be willing to develop diagnostic services in one of the following areas: bacteriology, immunology, mycology, or parasitology.

One position is available for a Ph.D. with the above credentials plus ASCP registration in medical technology.

Please send curriculum vitae and names of three references to: **L. H. Moss, Ph.D., Department of Microbiology and Immunology, Wright State University School of Medicine, Dayton, Ohio 45431.**

Wright State University is an Equal Opportunity/Affirmative Action Employer.

RECRUITMENT OF FACULTY MEMBERS CANCER RESEARCH CENTER UNIVERSITY OF NORTH CAROLINA CHAPEL HILL

We invite applications by highly qualified basic researchists for faculty positions in a new cancer research center. Applicants should have postdoctoral experience in one of the following areas:

- Cellular Immunology
- Molecular Biology—Electron Microscopy
- Chemical Carcinogenesis
- Molecular Endocrinology
- Cytodifferentiation
- Protein Chemistry
- Genetic Engineering

Academic appointments will be in the Departments of Anatomy, Bacteriology and Immunology, Biochemistry, Pathology, Pharmacology, and Physiology.

We also seek highly qualified candidates interested in organ-targeted research in breast cancer or gynecological malignancies, lung cancer, skin cancer, cellular pharmacokinetics, and basic radiobiology. Appointments would be made in surgery, medicine, pediatrics, dermatology, gynecology, or radiology as well as in an appropriate basic science department.

Candidates should be citizens of the United States or eligible for a permanent visa. Please send your curriculum vitae and a covering letter in which you state your field of interest and references. We request three letters of recommendation. Correspondence should be addressed to **A. D. Hyche, Assistant to the Director, Cancer Research Center, Box 30, Macnider Building, University of North Carolina, Chapel Hill, N.C. 27514.**

POSITIONS OPEN

FACULTY POSITION

The University of Health Sciences/The Chicago Medical School is seeking a physiologist at the level of senior assistant professor or associate professor. The individual will be expected to have had a productive research background in cardiovascular physiology with teaching experience in a medical school. Send résumé to **Chairman, Department of Physiology and Biophysics, The Chicago Medical School, 2020 West Ogden Avenue, Chicago, Illinois 60612. An Equal Opportunity/Affirmative Action Employer.**

FACULTY POSITION

Ph.D. ecologist with interest in vertebrates. Assistant professor in small liberal arts college. Expected to help manage large wildlife sanctuary and field station. *Equal Opportunity Employer.* Beginning in July 1976.

William Jeffries
Department of Biology
Dickinson College
Carlisle, Pennsylvania 17013

FACULTY POSITION IN PHYSICS

The University of Pittsburgh at Johnstown announces an opening for a **Laboratory Instructor** in physics. Primary responsibilities are to teach laboratory sections and assist in laboratory development programs. Possibility exists to teach one course. The position is renewable but outside the tenure stream. Master's or Ph.D. in experimental physics required. Salary \$9,000 to \$11,000 negotiable; two-term (8-month) appointments. Send résumé and recommendations to **Chris Schmidt, Search Committee Chairman, University of Pittsburgh at Johnstown, Johnstown, Pa. 15904.** Application deadline: 1 June 1976. *UPJ is an Equal Opportunity/Affirmative Action Employer.*

UNIVERSITE LAVAL FACULTE DES SCIENCES ET DE GENIE DEPARTEMENT DE BIOLOGIE

Applications are invited for new positions in **FRESHWATER BIOLOGY** (interest and experience in either population dynamics of aquatic organisms or community organization of freshwater ecosystems), **MARINE ECOLOGY** (zoobenthos ecologist with strong interest in dynamics and energetics), and **CELL BIOLOGY** (trained in cell and molecular biology with experience in electron microscopy).

Ph.D. required. Salary according to experience. The appointees will be required to teach in French. However, candidates who do not master French may apply, provided they are willing to learn the language within a reasonable period. The Biology Department has a staff of 26 members.

Apply to **Dr. Lucien Huot, Directeur, Département de Biologie, Faculté des Sciences et de Génie, Université Laval, Québec, Canada, G1K 7P4.**

INSTRUCTOR—BOTANY

Small public liberal arts college, 70 miles southeast of Washington on a Chesapeake estuary seeks person trained in algae and other lower plants of estuarine or coastal regions for regular faculty position (instructor). To teach nonvascular botany, plant taxonomy, water pollution biology, and other related undergraduate courses. Salary range, \$9,000 to \$12,000. Send letter and résumé by 28 May to: **Dr. C. M. Wilson, Chairman, Science Division, St. Mary's College of Maryland, St. Mary's City, Md. 20686.** *Affirmative Action/Equal Opportunity Employer.*

