

Personnel Placement

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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): \$145 per inch, minimum, per insertion (1 inch is equivalent to 11 lines of 52 spaces 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, 3½ 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

Anatomist/Evolutionary Biologist. Ph.D. 1973. Seven years of teaching experience at both graduate and undergraduate levels. Medical gross anatomy (including histology and embryology), functional-comparative vertebrate morphology, primatology, human biology, and evolution. Seeks teaching and/or curatorial position (university museum). Box 48, SCIENCE. X

Biochemist (Ph.D.)/Medicinal Chemist. Presently assistant professor of medicinal chemistry in a pharmacy school. Very broad teaching and research experiences. Publications in enzyme purification, metabolism, instrumentation, and structural identification of steroids, alkaloids, and drugs. Seeks academic or industrial position. Box 49, SCIENCE. X

Bio-geochemist. Ph.D. 1974; NIH postdoctoral fellow; 15 publications; experience with heavy metal metabolism and nuclear techniques; wide interests. Seeking research/teaching position, preferably at coastal location. Box 50, SCIENCE. X

Comparative Physiologist/Endocrinologist/Histologist. Ph.D. Postdoctoral. Teaching experience. Publications: photoperiod, pituitary function and control, growth, osmoregulation. Seeks teaching/research position, preferably in Canada. Box 51, SCIENCE. X

Fishery Biologist, recent M.S., emphasis on genetics, cytology, embryology, and histology; seeking research and/or academic position with established organization. R. A. Frietsche, 1906 West Huntsville, Springdale, Arkansas 72764. X

Medical Entomologist-Parasitologist. M.S., Ph.D., M.P.M.P.H.; experience in teaching, research, and administration; publications; 12 years of overseas experience in tropical medicine research. Desires senior academic position. Box 33, SCIENCE. 2/4, 11

Plant Physiologist. Ph.D. 1973. Postdoctoral research/teaching experience; specializing in photosynthetic control mechanisms using protoplasts, cells, and whole plants. Publications. Seeks research/teaching position. Box 54, SCIENCE. X

Toxicologist. Ph.D. Fifteen years of experience; research, teaching, consulting in toxicity study, drug level, metabolism, forensic toxicology; publications; seeks academic or industrial position. Box 55, SCIENCE. X

POSITIONS WANTED

Medical Administrator. Biochemistry Ph.D. with business background seeks challenging administrative position in medical or pharmaceutical field. Six years of experience in teaching, research, and administration at large medical university and 4 years of business experience. Available immediately. Box 52, SCIENCE. X

Neuroscientist/Physiologist. Ph.D., 3 years of postdoctoral training. Research: central processing of sensory information; neurophysiological, neuroanatomical techniques, computer analysis. Teaching: neurophysiology, neuroanatomy, general physiology. Desires academic or industrial position. Box 53, SCIENCE. X

POSITIONS OPEN

ANATOMY FACULTY POSITION—We have an opening for an assistant professor beginning 1 July 1977. The principal teaching responsibility will be in gross anatomy. The individual should have a strong research program in cell biology, neuroanatomy, or developmental biology, and preferably would have had at least 2 years of postdoctoral training. The department has excellent research facilities. Start-up research funds are available. If you are interested, please send curriculum vitae including bibliography, a paragraph describing your research plans, and also arrange for three letters of recommendation to be sent to the Department Chairman, Dr. A. Kent Christensen, Department of Anatomy, Temple University School of Medicine, 3420 North Broad Street, Philadelphia, Pa. 19140. An Equal Opportunity/Affirmative Action Employer.

ANIMAL NUTRITIONIST: Requires expertise to review existing animal diets, develop new diets and means for evaluating and monitoring specific nutritional requirements of each species of bird, reptile, and mammal. Prefer candidates with Ph.D. in nutrition of exotic primates, carnivores, or rodents; experience in analysis of dietary needs of exotic species in captivity. Salary up to \$20,442, depending on qualifications. Send application and salary history to DESK 500, Smithsonian Institution, Office of Personnel, Room 1471, Washington, D.C. 20560. Equal Opportunity Employer.

The Department of Psychiatry at the University of Wisconsin-Madison has a full-time faculty opening at the ASSISTANT PROFESSOR level for a general psychiatrist with special interest in the consultation-liaison area. Applicants should possess a strong interest in teaching and research in this area. In addition the position would involve general psychiatry teaching for medical students, residents, and psychology trainees in the Department of Psychiatry. Applicants should send curriculum vitae and references to William T. McKinney, Jr., M.D., Chairman, Department of Psychiatry, University of Wisconsin Medical School, 1300 University Avenue, Madison, Wisconsin 53706.

An Equal Employment Education Institution, Title IX/Title VI

ASSISTANT PROFESSOR OF MICROBIOLOGY. Applications from Ph.D.'s or D.V.M.'s with strong academic background in general molecular virology are invited. Candidates should be qualified to conduct research on the biology and molecular aspects of RNA tumor viruses. Experience and publications in this field are essential. The position is available immediately. Send complete curriculum vitae, list of publications, and at least three references to Dr. Jorge F. Ferrer, Leukemia Research Studies Unit, New Bolton Center, University of Pennsylvania, Kennett Square, Pennsylvania 19348.

ASSISTANT PROFESSOR IN PHARMACOLOGY. Applications are invited for a research/teaching position in the Department of Pharmacology, Yale University School of Medicine. Preferred qualifications include a Ph.D. degree with experience in nucleic acid biochemistry, and a desire to work closely with clinicians interested in pathogenesis and treatment of malignant disease. Submit résumé to Dr. Joseph R. Bertino, Department of Pharmacology, Yale University School of Medicine, New Haven, Connecticut 06510 by 15 February 1977. Yale University is an Equal Opportunity Employer. Women and minorities are encouraged to apply.

POSITIONS OPEN

ASSISTANT PROFESSORSHIPS BIOCHEMISTRY AND BIOPHYSICS

The Department of Biophysical Sciences at the University of Houston invites applications for two anticipated faculty positions at the assistant professor level commencing fall 1977. Candidates are being sought with postdoctoral experience, recognized scientific accomplishments, and outstanding promise in the fields of biochemistry or biophysics. Individuals primarily interested in the study of the following areas are encouraged to apply: enzymes; cell membranes; nucleoprotein complexes; molecular mechanisms of differentiation or oncogenesis. The new faculty members will be expected to establish vigorous independent research programs of outstanding quality and to participate actively in the undergraduate and graduate instruction of the department. Interested persons should send a curriculum vitae, a summary of their research and teaching goals, copies of publications, and the names of three references by 1 March 1977 to: Dr. Allen Bartel, Chairman, Department of Biophysical Sciences, University of Houston, Houston, Texas 77004.

An Affirmative Action/Equal Opportunity Employer

ASSISTANT PROFESSOR OF BIOLOGY. Lehigh University anticipates a position beginning in September 1977 for a broadly trained physiologist to teach undergraduates, to supervise M.S. and Ph.D. candidates, and to conduct original research. Submit by 9 March 1977 a résumé, reprints, and a summary of research plans, and have three letters of reference sent to Dr. Steven Krawiec, Department of Biology, Building 31, Lehigh University, Bethlehem, Pa. 18015.