MICROBIOLOGY

Faculty position available, 1 September 1976. Assistant professor of microbiology (\$19,000–\$20,500). M.D. (preferred), D.D.S., or Ph.D. with at least 3 years of postdoctoral experience in teaching and research in medical microbiology and immunology. Position requires: (i) teaching microbiology and immunology to medical, dental, graduate, and undergraduate students and supervision of graduate student research; (ii) establishment of research activities in clinical immunology and immunopathology. Send curriculum vitae and list of publications to **Dr. Felix Milgrom, Professor and Chairman, Department of Microbiology, Box F, 203 Sherman Hall, State University of New York at Buffalo School of Medicine, Buffalo, N.Y. 14214.** *State University of New York at Buffalo is an Equal Opportunity/Affirmative Action Employer, actively seeking women and minority candidates.*

30 APRIL 1976

POSITIONS OPEN

GEOPHYSICIST—Assistant or associate professor in earth science geography department. Assist in the development of a petroleum technology program and expansion of undergraduate geology program. Teach courses in introductory geology, geophysics, structural geology, and geophysical techniques. Earned doctorate is desirable. Field experience in mapping, geophysical exploration techniques, and practical experience in the petroleum industry is expected. Additional training in petroleum engineering and/or marine science would be useful. Salary dependent upon qualifications; excellent fringe benefits. Send curriculum vitae, three letters of recommendation, and official transcripts to **Dr. Richard B. Hart, Dean, School of Science and Technology, California State College, California, Pa. 15419,** by 15 May 1976. *An Equal Opportunity/Affirmative Action Employer*

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

NEUROCHEMIST to participate in teaching and research in interdisciplinary program in neural and behavioral biology (Department of Physiology and Biophysics or Department of Psychology) at University of Illinois at Urbana-Champaign. Salary and rank open. Neurochemical area of research open. Postdoctoral experience and publications essential. Position available 1976–1977. Send curriculum vitae and three letters of recommendation prior to 1 June 1976 to: **Dr. C. Ladd Prosser, Department of Physiology and Biophysics, 524 Burrill Hall, University of Illinois, Urbana, Illinois 61801.** *The University of Illinois at Urbana-Champaign is an Affirmative Action/Equal Opportunity Employer and encourages applications from members of minority groups and women.*

PHYSICIST IN CHARGE HIGH VOLTAGE MICROSCOPE FACILITY

Position available 1 August 1976 at High Voltage Electron Microscope Facility (National Institutes of Health Biotechnology Resource), University of Wisconsin, Madison. Responsibilities: (i) supervision of operation, scheduling, and maintenance of High Voltage Electron Microscope Facility serving biological research groups on a national basis, and (ii) undertaking independent research related to applications of high voltage microscopy. Facilities exist for the microscopy of hydrated specimens and frozen specimens. Image processing equipment, including a scanning densitometer and minicomputer exist for three-dimensional image reconstruction studies. Requirements: Ph.D. in physics or related area, experience in electron microscope development and application, and practical electronics experience. Salary: open. Possibility exists for future academic appointment. Send curriculum vitae and names of three references to: **Professor Hans Ris, Department of Zoology, 1117 West Johnson Street, University of Wisconsin, Madison, Wisconsin 53706.**

An Equal Employment Educational Institution

POSITION

Revco, Inc., a manufacturer of refrigerated medical products, has an opening for a male or a female willing to travel extensively to collect and compile information of present and new products. Applicants must be self-motivated and able to communicate with all levels of professional people. A marketing aptitude with ability to transfer ideas and information onto paper is a must. Because of contact with research scientists a Ph.D. degree in biological sciences or a related field is highly desired. **Box 192, SCIENCE.**

PROFESSOR OF BIOLOGY (VERTEBRATE BEHAVIOR) HARVARD UNIVERSITY

Applications are invited for a professorship in biology in the field of vertebrate behavior. The incumbent to this position will be expected to do research and teach in vertebrate behavior at the organismic and/or evolutionary level, with reference to ecology and/or social behavior (that is, vertebrate evolutionary ethology, behavioral ecology, or sociobiology).

Harvard University is an Equal Opportunity/Affirmative Action Employer.

Applications and inquiries should be sent to **Professor Farish A. Jenkins, Jr., Chairman, Search Committee, Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts 02138.**

POSITIONS OPEN

POSTDOCTORAL ELECTRON MICROSCOPIST

Electron microscopist (TEM) with recent Ph.D. is sought for studies on membranes as postdoctoral fellow for 2 years. The work involves freeze-fracture of mammalian plasma membranes. The fellow may lecture in our Biology Department. Send curriculum vitae, bibliography, and names of three people familiar with your research to **Professor Leonard X. Finegold, Biological Physics-2, Department of Physics, Drexel University, Philadelphia, Pa. 19104** (funded by NSF—Molecular Biology). *Fellows may be of any karyotype.*