An Equal Opportunity/Affirmative Action Employer

The Department of Psychology and the Afro-American Studies Program of the University of Illinois at Urbana-Champaign, are looking for an ASSISTANT OR ASSOCIATE PROFESSOR to teach both graduate and undergraduate courses and to conduct systematic and high-quality research in any area of psychology. We are interested in a person who will be a regular academic appointment in the Department of Psychology, eligible for tenure, and who will pursue a high-quality research program but whose undergraduate teaching is of relevance to Afro-American studies, and who will share in the development of that program. Starting date for this position is fall 1977. Salary is dependent upon qualifications.

Rather than specifying particular content areas, we are requesting that along with a curriculum vitae, reprints of published work, and three letters of recommendation, the applicant send us a description of his/her accomplished and/or proposed plans for teaching psychology of relevance to Afro-American studies, and for the sort of research in which he/she expects to engage.

All application materials should be sent to Professor Julian Rappaport, Chairman, Psychology and Afro-American Studies Search Committee, Department of Psychology, University of Illinois, Champaign, Illinois 61820. Applications will be accepted immediately, and preferably not later than 1 March 1977. The University of Illinois is an Affirmative Action/Equal Opportunity Employer.

The University of Illinois, Department of Psychology, has three TENURE-TRACK POSITIONS in EXPERIMENTAL PSYCHOLOGY for fall 1977, and is seeking applications and nominations. Applicants with research/teaching interests in learning, memory, information processing, and similar areas will be particularly welcome for two of the positions. Applicants qualified to teach in the general area of visual perception or visual psychophysics and whose research is focused on neural mechanisms of vision using single-unit recording techniques are particularly invited to apply for the third position. However, candidates from any area of experimental psychology will be considered for each of the three positions. Rank and salary are open, but preference will be given to applicants with an established record of scholarship. Applications will be accepted immediately, preferably by 1 March 1977 in order to ensure consideration. The University of Illinois is an Equal Opportunity/Affirmative Action Employer, and encourages applications from minorities and women. All candidates will be given careful consideration and evaluated on merit. All inquiries and nominations, as well as complete applications (curriculum vitae and three or four letters of recommendation) should be sent to Professor James H. Davis, Department of Psychology, University of Illinois, Champaign, Illinois 61820; telephone: 217-333-0008.

POSITIONS OPEN

ASSISTANT PROFESSOR OF BIOLOGY AT UCLA

The Department of Biology invites applications from highly qualified individuals with a commitment to teaching and research in plant morphology. Teaching responsibilities include participation in the introductory biology course, and advanced undergraduate course in plant morphology plus advanced courses and seminars in the area of the applicant's research interests. Research may range from cellular to organismic approaches involving morphogenetic problems in multicellular systems. A curriculum vitae, list of publications, names of three references to be used for letters of recommendation, and a summary of research interests should be sent to: **Chairman, Search Committee, Department of Biology, University of California, Los Angeles, Calif. 90024.** Closing date for application is 1 March 1977.

An Equal Opportunity/Affirmative Action Employer

ASSISTANT PROFESSOR OF PHARMACOLOGY. Applications invited from recent postdoctorates with primary interest in neuropharmacology. Position available 1 January 1978. Teaching interests and potential to develop strong research program essential. Send complete curriculum vitae, bibliography, and names of three referees to **Search Committee, Department of Pharmacology, University of California, San Francisco, Calif. 94143.** *The University of California is an Equal Opportunity/Affirmative Action Employer.*

ASSISTANT OR ASSOCIATE PROFESSOR OF PHYSIOLOGY

The Department of Physiology, University of Arizona, College of Medicine, invites applications from individuals trained in the area of endocrinology to teach and carry on an active program of research. Responsibilities include teaching the endocrine section of a human physiology course for medical and graduate students, advanced courses and supervision of Ph.D. candidates in physiology. Full-time tenure track position. Salary negotiable. Apply with curriculum vitae and names of three references to: **Dr. Paul Johnson, Department of Physiology, Arizona Health Sciences Center, Tucson, Arizona 85724.** *An Equal Opportunity/Affirmative Action Employer under state and federal laws and regulations including Title IX, 1972 Education Amendment.* Applications must be received by 15 March 1977.

ASSISTANT PROFESSOR IN THEORETICAL SOLID STATE PHYSICS. Will join current interdisciplinary research program including electron redistribution and related effects upon interphase boundary structure and energy, and upon fracture along these boundaries. Apply to **William Powers,**



Dean, College of Sciences and Arts, Michigan Technological University, Houghton, Michigan 49931. *Equal Opportunity Educational Institution/Equal Opportunity Employer.*

ASSISTANT PROFESSOR OF ZOOLOGY

A 1-year position is available for 1977-78 to teach courses in general zoology and comparative vertebrate anatomy (both with laboratory), and a lecture course in the area of specialty, preferably animal behavior. Ph.D. required; postdoctoral experience desirable. Send curriculum vitae and three letters of reference by 15 March 1977 to: **Dr. Larry C. Oglesby, Chairman, Department of Zoology, Pomona College, Claremont, California 91711.**

An Equal Opportunity/Affirmative Action Employer

Applications are now being considered for **POSITIONS IN THE BIOLOGY DEPARTMENT** of the College of Arts and Sciences in the following fields:

Cell differentiation, terrestrial ecology, neurophysiology (vertebrate), osmoregulation (animal physiology), mammalogy (vertebrate zoology), marine biology, entomology (insect physiology), ornithology, plant morphogenesis, mycology (general classical mycology), developmental genetics, and microbial genetics.

Ph.D. is required. The positions will be for assistant and associate professors. Contracts are annually renewable, including 1-month paid leave with a salary range equivalent of \$16,000 to \$20,000, depending on qualifications and experience. One round-trip air ticket is provided for each academic year.

Send résumé, curriculum vitae, and three letters of recommendation to **Biology Department, Pahlavi University, Shiraz, Iran.**

POSITIONS OPEN

BIOCHEMIST-MOLECULAR BIOLOGIST

The Department of Biochemistry is seeking a junior faculty member to be appointed as an assistant professor for the 1977-78 academic year. Candidates must have a doctoral degree and postdoctoral experience. Research interests in the molecular biology of mammalian cells are desirable but not mandatory. Interested individuals should forward a curriculum vitae with complete bibliography, summary of future research interests, and the names of three references no later than 1 March 1977 to: **Dr. E. G. Sander, Chairman, Department of Biochemistry, West Virginia University School of Medicine, Morgantown, West Virginia 26506.** *The University is an Affirmative Action/Equal Opportunity Employer.*

BIOLOGISTS

Two openings at the assistant professor level are anticipated for fall 1977. One appointment is for a developmental biologist whose teaching responsibilities will include histology. The research area of the other appointment is open but teaching responsibilities will include general biology for majors and non-majors. Applicants are requested to submit a curriculum vitae (before 22 February 1977) to: **Dr. Frank F. Katz, Chairperson, Department of Biology, Seton Hall University, South Orange, New Jersey 07079.** *An Equal Opportunity/Affirmative Action Employer*

BIOLOGY INSTRUCTOR. Temporary appointment for the fall semester 1977 (22 August 1977 to 23 December 1977). Master's degree in biology plus at least 1 year full-time teaching experience in general biology at the college level required. Salary range: \$5,457 to \$7,310. Position could be extended to the spring semester. No travel funds available for interviews. Applications received until 1 April 1977. Send résumé, transcripts, and three letters of recommendation to: **Murray A. Shellgren, Department of Biology, Slippery Rock State College, Slippery Rock, Pa. 16057.** *Slippery Rock State College is an Affirmative Action/Equal Opportunity Employer.*

BIOLOGICAL OCEANOGRAPHER-NSF

The National Science Foundation is seeking qualified applicants for 2-year appointments to the position of **assistant program director** in the Biological Oceanography Program. The position is excepted from the competitive civil service and will have a tenure of up to 2 years. The program provides support for scientists primarily from academic institutions to pursue fundamental research in biological oceanography. The selected candidate will be involved in program planning, proposal evaluation, administration of research grants, and liaison with other federal agencies. The work does not include the performance of scientific research.

Applicants should have a Ph.D. in oceanography or biological science or the equivalent in experience. Field experience in an academic institutional program is highly desirable. Salary range is from \$17,056 to \$31,598 depending on qualifications and experience. Those interested in being considered for this position should forward current résumés by 23 February 1977 to the **Division of Personnel and Management, National Science Foundation, 1800 G Street, NW, Washington, D.C. 20550.** *An Equal Opportunity Employer.*

BOTANIST

Liberal arts college seeks applications for permanent staff position in botany at assistant professor rank starting 15 August 1977. Ph.D. Nine-month appointment with summers free. Must be able to teach in two or more: plant physiology, plant anatomy, plant morphology, and morphogenesis. Ability to teach EM also desirable. Primary duty is to teach undergraduate botany; also participate in beginning biology courses. Applications close 15 March. Send to: **Biology Department, Grinnell College, Grinnell, Iowa 50112.** *An Affirmative Action/Equal Opportunity Employer.*

MICROBIOLOGIST/IMMUNOLOGIST

Applications open for staff position at assistant professor rank starting 1 August 1977. Ph.D. Nine-month appointment with summers free. Will teach microbiology, immunology, and share metabolic physiology to first-year medical students, and microbiology to undergraduates; also participate in beginning biology courses. Non-tenurable, but contract renewable indefinitely. Applications close 15 March. Send to: **Director, GRMS, Department of Biology, Grinnell College, Grinnell, Iowa 50112.** *An Affirmative Action/Equal Opportunity Employer.*

POSITIONS OPEN

CHAIRPERSON of Department of Maternal and Child Health in School of Public Health.

Person with academic, teaching, research, and service experience in maternal and child health to lead interdisciplinary faculty. Doctorate in an M.C.H.-related discipline required. M.P.H. degree desirable, but not essential. (Comparable perspective and skills may be substituted.)

Equal Opportunity/Affirmative Action Employer. Send curriculum vitae and letter of interest to **Chairman of Search Committee for Chairperson of Department of Maternal and Child Health, Department of Epidemiology, Rosenau Hall 201 H, University of North Carolina, Chapel Hill, North Carolina 27514.**

THE CHEMISTRY DEPARTMENT of Wayne State University is searching for a few very talented Ph.D. chemists as additions to the permanent staff. Our department has a strong research commitment with modern facilities and equipment, but also expects all staff to excel in execution of their instructional obligations. While we will consider seriously any truly outstanding applicant, we will give special consideration to those whose research experience and interests lie in the areas of analytical chemistry, biochemistry, and polymer chemistry. Although we are most interested in adding staff at the beginning assistant professor level, we will entertain applications from exceptional individuals whose qualifications would require a more advanced appointment. Applicants should submit résumé, statement of research interests, three letters of reference, and academic transcripts to **Professor David Rorabacher, Chairman, Faculty Search Committee, Department of Chemistry, Wayne State University, 277 Chemistry Building, Detroit, Michigan 48202.** *Wayne State University is an Equal Opportunity/Affirmative Action Employer, and applications from minority groups and women are encouraged.*

CHIEF—Division of Medical Genetics, Department of Pediatrics. Associate professor or professor to begin 1 July 1977 or before. Please send curriculum vitae to: **Dr. Kurt Hirschhorn, Chairman, Department of Pediatrics, MOUNT SINAI MEDICAL CENTER, 100th Street and Fifth Avenue, New York, N.Y. 10029.** *An Equal Opportunity Employer.*

COMPARATIVE ENDOCRINOLOGIST UNIVERSITY OF OREGON

The Department of Biology seeks an assistant or associate professor of comparative endocrinology with Ph.D. for a regular faculty position, September 1977. Postdoctoral experience desirable. Responsibilities are to develop a research program using either invertebrates or vertebrates and to teach endocrinology and physiology. Ample research space is available in a recently constructed building. Salary negotiable. Write for application forms, and send curriculum vitae, a description of research interests, names of three referees, and copies of publications by 15 March to: **Dr. S. S. Tepper, Head, Department of Biology, University of Oregon, Eugene, Oregon 97403.** *The University of Oregon is an Equal Opportunity/Affirmative Action/Title IX Institution.*

DEAN College of Engineering University of Cincinnati

Nominations and applications are invited for the position of dean of the College of Engineering. The dean is the college's executive officer and has central responsibility for the administration of all instructional and research aspects of the college. Potential candidates are expected to have prior administrative experience and national scholarly recognition in an engineering discipline. Salary is commensurate with background and experience.

The College of Engineering is one of 19 colleges comprising the University of Cincinnati, annually enrolls more than 2500 graduate and undergraduate students, and supports instructional and research activities spanning the sub-disciplines: engineering science, aerospace engineering and applied mechanics, chemical and nuclear engineering, civil and environmental engineering, electrical and computer engineering, mechanical and industrial engineering, and materials sciences and metallurgical engineering.

Please send applications and nominations, prior to 30 March 1977, to:

**Dr. Albert C. Yates
Chairman, Search Committee
Office of the University Dean
University of Cincinnati
Cincinnati, Ohio 45221**

An Equal Opportunity Employer

POSITIONS OPEN

DEAN, SCHOOL OF MEDICINE

The University of Texas Medical Branch is seeking candidates who are experienced educator-academics to continue leading the school's vigorous academic growth. Candidates should submit curriculum vitae and references to: **William P. Deiss, Jr., M.D., Chairman, Department of Medicine, University of Texas Medical Branch, Galveston, Texas 77550.** *The University of Texas is an Equal Opportunity, M/F, Employer.*

DEVELOPMENTAL BIOLOGIST—Assistant professor (Ph.D.) to establish undergraduate and graduate courses in area of specialization and to direct research of M.A. students. Appointee will be expected to teach a course in animal embryology and introductory general biology. The development of a research program with external funding is required; postdoctoral experience preferred. This appointment is pending approval to hire. *State University College at Buffalo is an Affirmative Action/Equal Opportunity Employer.* Send curriculum vitae, three letters of reference, and a statement of research objectives to: **Dr. James Haynes, Chairman, Department of Biology, State University College at Buffalo, 1300 Elmwood Avenue, Buffalo, New York 14222.**

DIRECTOR—TECHNICAL OPERATIONS

Would you accept the challenge to lead a sophisticated, highly qualified, technical operations group associated with fine chemical manufacturing to give technical guidance to manufacturing management and develop new processes in conjunction with research and development? If so, we would like to review our opportunity with you.