RESEARCH TUMOR IMMUNOLOGISTS

Rush Cancer Center and the Department of Urology have two positions open for research tumor immunologists. Applicants should have postdoctoral research experience in tumor immunology, pathology, tumor virology, or related fields and an interest in developing multidisciplinary interdepartmental research combining both clinical and basic research aspects. *Rush—Presbyterian—St. Luke's Medical Center has a continuing program of Affirmative Action in the area of Equal Employment Opportunity.* Address inquiries to:

Dr. Friedrich Deinhardt
Department of Microbiology
Rush—Presbyterian—St. Luke's Medical Center
1753 West Congress Parkway
Chicago, Illinois 60612

FLINDERS MEDICAL CENTRE ADELAIDE, SOUTH AUSTRALIA

The Flinders Medical Centre is an integrated teaching hospital and Medical School which began admitting its first patients in March 1976, when 326 beds and supporting services became available. The Medical Centre is adjacent to the Flinders University of South Australia, 13 kilometers from the Adelaide city center.

Applications are invited for the following position:

SCIENTIFIC OFFICER, Class III—Department of Anaesthesia and Intensive Care (Pain Clinic).

The appointee will be responsible to the professor of anaesthesia and intensive care for day-to-day organization and operation of technical services relevant to patient management with the Department with specific reference to both inpatient and outpatient pain consultation service. Specific duties will include responsibility for sympathogalvanic testing, telethermometry, plethysmography, cobalt blue sweat testing, and assistance in computer analysis and storage of results. Further information regarding this post is available from **Professor M. Cousins.**

Salary: within the range \$A8,305 to \$A13,392 per annum depending upon qualifications and experience.

Qualifications: bachelor of science degree or equivalent qualification. Previous experience in pain management clinics is desirable.

Applications, including curriculum vitae and names of three referees, are to be addressed to:

The Administrator
Flinders Medical Centre
Bedford Park, S.A. 5042
Telephone 275-9911

Applications close: 15 May 1976.

STAFF SCIENTIST

Appointments are being considered at the staff scientist or senior scientist rank(s) at the Worcester Foundation for Experimental Biology which is a full-time multidisciplinary research institution. Currently, the preferred areas of interest include:

- 1) All aspects of the mechanism(s) of hormone action.
- 2) Biochemistry, bioorganic chemistry, and enzymology of steroids, prostaglandins, and polypeptides.
- 3) Morphological and molecular biological aspects of fertilization.

Candidates should have proven ability to obtain their own funding (salary and research). Candidates with exceptional programs not yet funded will also be considered. Send résumés, with names of three references, to **Endocrine-Reproductive Biology Search Committee, c/o Dr. A. Gibbons, Personnel Director, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, Mass. 01545.**

An Equal Opportunity/Affirmative Action Employer

POSITIONS OPEN

POSTDOCTORAL POSITION

NMR study of water in sickle cells. \$12,000 per year. Send résumé and two letters of recommendation to:

Thomas L. James
Department of Pharmaceutical Chemistry
University of California
San Francisco, Calif. 94143
Equal Opportunity/Affirmative Action Employer

CANCER RESEARCH CENTER

RESEARCH

Research Associate

Seeking postdoctoral individual with training and some experience in cell biology, virology, immunology, genetics, or biomedical research. Individual should be interested in obtaining intensive experience in oncological research. The broad research program in oncology includes virology, cell differentiation, somatic cell genetics, cytogenetics, molecular biology, biochemistry, immunochemistry, cell metabolism and regulation, and tumor immunology. The research training experience will generally entail a minimum commitment of 2 years. The individual research training is closely coordinated with the entire oncology research program. Salary is dependent upon training and experience of individual. *Equal Opportunity Employer.*

Staff Associate

Seeking recent postdoctorals for staff positions in laboratories devoted to broad research programs in oncology. Such research programs include virology, cell differentiation, somatic cell genetics, cytogenetics, molecular biology, biochemistry, immunochemistry, cell metabolism and regulation, and tumor immunology. The research training experience will generally entail a commitment of 2 years. Excellent opportunity for individual interested in an intensive, closely coordinated oncology training program. *Equal Opportunity Employer.*

Salary negotiable and dependent on postdoctorate level.

CLINICAL

Staff Associate

Seeking person trained in internal medicine and/or oncology for a clinical training program. Individual will be involved with a 22-bed inpatient clinical cancer research facility, an outpatient ambulatory care facility, and clinical investigations relating particularly to chemotherapy of solid tumors. Principal training experience consists of one clinical year in oncology and, if desired, hematology, followed by one or more years in a clinical research elective selected on the basis of past experience and training interests. Excellent opportunity for individual interested in clinical research in oncology and the care of patients with cancer. Individual should preferably have completed at least 2 years of residency training. *Equal Opportunity Employer.*

Salary negotiable and dependent on postdoctorate level.

Address inquiries to

Deputy Director for Administration
Cancer Research Center
Columbia College of Physicians and Surgeons
99 Fort Washington Avenue
New York, New York 10032

STAFF OFFICER

A nonprofit organization in Washington, D.C., is seeking a staff officer for a newly formed committee on international disaster assistance.