As to qualifications, you should hold a Ph.D. in organic chemistry, with 10 to 15 years' experience, at least half of which has been associated with development or manufacturing. Familiarity with synthetic and extraction processes would be beneficial. You should possess sound, fundamental technical ability based on modern concepts of manufacturing technology.

We are a large, multiproduct, fine chemical process company located in the mid-Atlantic region, offering the latest technical equipment and facilities. A highly attractive compensation package accompanies this senior appointment.

Please send detailed curriculum vitae in confidence to:

Box 56, SCIENCE

An Equal Opportunity Employer, M/F

DIRECTOR OF SCHOOL OF PHYSICAL THERAPY

Albany Medical College and Russell Sage College are jointly seeking a director in physical therapy. Must be trained in and have practiced physical therapy, and have the ability and interest to develop and expand research and teaching in that area. Rank and salary will be based on qualifications. Applications to be sent by 1 March 1977 to **Dr. Gordon Kaye, Department of Anatomy, Albany Medical College, Albany, N.Y. 12208.** References should accompany résumé.

An Equal Opportunity Employer

RESIDENT EXECUTIVE DIRECTOR of The Marine Science Consortium, Inc., Wallops Island, Virginia.

Minimum requirements: baccalaureate degree, 3 years of managerial and administrative experience in multidisciplinary educational and research programs. Salary and benefits commensurate with experience. Applications accepted until 11 February 1977. Apply to:

**Dr. Herbert Hays, President
The Marine Science Consortium
FSC 205
Shippensburg State College
Shippensburg, Pennsylvania 17257**

The Department of Obstetrics and Gynecology at UCLA is accepting applications from individuals with a primary interest in either **GYNECOLOGY OR OBSTETRICS**. Postresidency fellowship or experience is desirable but not required. Applications will close 1 April 1977. Send curriculum vitae and bibliography to: **C. R. Brinkman, III, M.D., Faculty Appointments Committee, Department of Obstetrics and Gynecology, UCLA School of Medicine, Los Angeles, California 90024.** *UCLA is an Equal Opportunity Employer.*

POSITIONS OPEN

CHAIRPERSON—MEDICINE

The New York Hospital—Cornell Medical Center seeks a distinguished physician for appointment as professor and chairperson, department of medicine, Cornell University Medical College, and as physician-in-chief, the New York Hospital. Candidates must present evidence of experience and accomplishment in teaching, research, clinical service, and administration.

Send credentials to Medicine Search Committee, Room A-128

CORNELL UNIVERSITY MEDICAL COLLEGE

1300 York Avenue New York, N.Y. 10021

Equal Opportunity Employer under State

and Federal Laws including Title IX,

Education Amendments of 1972

DIRECTOR

INSTITUTE FOR MAN AND ENVIRONMENT

Anticipated position to begin 1 September 1977. Will administer an interdisciplinary bachelor of arts program in environmental science (300 majors) on main campus as well as Residential Research Semester at Miner Center, a satellite campus. Responsible for encouraging and administering research and public service programs in the area. Minimum qualifications: earned doctorate or equivalent experience with emphasis in environmental area; demonstrated administrative talents and abilities for obtaining and supervising research funding and college teaching experience. Salary negotiable. Send letter of application and résumé by 1 March 1977 to **Dr. James C. Dawson, Chairman of Search Committee, Institute for Man and Environment, State University of New York, Box 1000, College of Arts and Science, Plattsburgh, New York 12901.** *Equal Opportunity/Affirmative Action Employer.*

CORNELL UNIVERSITY

DEPARTMENT OF GEOLOGICAL SCIENCES

Applications are invited for two junior level **FACULTY POSITIONS**, one to begin in fall 1977, the other in fall 1977 or 1978. Specialties of interest are **exploration geophysics**, particularly reflection seismology, **petrology**, and **economic geology**. Teaching and research in growing department. Some experience beyond Ph.D. desirable. Send curriculum vitae and names of three references to **Jack Oliver, Chairman, Department of Geological Sciences, Cornell University, Ithaca, New York 14853.** *Cornell University is an Equal Opportunity Employer.*

TULANE UNIVERSITY—Applications invited for two regular faculty positions, one organic, one physical. Assistant or associate professor to start September 1977. Applicants must demonstrate capability of pursuing vigorous, independent research programs. Research interests complementary to present strengths in bioorganic and organometallic chemistry preferred. Teaching duties include introductory and advanced courses in organic chemistry and thermodynamics. Ph.D. required. Postdoctoral experience desirable. Send detailed résumé, research plans, and three letters of reference to: **Chairman, Search Committee, Department of Chemistry, Tulane University, New Orleans, Louisiana 70118** by 31 March 1977. *Tulane University is an Equal Opportunity/Affirmative Action Employer.*

INSTRUCTORS: Four full-time, nontenure positions available to teach laboratory and recitation sections in general and organic chemistry starting September 1977. Initial appointment is for 2 years. Ph.D. preferred. Send résumé and three letters of reference to: **Chairman, Instructor Search Committee, Department of Chemistry, Tulane University, New Orleans, Louisiana 70118.** *Tulane University is an Equal Opportunity/Affirmative Action Employer.*

RESEARCH POSITIONS: Four full-time staff research positions available to start July 1977. Advanced degree or B.S. and research experience in synthetic organic, organometallic, or biological chemistry required. Initial appointment 2 years to collaborate with faculty in on-going research programs. Send résumé and three letters of reference to: **Chairman, Department of Chemistry, Tulane University, New Orleans, Louisiana 70118.** *Tulane University is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

DIRECTOR OF RADIO ASTRONOMY FACILITIES HARVARD UNIVERSITY

Applications are invited for the position of director of radio astronomy facilities for the Harvard College Observatory. The appointee will be responsible for the facilities at the Agassiz Station, Harvard, Massachusetts, and at the Harvard Radio Astronomy Station, Fort Davis, Texas.

Duties will include the planning and supervision of a major upgrading of the Fort Davis, Texas, facility. A minimum of 5 years of experience in radio astronomical postdoctoral research is required. Candidates shall have experience with continuum and spectral line radiometers, digital antenna control systems, and data processing. The applicant should also have considerable experience in very-long-baseline interferometry.