Qualifications should include a doctorate or equivalent achievement in the social or behavioral sciences. Candidates should also have at least 5 years of experience in conducting and/or utilizing disaster and emergency-related research. Duties will include preparing study plans, arranging committee and workshop meetings, preparing meeting minutes, supervising consultants and support personnel, editing draft reports, and preparing proposals for additional research projects. Evidence of excellent administrative ability and good writing skills are required. The salary is competitive and will be based on the candidate's qualifications and experience. Candidate should send résumé and salary requirements to **Box 220, SCIENCE.**

An Equal Opportunity Employer

POSITIONS OPEN

INSTITUTE OF CANCER RESEARCH

RESEARCH

Research Associate

Seeking postdoctoral individual with training and some experience in biomedical research. Individual should be interested in obtaining intensive experience in oncological research. The broad research program in oncology includes virology, molecular biology, enzymology, immunochemistry, tumor immunology, and hormonal regulation. The research training experience will generally entail a minimum commitment of 2 years. The individual research training is closely coordinated with the entire oncology research program. Salary is dependent upon training and experience of individual. *Equal Opportunity Employer.*

Staff Associate

Seeking recent postdoctorals for staff positions in laboratories devoted to broad research programs in oncology. Such research programs include virology, molecular biology, enzymology, immunochemistry, cell metabolism, tumor immunology, and hormonal regulation. The research training experience will generally entail a commitment of 2 years. Excellent opportunity for individual interested in an intensive, closely coordinated oncology training program. *Equal Opportunity Employer.*

Salary negotiable and dependent on postdoctorate level.

Address inquiries to:

Deputy Director for Administration
Institute of Cancer Research
Columbia College of Physicians and Surgeons
99 Fort Washington Avenue
New York, New York 10032

TEACHING EQUIPMENT: Leading publicly held company in the field of science teaching equipment has opening for individual to develop and maintain a line of environmental science teaching equipment for college and university level. Individual will also be responsible for applications and sales literature and technical support to sales group. Send résumé in complete confidence to:

Box 182, SCIENCE

TEMPORARY POSITION IN GENETICS. Available from 16 August 1976 to 15 May 1977. Undergraduate teaching in molecular genetics, freshman biology, and general environmental biology for non-majors. Qualifications include a Ph.D. or near Ph.D. Rank will be at the instructor or assistant professor level and salary will depend on training and experience. Applicants should submit curriculum vitae, three letters of recommendation, and transcripts to: **Dr. B. J. Mathis, Chairman, Department of Biology, Bradley University, Peoria, Ill. 61625.** Closing date for receipt of application is 15 June 1976. *An Equal Opportunity/Affirmative Action Employer.*

VICE CHANCELLOR FOR

RESEARCH AND ADVANCED STUDY UNIVERSITY OF ALASKA, FAIRBANKS

The Vice Chancellor will have overall responsibility for the research and advanced study beyond the baccalaureate degree at the University of Alaska at Fairbanks, subject to the general policy and intent of the Chancellor. This person will represent the University's research interests at the international, national, and state level.

Qualifications include high academic achievement (Ph.D. or equivalent in training and experience) and superior record of scholarship as demonstrated by research publications and professional recognition; broad interests in scholarly endeavors and advanced study; administrative and organizational capability, including financial management; familiarity with the policies and programs of federal and state agencies.

Salary is dependent upon qualifications and experience. Applications and résumés should be sent to: **Dr. Charles Ray, Chairman, Search Committee, School of Education, University of Alaska, Fairbanks, Alaska 99701.** Applications must be postmarked by 21 May 1976. *The University of Alaska is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

CLINICAL INFORMATION (WRITERS)

Positions are available in our Division of Medical Affairs for persons experienced in handling data generated in clinical research.

Responsibilities for these excellent growth opportunities at our worldwide headquarters in Princeton, N.J., involve data analysis and report/manuscript preparation pertaining to investigational drugs or marketed products for use in FDA submissions and overseas drug registration.

Requirements include a degree and approximately 3 to 5 years of experience in scientific writing or another related area in scientific information handling. Strong communications skills a must. Salary will be commensurate with experience plus an outstanding benefits package.

Interested candidates should forward a detailed résumé with salary requirements in complete confidence to: **Recruitment Manager, Department G.E.B., E. R. Squibb & Sons, Inc., P.O. Box 4000, Princeton, N.J. 08540.**

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FELLOWSHIPS

NEW ZEALAND SENIOR AND POSTDOCTORAL RESEARCH FELLOWSHIPS

The New Zealand National Research Advisory Council invites applications for ten senior and postdoctoral fellowships to be taken up in New Zealand in 1976. The awards will be for scientific research in government departments. A good working knowledge of English is required. There is no restriction regarding nationality of applicants, but successful candidates must meet the requirements of the New Zealand immigration authorities.

A grant equivalent to return economy-class air fares from the fellow's home to the New Zealand institution will be made. While in New Zealand reasonable traveling expenses incurred in connection with the research work will be paid.

All emoluments are taxable.

SENIOR RESEARCH FELLOWSHIPS—Applicants should possess a Ph.D. degree or higher qualification or have a distinguished record of scientific research. The fellowships are intended for research workers who have had professional experience and have published original material. Fellowships are normally for a period of from 9 months to 1 year. If a fellow's spouse accompanies him/her, a grant equivalent to his/her return fare will be paid provided the fellowship is for a term of at least 9 months. If applicable, the employer's contribution to a superannuation scheme will be paid. The emoluments will range from NZ\$12,444 to NZ\$18,349 per year.

POSTDOCTORAL RESEARCH FELLOWSHIPS—Applicants should possess a Ph.D. or equivalent degree. The fellowships are intended for research workers who are recent graduates and may have had some research experience since graduation. Fellowships are normally for a period of from 2 to 3 years. If a fellow's spouse and family accompany him/her a grant equivalent to their return fares will be paid. A grant will also be made toward the cost of transport of personal effects. The emolument will be NZ\$10,513 per year.

Application forms and further particulars may be obtained from: **The Senior Administration Officer, National Research Advisory Council, Box 12240, Wellington North, New Zealand; The Senior Scientific Adviser, New Zealand High Commission, New Zealand House, Haymarket, London SW1 Y4TQ, England; from the New Zealand Embassy, 19 Observatory Circle, NW, Washington D.C. 20008; from the New Zealand High Commission, Suite 804, Commonwealth Building, 77 Metcalfe Street, Ottawa, Canada, K1P 5L6; from the New Zealand High Commission, Commonwealth Avenue, Canberra 2600, A.C.T., Australia; from the New Zealand Embassy, 20-40 Kamiyama-cho Shibuya-ku, Tokyo 150, Japan; from the New Zealand Embassy in Bangkok, Bonn, Brussels, The Hague, Jakarta, Lima, Paris, Rome, Santiago, Seoul, Vienna; from the New Zealand Consulate-General in Athens, Geneva, Sydney, from the New Zealand Commission in Hong Kong; and from the Office of the High Commissioner for New Zealand in Kuala Lumpur, and Singapore.**

Applications must reach the Council's office by 15 September 1976. Late or incomplete Applications will not be accepted.

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Washington, D.C. 20005

R&D Opportunities

The Kendall company is a leading manufacturer of health care products. Due to growth and expansion of Research and Development activities in disposable plastic medical products, the following career positions are now available:

SR. PROJECT MANAGER (PhD level) CARDIOVASCULAR PRODUCT RESEARCH

Ideal candidate would have PhD or equivalent in bioengineering, biophysics, or physiology and experience in cardiovascular research. This individual must demonstrate technical problem solving ability and be capable of directing a broad spectrum of medical R&D projects. Candidate should be capable of formulating device concepts, constructing prototypes, developing programs for device evaluation and participating as key individual in marketing discussions on product potential. This position requires technical flexibility and management skills to organize broad ranging projects into well scheduled development programs.

PROJECT MANAGER-UROLOGY PRODUCT RESEARCH

Individual will have BS, MS, or equivalent experience. We are looking for a minimum of 4-5 years experience in disposable medical device development. The area of research will be urological disposable products. A knowledge of latex thermoplastics and an understanding of specification writing is ESSENTIAL with design experience preferred. Knowledge of urinary physiology desirable. Kendall offers an excellent salary and benefit package including 100% tuition reimbursement. Interested individuals should send a resume with salary history, in confidence to:

Director of Personnel

THE KENDALL COMPANY RESEARCH CENTER

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Physical Oceanographer,

GS-14 or GS-13

Salary Range: GS-14, \$26,861-\$34,916

GS-13, \$22,906-\$29,782

Ocean Science & Technology Division
Naval Ocean Research & Development
Activity (NORDA) Arlington, Virginia

Applicants must be willing to relocate in Bay St. Louis, Mississippi.

Plans, organizes, directs and carries through to completion broad research and development in Physical Oceanography. Projects are sufficiently complex to require division into numerous individual tasks, most of which are carried out through research contracts with academic institutions. Works with other components of the Navy and other federal agencies; serves as consultant to other ONR offices and Navy commands concerning immediate and long-range problems. Advanced education and/or experience in Physical Oceanography are required, and preferably will have included experience as Chief Scientist on numerous research cruises as well as the direction and administration of a multifaceted research program.

Interested candidates should submit personal qualifications statement SF-171 or detailed resume including publications and references by 15 June 1976 to:

Civilian Personnel Office (Code 1811)

Naval Research Laboratory

4555 Overlook Avenue, S.W.

Washington, D.C. 20375

Attn: 480-07-11

This position is in the Federal Career Service with all Civil Service benefits.