Applications should be sent to: **Professor George B. Field, Director, Harvard College Observatory, 60 Garden Street, Cambridge, Mass. 02138.** *Harvard University is an Equal Opportunity/Affirmative Action Employer.*

JUNIOR FACULTY MEMBER—Sought to teach medical pharmacology and to develop an independent research program to complement faculty interests presently in molecular biology, immunology, pharmacokinetics, and autonomic/cardiovascular pharmacology. Formal training in pharmacology preferred but not essential; must be willing to participate in teaching, ideally in central nervous system pharmacology. Minority candidates and women are especially encouraged to apply. Send résumé and names of three references, before 15 March, to **Search Committee, Department of Pharmacology, UNIVERSITY OF MASSACHUSETTS MEDICAL SCHOOL, 55 Lake Avenue North, Worcester, Mass. 01605.** *An Equal Opportunity/Affirmative Action Employer.*

Molecular/Microbial Genetics Fundamental Research

Position for a Ph.D./senior research scientist with experience in molecular, microbial, or bacteriophage genetics.

For further information and consideration, please forward a résumé of training and experience, a list of publications and pertinent reprints, and a short description of your research interest to:

Box 37, SCIENCE

An Equal Opportunity Employer, M/F.

POSITIONS OPEN

FACULTY POSITION IN PHARMACOLOGY AT THE UNIVERSITY OF COLORADO SCHOOL OF PHARMACY

Position Available 1 July 1977

Applications are invited from candidates possessing a Ph.D. degree with research and teaching experience. Responsibilities will include undergraduate and graduate teaching in pharmacology. The candidate must have a strong commitment to teaching and be able to relate pharmacology to the practice of pharmacy. The candidate must have or be in the process of developing a vigorous research program in pharmacology. The appointment is on a 9-month (academic year) basis with salary and rank commensurate with experience and teaching. Please send a curriculum vitae, along with names of three references, and a summary of research plans to:

Dr. Allan C. Collins
School of Pharmacy
University of Colorado
Boulder, Colorado 80309

An Equal Opportunity/Affirmative Action Employer

Cornell University has a **FACULTY POSITION** opening for a Ph.D. at the assistant (or associate) professor level in environmental engineering. Candidates should have strong background in sanitary, hydraulic, or transportation engineering and have demonstrated competence in the development and application of economic theory and mathematical modeling methods to environmental management problems. Duties will include development of an active research program and teaching and advising both undergraduate and graduate students. Applicants should forward letter of application, curriculum vitae, and names of three or more references as soon as possible to **J. A. Liggett, Chairman, Search Committee, Department of Environmental Engineering, Hollister Hall, Cornell University, Ithaca, New York 14853. Cornell University is an Equal Opportunity Employer.**

INSECT PHYSIOLOGIST

The Department of Entomology has a research position, available immediately, for a 12-month faculty position in insect physiology as assistant or associate professor.

The Ph.D. is required. Applicants should have broad training in entomology, ecology, plant science, and chemistry.

Research responsibility will focus on insect-plant relations at the physiological or chemical level.

Teaching responsibilities will include supervision of graduate students and some course instruction based on departmental need and scientist's interest.

Applications consisting of a curriculum vitae, graduate transcripts, a brief outline of future research plans, and three letters of recommendation should be sent before 15 February 1977 to:

Dr. Eldon E. Ortmann, Head
Department of Entomology
Purdue University
West Lafayette, Ind. 47907

Purdue University is an Equal Access/Equal Opportunity Employer.

There will be an opening for an

INDEPENDENT INVESTIGATOR

At the Institute of Genetics, University of Cologne, Cologne, Germany, as of 1 July 1977.

We are looking for a scientist who has had several years of experience in the biochemistry and genetics of bacterial plasmids.

The contract will be limited to a 3-year term and can be extended for an additional 2 years. The position is part of the Sonderforschungsbereich 74 of the Deutsche Forschungsgemeinschaft. Salary (depending on age and family size) will be paid according to BAT 1a (before deductions for taxes, insurance, and so forth, DM 54,700, per annum). Salaries for a technician and a postdoctoral fellow plus funds for consumable supplies will also be available, subject to approval of the investigator's project by the Deutsche Forschungsgemeinschaft.

The Institute of Genetics is currently planning to construct a P3 facility.

Applications including a detailed research proposal, curriculum vitae, bibliography, and the names of three scientists who are familiar with the applicant's work and background should be directed to the **Sonderforschungsbereich 74, Institut für Genetik der Universität zu Köln, Weyertal 121, 5000 Köln 41, West Germany**, not later than 28 February 1977.

POSITIONS OPEN

INSECT PHYSIOLOGIST

A 70 percent research, 30 percent teaching position. Research will be in basic insect physiology having potential application to pest management programs; a general insect physiology and insect toxicology course will be taught, and graduate student direction is expected. The Ph.D. degree is required. Applications will be accepted through 30 April 1977.

A more complete position description is available from:

Dr. E. C. Klostermeyer
Chairman, Search Committee
Department of Entomology
Washington State University
Pullman, Wash. 99164

An Affirmative Action/Equal Opportunity Employer

DEPARTMENT OF KINESIOLOGY

An appointment is open for a physician with research interest in any aspect of human physiology, bioengineering, prosthetics, or human factors in the Department of Kinesiology at Simon Fraser University. The appointee will work in an interdisciplinary environment with biochemists, engineers, work physiologists, and biomechanics faculty. The graduate and undergraduate teaching and research of the department emphasizes human performance in normal and extreme conditions.

Appointment will be made effective 1 September 1977 and will be at either the assistant or associate professor level. Salary is negotiable. Applications, together with three references, to be sent to:

Dr. T. W. Calvert, Chairman
Kinesiology Department
Simon Fraser University
Burnaby, B.C., Canada V5A 1S6

MICROBIOLOGIST

Work with bioengineering group on mass culture of algae for bioconversion. Research program will include development of biophotolysis systems based on blue-green algae and photosynthetic bacteria.

Position requires Ph.D. or equivalent with background in one or more of the following: fermentations (hydrogen or methane), photosynthetic procarototes, algal physiology, bioengineering, and nitrogen fixation.

Apply to: **Professor W. J. Oswald, Sanitary Engineering Research Laboratory, Richmond Field Station, University of California, Berkeley, Calif. 94720.**

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

UNIVERSITY OF OKLAHOMA COLLEGE OF MEDICINE

Applications are solicited for a **MICROBIOLOGIST**. Ph.D. with several years of research experience beyond doctorate for position at assistant or associate professor rank. Research interests in oral microbiology or virology. Instruction of graduate, dental, and medical students. Applicants should send curriculum vitae to: **Dr. Thomas N. Lynn, Dean, College of Medicine, P.O. Box 26901, Oklahoma City, Oklahoma 73190. Equal Opportunity Employer.**

MOLECULAR BIOLOGIST. Assistant professor to represent this discipline in modern curriculum beginning 1 September 1977. Viable research program desired in the area of eukaryotic molecular genetics. The person filling this position will also teach introductory biology for majors and nonmajors. Salary \$13,815 to \$18,651. Send complete credentials to **Dr. A. Star, Department of Biology, Trenton State College, Trenton, N.J. 08625. An Equal Opportunity/Affirmative Action Employer.**

ORGANIC Ph.D. Experienced in group supervision to manage a program on Environmental Oxidation of Aromatics. Writing up program reports essential component. Experience with GC, MS, and LC preferred. Salary negotiable but not to exceed \$13,000 per year. *An Equal Opportunity Employer.* Contact either:

Dr. John Laseter
Department of Biological Sciences, or
Dr. Gary W. Griffin
Department of Chemistry
University of New Orleans
New Orleans, La. 70122

POSITIONS OPEN

PHARMACOLOGIST AND TOXICOLOGIST. Two and possibly three teaching/research positions at the assistant or professor level in pharmacology and toxicology are available immediately. Associate candidates should hold the D.V.M. and/or Ph.D. degrees (pharmacologist) and the D.V.M. degree (toxicologist). Individuals selected will be expected to teach in appropriate areas and develop research programs that will attract extramural funding. Filing deadline is 30 April. Applicants should send personal data and teaching and research résumés along with addresses of three potential references to **Dr. Lester L. Rolf, Jr., Chairman, Physiological Sciences Search Committee, College of Veterinary Medicine, Oklahoma State University, Stillwater, Oklahoma 74074. Oklahoma State is an Affirmative Action/Equal Opportunity Employer Institution.**

PLANT BIOCHEMIST

The Laboratory of Agricultural Biochemistry of the University of Nebraska, Lincoln, invites applications and nominations for a permanent faculty position in plant biochemistry with specific research interests in photosynthesis or photorespiration in higher plants. Postdoctoral experience is desirable. The level of appointment is open. Although the position primarily entails research, there will be an opportunity to participate in a teaching program. Application, résumé, and three letters of reference should be sent by 30 March 1977 to: **Dr. J. M. Daly, Laboratory of Agricultural Biochemistry, The University of Nebraska, Lincoln, Nebraska 68583. An Equal Opportunity/Affirmative Action Employer.**

UNIVERSITY OF CALIFORNIA, SANTA BARBARA

One or more positions, including chairperson, in the Department of Ergonomics and Physical Education. Departmental emphasis on human performance; candidates sought with interests in motor learning, biomechanics, and/or public health. Strong research, teaching record, and Ph.D. or equivalent degree required. Salary level dependent on qualifications. Applications, with curriculum vitae should be sent by 1 March 1977 to **Evelyn M. Jones, Chairman, Department of Ergonomics and Physical Education, University of California, Santa Barbara, Santa Barbara, California. 93106.**

Equal Opportunity/Affirmative Action Employer

Positions available immediately: Junior and senior **POSTDOCTORAL FELLOWS**, Ph.D. in biochemistry or human genetics. Experience in biochemical genetics desirable. Must be interested in enzymology/protein chemistry. Salary range: \$10,000 to \$15,000 per annum. **RESEARCH TECHNICIAN**, B.S. with biochemistry major.

Apply to **Dr. Satish Strivastave, Professor, Department of Human Biological Chemistry and Genetics, the University of Texas Medical Branch, Galveston, Texas, 77550. We are an Equal Opportunity, M/F/Affirmative Action Employer.**

POSTDOCTORAL POSITION—Available immediately. Studies of cellular immunity using polypeptide antigens of defined sequence. Experience with in vitro correlates of cellular immunity is required. Send inquiries and curriculum vitae to **Dr. Robert B. Fritz, Department of Microbiology, Emory University School of Medicine, Atlanta, Georgia 30322. Emory University is an Equal Opportunity/Affirmative Action Employer.**

Available immediately: **POSTDOCTORAL POSITION** involved with intermediary glycolytic metabolism and its interaction with red cell membranes. Contact: **L. M. Snyder, M.D., or N. L. Fortier, Ph.D., Hematology Department, St. Vincent Hospital, 25 Winthrop St., Worcester, Massachusetts 01604.**

POSTDOCTORAL POSITION in clinically applicable tumor cell kinetics. Immediately available. Experience in cell biology desired. Send curriculum vitae and references to:

Lewis M. Schiffer, M.D.
Cancer Research Unit
Allegheny General Hospital
320 East North Avenue
Pittsburgh, Pa. 15212

An Equal Opportunity Employer

The National Cancer Institute (NCI), National Institutes of Health, is interested in contracting for the following projects:

IMMUNOTHERAPY

Reference No. NO1-CB-74141-31. Immunotherapy: New Approaches to Immunotherapy. Proposals are sought for creative approaches in the use of the immune system for cancer therapy. Both animal and human studies are acceptable. Animal work should be relevant to application in man. Deadline for receipt of proposals is 5 p.m., Bethesda, Maryland time, on 2 May 1977.

Reference No. NO1-CB-74142-31. Intratumoral Immunotherapy Prior to Surgery. Proposals are sought to evaluate the effectiveness of intratumoral immunotherapy BEFORE surgery in patients with "early" clinically non-disseminated cancer. Deadline for receipt of proposals is 5 p.m., Bethesda, Maryland time, on 2 May 1977.

Reference No. NO1-CB-74143-31. Immunotherapy Prior to Conventional Therapy. Proposals are sought to evaluate the effectiveness of immunotherapy by routes other than intratumoral in cancer patients PRIOR to conventional therapy. Deadline for receipt of proposals is 5 p.m. Bethesda, Maryland time, on 2 May 1977.

Reference No. NO1-CB-74144-31. Immunization With Autochthonous Tumor. Proposals are sought to obtain evidence for the existence of human tumor associated antigens and to show increased immune responses to such antigens after in vivo or in vitro immunization with AUTOCHTHONOUS tumor. Deadline for receipt of proposals is 5 p.m., Bethesda, Maryland time, on 2 May 1977.

Reference No. NO1-CB-74145-31. Immunization With Allogeneic Tumor. Proposals are sought to obtain evidence for cross-reactive human tumor associated antigens by performing tests for humoral and/or cell-mediated immunity to autochthonous tumor. The study of immune responses to AUTOCHTHONOUS tumor after in vivo or in vitro immunization with ALLOGENEIC tumors is required. Deadline for receipt of proposals is 5 p.m., Bethesda, Maryland time, on 2 May 1977.

Reference No. NO1-CB-74146-31. BCG Immunotherapy of Recurrent Superficial Bladder Cancer. Proposals are sought to evaluate the effectiveness of BCG immunotherapy in patients with recurrent superficial bladder cancer. The details of the administration of BCG shall be identical to those published in the *Journal of Urology* (116, 1976). Deadline for receipt of proposals is 5 p.m., Bethesda, Maryland time, on 1 May 1977.

A request for proposal for each project listed above is available on or after 3 February 1977, by written request to Contracting Officer, CBDCS, Tumor Immunology, Research Contracts Branch, National Cancer Institute, Landow Building, Room C-425, National Institutes of Health, Bethesda, Maryland 20014. Request for RFP must cite the reference number(s) of the desired project(s) as shown above. Requests or inquiries must be in writing.



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Jamaica, New York 11424
Phone (212) 544-9534

POSTDOCTORAL FELLOWSHIPS IN VIRAL ONCOLOGY AND RELATED DISCIPLINES

A number of postdoctoral fellowships are available for research in the fields of viral oncology and related disciplines in several departments at the University of Wisconsin-Madison, including the departments of bacteriology, biochemistry, biophysics, genetics, human oncology, medical microbiology, oncology, pharmacology, and physiological chemistry. These National Research Service Fellowships pay \$10,000 to \$14,000 per year depending on experience.