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FELLOWSHIPS

POSTDOCTORAL FELLOWSHIPS IN MEDICAL INFORMATION SCIENCE UNIVERSITY OF CALIFORNIA SAN FRANCISCO

The Section on Medical Information Science at the University of California, San Francisco, which deals with the application of information technology and quantitative methods to health care, offers post-doctoral fellowships in medical information science. These vacancies become available on 1 July 1976. Appointments are made for 1 year, with renewal on a competitive basis. The stipend range is \$10,000 to \$13,000.

Principal research projects involve data base design and implementation, including clinical, laboratory, and health services data elements, along with the development of appropriate computer science tools. We are seeking two types of individuals: (i) M.D.'s with computer experience and (ii) Ph.D.'s in computer science (or equivalent) with emphasis on systems software.

Send résumé, references, and selected publications to **Professor M. S. Blois, Chairman, Section on Medical Information Science, University of California, San Francisco, Room A-16, San Francisco, California 94143.**

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

FELLOWSHIPS

POSTDOCTORAL—NATIONAL RESEARCH SERVICE FELLOWSHIP (\$10,000 to \$13,200) in Dermatology Research Laboratories, Department of Medicine, Duke University Medical Center, 1 July 1976. Purification and characterization of proteinases. U.S. citizen or permanent resident. Send curriculum vitae to **Gerald S. Lazarus, M.D., Professor of Medicine, Duke University Medical Center, Box 2987, Durham, N.C. 27710.**

POSTDOCTORAL FELLOWSHIP IN IMMUNOLOGY. Research on lymphocyte activation, macrophage function. Available immediately for recent Ph.D. or M.D. Contact **Julius Gordon, Department of Surgery, McGill University, Montreal, Quebec, Canada.**

POSTDOCTORAL FELLOWSHIP (1 to 2 years) in transplantation immunology and cell-mediated immunity studies in renal and cardiac transplant recipients. Studies currently in progress include MLC, CML, enhancement, T&K cell cytotoxicity, immunological monitoring and ATG immunosuppression. Contact **Dr. F. Thomas, Transplant Immunology, Box 287, Medical College of Virginia, Richmond, Virginia 23298.**

PROGRAMS

INTERNATIONAL CANCER RESEARCH WORKSHOP PROGRAMME (ICREW)

The International Cancer Research Workshop (ICREW) Programme has been established to increase the frequency, speed, and efficiency of direct exchange between *small groups* of cancer investigators who, although working in different countries, are all active in the fields of basic, clinical, or behavioral research related to cancer.

The primary purpose of this Programme is to further the progress of cancer research.

The funds which are provided by the International Cancer Research Data Bank (ICRDB) of the National Cancer Institute of the United States are administered by the International Union Against Cancer (UICC). They will be available to cover at least 30 percent of the total cost of the workshop up to a maximum of US\$10,000 for each workshop.

Normally the workshops are designed to bring together no more than 10 to 12 persons for a period of 2 to 4 days. Their purpose is to:

- (i) Discuss or demonstrate newly developed or improved specialized technology or methodology;
- (ii) Discuss methods for overcoming obstacles or for resolving apparent disagreement and differences of opinion impeding further progress in a given field of study;
- (iii) Discuss new approaches that might be applied to solve specific problems in cancer research; and
- (iv) Discuss the organization of international bilateral or multilateral studies related to cancer research.

Applications must be submitted on the prescribed form which is available on request from the Geneva Office of the International Union Against Cancer. When requesting application forms, please specify the proposed site and location for the workshop.

Closing dates for the receipt of applications will be: 1 January, 1 March, 1 June, and 1 September.

Successful applicants will be notified within a period of 60 days from the closing date indicated above.

Application forms and additional information may be obtained from:

INTERNATIONAL UNION AGAINST CANCER
Conseil-Général 3/1205 Geneva
Switzerland

INTERNATIONAL CANCER RESEARCH TECHNOLOGY TRANSFER PROGRAMME (ICRETT) 1976

The International Cancer Research Technology Transfer (ICRETT) Programme has been established to promote direct and rapid transfer of information about new or improved technology or methodology between two or more investigators located in two different countries who are working in areas of basic, clinical, or behavioral research in order to further the progress of cancer research.

The purpose of the ICRETT Programme is to enable investigators from two different countries to:

- (i) Carry out brief research which will develop, improve, or modify new or specialized technology or methodology and will clearly contribute toward the progress of cancer research;
- (ii) Engage in short-term on-the-spot collaboration required for comparing the results of and detect causes of discrepancies in the results of parallel or related research in different countries; and
- (iii) Meet together for intensive discussion and/or demonstration so that new or improved technology or methodology developed by an acknowledged expert can be used by investigators in another country.

The funds, which are provided by the International Cancer Research Data Bank (ICRDB) of the National Cancer Institute of the United States, are administered by the International Union Against Cancer. They are designed to permit investigators of any nationality to visit a research center or centers in another country for a period not exceeding 21 days. Funds will not be provided for attending scientific meetings of a general nature or for supporting a series of lectures or seminars in one or more countries.

There will be no deadline for the receipt of applications, which may be submitted at any time throughout the year.

The selection of successful applications will be as rapid as possible.

Each successful applicant will receive a travel allowance calculated on the basis of the tourist economy class air fare and a living allowance sufficient to cover board and lodging expenses.

No allowances will be paid for dependents.

Additional information and application forms may be obtained from:

INTERNATIONAL UNION AGAINST CANCER
Conseil-Général 3/1205 Geneva
Switzerland

FELLOWSHIPS

POSTDOCTORAL POSITIONS

Positions are available for recent Ph.D. graduates interested in advanced training and research on the mechanisms of selectivity of drug action. Areas currently under study are: (i) the biochemical-pharmacological basis for the effects of anticancer and antiviral treatments, inclusive of pharmacokinetics, drug biotransformation, and target cell determinants of drug action; (ii) the selective effects of drugs on the various components and interactions involved in immune responses to tumor and nontumor antigens; (iii) the regulation of cell metabolism by hormones, nucleotide pools, and cyclic nucleotides, particularly cyclic CMP; (iv) the pharmacological and cellular basis for chemical carcinogenic transformation in animals and in tissue culture; and (v) clinical pharmacological studies on drug selectivity. Nucleosides, antifolates, carbohydrates affecting the plasma membrane, and anthracycline antibiotics are among the classes of agents studied. Reply in writing to **Dr. E. Mihich, Department of Experimental Therapeutics, Grace Cancer Drug Center, Roswell Park Memorial Institute, Buffalo, N.Y. 14263.** Please include curriculum vitae and indicate at least two references.

UNIVERSITY OF MELBOURNE RESEARCH FELLOWSHIPS

Several fellowships are awarded twice each year for full-time research in any department of the University.

Eligibility: Ph.D. or at least equivalent research equivalent.

Tenure: 1 to 2 years.

Salary: \$12,835 (Australian), \$628 annual increment, plus return air fare.

Applications close 31 July 1976.

GRANTS-IN-AID AND TRAVEL GRANTS

Several grants-in-aid are also awarded twice each year to academics on salaried leave to conduct full-time research at the University.

Applications close 15 May 1976.

Detailed information is available from the **Secretary for Graduate Studies, University of Melbourne, Parkville, Victoria, 3052, Australia.**

SUMMER STUDY

Graduate field courses in **MOUNTAIN ECOLOGY, MOUNTAIN GEOMORPHOLOGY, and MOUNTAIN CLIMATOLOGY** will be offered at the University of Colorado Mountain Research Station near Boulder, Colorado. Intensive fieldwork in the Front Range Rockies from 7 June to 13 August. Courses staggered so student can take one, two or three. Complete or partial room and board available. no fellowships. For brochure write **Dr. Michael C. Grant, Director, Mountain Research Station, Nederland, Colorado 80466.**

GRADUATE STUDY

The Department of Biological Sciences, in cooperation with the basic science faculty of the University of Maryland at Baltimore, provides graduate education toward the M.S. and Ph.D. in the areas of molecular biology and biochemistry; genetics; and cell, developmental, organismic, and population biology.

ASSISTANTSHIPS are available for qualified applicants. For details write to **Dr. R. P. Burchard, Department of Biological Sciences, University of Maryland Baltimore County, Catonsville, Maryland 21228.**

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COLUMBIA UNIVERSITY

BIOLOGICAL SCIENCES

As construction of the Sherman Fairchild Center for the Life Sciences nears completion, the Department of Biological Sciences at Columbia University is seeking to fill new positions at the levels of Assistant, Associate and Full Professor. The new building will provide 50,000 square feet of laboratory space and will be occupied in the spring of 1977, allowing the Department to appoint approximately 12 new members and rebuild its total faculty to 25 over the next several years.

Applications are solicited from biologists working in the areas of biochemistry and molecular biology; eucaryotic cell biology and virology; and neurobiology with special emphasis on the developmental aspect. A concern for genetic analysis, based on Columbia's strong tradition in this field, underlies all of the work in Biological Sciences.

The Department is primarily concerned with appointing individuals who have a record of excellence in research and a demonstrated capacity to teach. Faculty members are expected to teach at the undergraduate and graduate levels in addition to carrying out an active program of independent research.

Please address a complete curriculum vitae, including list of publications, and the names of three references to:



Dr. Sherman Beychok, Chairman
Department of Biological Sciences
Columbia University
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ASSISTANT DIRECTOR

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The successful candidate must be well-versed in laboratory procedures, and be able to prepare written reports for IND, NDA and various clinical/medical publications. You will also be expected to maintain liaison with other toxicology groups or research department.