The training program is under the direction of Howard M. Temin, with Paul Kaesberg as co-director. Other trainers include: Fred Blattner, Ernest Borden,* Richard Burgess, James Dahlberg,* Julian Davies,* Harry Hinze, Martha Howe, Ross Inman,* Lawrence Kahan,* William McClain,* Janet Mertz,* Masayasu Normura,* June Osborn, William Reznikoff,* Rex Risser, Roland Rueckert,* Bill Sugden, Wacław Szybalski,* Duard Walker,* and Robert Wells.*

Training consists of research experience in the laboratory of one trainer, as determined by available openings (* indicates opening for 1977-78), and regular contact with the entire group at twice-weekly seminars.

Postdoctoral candidates who are U. S. citizens or permanent residents are invited to send a complete curriculum vitae with detailed research experience, background, field of interest, and date available to:

Helen Iverson
McArdle Laboratory for Cancer Research
University of Wisconsin
450 North Randall Avenue
Madison, Wisconsin 53706

The University of Wisconsin is an Equal Opportunity/Affirmative Action Employer and does not discriminate on the basis of sex or race with regard to either admissions or employment in the education programs or activities which it operates.

SECTION MANAGER PATHOBIOLOGY

Continued growth and expansion at **ETHICON, INC.**, the world's leading manufacturer of surgical needles, sutures and allied medical products, has created a need for **SECTION MANAGER, PATHOBIOLOGY**. We prefer degreed candidates with D.V.M./Ph.D. and/or ACVP board certification highly desirable.

The candidate should have 5 years of research experience at the bench level with a pharmaceutical manufacturer; academic research with laboratory animals is also acceptable. Supervisory experience is highly desirable.

Incumbent will function as a Section Manager, Pathobiology, having responsibility for staffing, preparing budgets, cost estimates, and projections of capital expenditures.

Will review and critique all work performed in the assigned areas of responsibility. On occasion will function as a working pathologist conducting research projects as they may be of both corporate and personal interest.

Qualified applicants should forward resumes in confidence, including salary history and salary requirements to:

Mr. Alvin D. Johnson
Professional Employment

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An Equal Opportunity Employer M/F

The National Cancer Institute (NCI), National Institutes of Health, is interested in contracting for the following projects:

APPLICATIONS OF IMMUNOLOGY IN CANCER CAUSE AND PREVENTION

Reference No. NO1-CB-74155-31. **IMMUNOPROPHYLAXIS OF AN OCULAR SOLID MALIGNANT TUMOR IN CATTLE**. Proposals are sought to determine whether intralesional injection of BCG cell wall emulsion into cattle at a premalignant stage will interrupt the process leading to malignancy. Deadline for receipt of proposals is 5 p.m., Bethesda, Maryland time, on 11 April 1977.

Reference No. NO1-CB-74156-31. **ANTIGENICITY IN PREMALIGNANT LESIONS IN HUMANS**. Proposals are sought for determination of the existence of immunologic markers in premalignant lesions in humans. Deadline for receipt of proposals is 5 p.m., Bethesda, Maryland time, on 11 April 1977.

Reference No. NO1-CB-74157-31. **IDENTIFICATION OF PERSONS EXPOSED TO CARCINOGENS USING THE METHODS OF IMMUNOLOGY**. Proposals are sought for the comparison of human populations at risk of elevated exposure to suspected carcinogens with populations at minimum risk. Deadline for receipt of proposals is 5 p.m., Bethesda, Maryland time, on 11 April 1977.

Reference No. NO1-CB-74158-31. **IMMUNOPREVENTION OF MALIGNANT SOLID TUMORS IN ANIMALS**. Proposals are sought for the development of immunological means for interference with the progression of solid tumors from the premalignant to the malignant stage in animals. Deadline for receipt of proposals is 5 p.m., Bethesda, Maryland time, on 11 April 1977.

A request for proposal for each project listed above is available on or after 3 February 1977, by written request to Contracting Officer, CBDCS, Tumor Immunology, Research Contracts Branch, National Cancer Institute, Landow Building, Room C-425, National Institutes of Health, Bethesda, Maryland 20014. Request for RFP must cite the reference number(s) of the desired project(s) as shown above. Requests of inquiries must be in writing.

POSITIONS OPEN

POSTDOCTORAL POSITION: Two-year fellowship available immediately involving high resolution electron microscopy of photoreceptor membranes and the relationship of the pigment epithelium to receptor cells. Send curriculum vitae and names of three references to: **Dr. Frank Kretzer, Department of Ophthalmology, Baylor College of Medicine, Houston, Texas 77030. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL RESEARCH ASSOCIATE position available for research on the genetic control of normal and abnormal human hemoglobin synthesis. Experience in cell biology, nucleic acid fractionation and hybridization desirable. Starting salary \$12,000 to \$14,000 per year, depending upon experience and other qualifications. Send résumé and names and addresses of three references to: **Dr. R. F. Rieder, Department of Medicine, State University of New York, Downstate Medical Center, 450 Clarkson Avenue, Box 20, Brooklyn, N.Y. 11203. An Equal Opportunity Employer.**

POSTDOCTORAL RESEARCH ASSOCIATES: Two available immediately. (1) Central control of the cardiovascular system. Background in neuro with interest in cardiovascular preferred, converse acceptable. (2) Receptor mechanisms and/or nucleotide activity with respect to the cardiovascular system. Background in biochemistry or pharmacology with training in affinity chromatography techniques. Send curriculum vitae and names of references to: **Dr. Charles D. Barnes, Chairman, Department of Physiology, Texas Tech University School of Medicine, Lubbock, Texas 79409.**

An Equal Opportunity/Affirmative Action Employer

DEPARTEMENT DE PHYSIQUE POSTE DE PROFESSEUR EN ASTRONOMIE OPTIQUE

Un poste de professeur est maintenant disponible au Département de physique de l'Université de Montréal. Le candidat devra accepter de participer à la mise au point de l'équipement scientifique d'un nouvel observatoire astronomique dont l'instrument principal sera un télescope d'environ 1,5 m d'ouverture. Il contribuera aussi aux programmes de recherche et d'enseignement du Département.

L'engagement pourra se faire dès l'été 1977. Le rang académique (adjoint, agrégé, ou titulaire) et le traitement sont en raison des qualifications et de l'expérience.