Position with this major, international developer and manufacturer of ethical pharmaceutical products will situate you in the metropolitan center of upstate New York. We offer an excellent salary and comprehensive benefits. For consideration, please forward your resume, including salary history and requirement, to:

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NUTRITION, TIME AND MOTION IN METABOLISM AND GENETICS by Sydney J. Webb, *Univ. of South Florida, Tampa*. A new theory based on time and motion is proposed in this book concerning nutrition and how it controls metabolic events and influences genetic continuity. Numerous biological phenomena such as cell growth, cell differentiation, the gene, and chromosome action and movement are discussed from the viewpoint of the theory. '76, 426 pp., 104 il., 46 tables, \$29.75

MAN IN THE COLD by Jacques LeBlanc, *Laval Univ., Quebec, Canada*. Foreword by Charles G. Wilber. Results obtained in recent years on laboratory animals exposed to cold and data accumulated on human populations living in cold climates are presented in this book. Special emphasis is placed on mechanisms of adaptation. The discussion is centered on biochemical, cardiovascular and psychological contributions to the development of improved tolerance to low temperature. '75, 208 pp., 129 il., 6 tables, \$15.50

A STUDY GUIDE IN NUCLEAR MEDICINE: A Modern Up-to-Date Presentation compiled and edited by Fuad Ashkar, August Miale, Jr., and William Smoak, *all of the Univ. of Miami, Miami, Florida*. (22 Contributors) This book is divided into ten sections covering such topics as basic science, radio-pharmaceuticals and principles of radiation therapy. Study questions and references to other material in the field are presented at the end of many chapters. '75, 488 pp., 312 il., 44 tables, cloth-\$22.75, paper-\$17.50

TELEMEDICINE: Explorations in the Use of Telecommunications in Health Care edited by Rashid L. Bashshur, Patricia A. Armstrong and Zakhour I. Youssef, *all of the Univ. of Michigan, Ann Arbor*. (18 Contributors) The areas in health care delivery discussed in this book that are encompassed by communications technology include geographic inaccessibility and confinement, medical manpower shortage, uneven distribution and quality of health resources, and the escalating cost of medical services. '75, 376 pp., 30 il., 15 tables, cloth-\$21.75, paper-\$18.75

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**This was Slunchev Bryag, Bulgaria
in October, 1973.**

Data we presented here on reduction potentials of sensitizing dyes may interest cell biologists.

When the International Symposium for Model Investigations of the Photographic Process was hosted by the Bulgarian Academy of Sciences, any laboratory doing fundamental work in the field needed a seat at that game. Such occasions call for keen judgment. What with proprietary considerations, commercial or political, there is an inclination to listen hard, smile pleasantly, and say nothing. If all yielded to the inclination, an exercise in mass meditation would replace the demanding game in which one gives something, gets something, keeps something back, and comes home with enhanced respect for the other players.

Our contribution concerned redox potentials of sensitizing dyes. Specialists in that field do not think of a dye as a compound that imparts color; to them, a dye is a molecule rigged to receive photons in a certain energy range to effect a change of state as reflected in the strength of the molecule's grip on an electron. In the long run—and it is indeed a long run of deduction—this does affect color and ultimately vacation pictures and the late news in color on the tube.

Old photographs date themselves by their look almost as much from progress in sensitizing dyes as through dress and architecture. Generations of chemists have been making and testing dyes for effect on photographic sensitivity. H. W. Vogel in 1876 even tried morphine acetate, not in his veins but in his photographic emulsions. In the past decade it has become apparent that the effective spectral sensitizers work by delivering electrons or holes (electron vacancies) to the silver halide crystal. This is what starts the train of events that render the crystal convertible to silver by the developer (which is thereby enabled to become part of the molecular structure of quite other dyes that constitute the color in modern color photography). Oxidation potential states the

electron hunger of a substance; reduction potential, its prodigality with electrons.

Though from our business viewpoint it is electron traffic with silver halide crystals that matters, the electron traffic that constitutes life itself at the cellular level is obviously even more important. Workers in that field may be interested in the existence of such series of compounds with graded redox potentials as these:

	E_R	E_{ox}
	-1.35	+0.54
	-1.26	+0.94
	-1.12	+0.62
	-1.06	+0.87
	-1.03	+0.99
	-1.00	+0.78
	-0.90 calc.	+0.95 calc.
	-0.86	+0.85
	-0.81	+0.95
	-0.79	+1.00
	-0.65	+0.77
	-0.64	>+1.00
	-0.63	>+1.00
	-0.54	>+1.00
	-0.41	>+1.00
	-0.32	>+1.00
	-0.20	>+1.00
	-0.11	+0.91

Whoever would have liked to talk to our man who presented these data at the Bulgarian symposium can reach him under the name Paul B. Gilman, Jr. at the Kodak Research Laboratories, Rochester, N.Y. 14650.