Les personnes intéressées sont priées de faire parvenir leur curriculum vitae, les noms de deux répondants et tout autre documentation, à l'adresse suivante:

**Le Directeur
Département de physique
Université de Montréal
C.P. 6128
Montréal, Québec, Canada
H3C 3J7**

RESEARCH ASSOCIATE—Ph.D.-level physiologist or pharmacologist to join a laboratory in a major university located in the Boston area. Major interests should lie in the area of small blood vessel physiology and the control of the microcirculation. Experience with chemical separation techniques is essential. Time distribution will involve 50 percent available for research (already funded) and 50 percent for administrative duties including overseeing grants; scheduling programmed laboratory space; supervising technical staff; participating in the writing of reports and applications. Salary is negotiable. Please submit curriculum vitae and include bibliography, references, salary expectation, and an explicit statement which relates relevancy of your professional background to the requirements of this position, to **Box 57, SCIENCE. The University is an Affirmative Action/Equal Opportunity Employer and women and minority group members are encouraged to apply.**

RESEARCH ASSOCIATE IN VESTIBULAR SENSORY PHYSIOLOGY. To study labyrinth fluid dynamics. Skill in delicate animal surgery required. One-year appointment at a salary of \$8,000 to \$12,000, starting June 1977. Send curriculum vitae and references to **Dr. D. E. Parker, Department of Psychology, Miami University, Oxford, Ohio 45056. An Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

POSTDOCTORAL POSITION

Postdoctoral position available in September 1977, for research in virus-host chromosomal interactions. Skills in procaryotic genetics, viral replicative form analysis, and in vitro DNA enzymology are desired. Send résumé of research experience and curriculum vitae to: **Dr. Marvin Stodolsky, Department of Microbiology, Loyola University of Chicago, 2160 South First Avenue, Maywood, Illinois 60153. An Equal Opportunity/Affirmative Action Employer**

A **POSTDOCTORAL POSITION** is available immediately for a recent Ph.D. in biochemistry or pharmacology. Studies will be in the area of cellular cyclic nucleotide metabolism and will include an investigation of the possible role of cyclic nucleotides in expression of the cellular actions of chemical carcinogens. Please contact **Frederick R. DeRubertis, M.D., Medical Research, VA Hospital, Pittsburgh, Pa. 15240; telephone: 412-683-3000, ext. 425.**

SENIOR STAFF ASSOCIATE OR RESEARCH ASSOCIATE in physiology (research on microcirculation). Recent Ph.D. in bioengineering or physiology. Previous experience on measurements of red cell velocity and microvascular pressure in single vessels and/or studies on leukocyte-endothelium interactions. Ability to pursue theoretical studies on microcirculatory fluid mechanics. **Dr. Shu Chien, Department of Physiology, Columbia University College of Physicians and Surgeons, 630 West 168 Street, New York, N.Y. 10032.**

An Affirmative Action/Equal Opportunity Employer

COURSES

MARINE SCIENCE DUKE UNIVERSITY MARINE LABORATORY

Summer Courses—undergraduate: 10 May to 11 June—introduction biological oceanography, invertebrate zoology, introduction marine geology. Graduate/advanced undergraduate: 13 June to 15 July—marine ecology, physiological ecology, chemical oceanography, marine phycozoology, introduction mathematical models in biology, comparative and evolutionary biochemistry, geological oceanography. 18 July to 19 August—vertebrate embryology, membrane physiology and osmoregulation, biological oceanography, marine invertebrate zoology, environmental oceanography, introduction marine geophysics. Write: **Director, Duke University Marine Laboratory, Beaufort, North Carolina 28516.**

SYMPOSIUM

A. N. RICHARDS SYMPOSIUM HISTAMINE RECEPTORS

21 to 22 March 1977, Marriott Hotel, Philadelphia, Pa. Scope: (i) gastrointestinal, (ii) cardiovascular, (iii) neural, and (iv) histamine receptors linked to nucleotide cyclases. **Richards Lecture: Professor J. W. Black.** Tutorial lectures: **Dr. C. R. Ganellin, Professor L. M. Lichtenstein, and Professor G. V. Rossi.** Write to: **Dr. Tobias O. Yellin, Biomedical Research Department, ICI U.S. Inc., Wilmington, Delaware 19897.**

GRADUATE STUDY

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.

TEACHING ASSISTANTSHIPS AND MINORITY STUDENT FELLOWSHIPS are available for qualified applicants. For details write to **Dr. R. P. Burckhard, Department of Biological Sciences, University of Maryland Baltimore County, Catonsville, Maryland 21228.**

GRADUATE STUDY

PREDOCTORAL POSITIONS: Graduate opportunities in pharmacology for biologists and chemists interested in the broad applications of chemicals to biological systems. Training available in behavioral, cellular, chemical, neurophysiologic, biochemical, clinical, neurochemical subfields of pharmacology and toxicology. Supported by USPHS Training Grant with stipends of \$3,900 per year plus tuition. *We stress Equal Opportunity and Affirmative Action.* Apply to **Director of Graduate Studies, Department of Pharmacology, University of Kansas Medical Center, Kansas City, Kansas 66103.**

TRAINEESHIPS

ENVIRONMENTAL TOXICOLOGY

Postdoctoral **Traineeships** available in environmental toxicology for citizens or permanent residents of the U.S. Opportunity to study chemical carcinogenesis (background in genetics and biochemistry is highly desirable) as well as pesticides, immunological aspects, and so forth. Salary range is \$10,000 to \$13,000 depending upon prior postdoctoral experience. Over 20 faculty members participating in program. Send résumé, transcripts, and two letters of reference by 1 May 1977 to **Dr. R. D. Hinsdill, Center for Environmental Toxicology, Room 23 Bacteriology Building, University of Wisconsin, 1550 Linden Drive, Madison, Wis. 53706.**

An Equal Employment Educational Institution (Title IX/Title VI)

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIPS

Postdoctoral fellowships (1 to 2 year period) available in the Neuroendocrinology Laboratory, Division of Endocrinology, Mt. Sinai Medical School, New York City. The major foci of current studies are: CNS regulation of ACTH and LPH secretion, action of peptides on brain, and regulation of circadian rhythmicity of ACTH. Stipend depends on previous postdoctoral experience. Send curriculum vitae, names of three references, and statement of research interest to: **Dr. Dorothy T. Krieger, Director, Division of Endocrinology, Annenberg 2366, 100th Street and Fifth Avenue, N.Y., N.Y. 10029.**

POSTDOCTORAL FELLOWSHIP—Position available 1 July through 1 September 1977 in the laboratories of Drs. Barbara and Bruce Furie for the study of the biochemistry of blood coagulation proteins employing immunochemical approaches and solid phase peptide synthesis. Salary based upon NIH stipends. Applicant with Ph.D. or M.D. degree within past 3 years should have background in protein or peptide chemistry. Send curriculum vitae and three references to **Linda C. Smith, Personnel Office, 37 Bennet Street, Boston, Mass. 02111. TUFTS NEW ENGLAND MEDICAL CENTER, HOSPITAL. An Equal Opportunity Employer, M/F.**

COMPUTERS IN MEDICINE

A 1-year postdoctoral traineeship is offered to academically oriented physicians and scientists. This program is supported by the National Library of Medicine. Fundamentals of computer science and applications to both clinical practice and research are taught. No formal mathematical training is required. Positions are open commencing 1 July 1977. Call or write: **Aran Safir, M.D., Director, Mount Sinai Institute of Computer Science, Fifth Avenue at 100th Street, New York, N.Y. 10029, telephone: 212-650-7253.**

POSTDOCTORAL FELLOWS— CARDIOVASCULAR

Fellowships available around July 1977, as part of training grant in cardiovascular pharmacology. Areas of research include basic membrane biology and biophysics, study of subcellular organelles, hormone receptors, electropharmacology, vascular muscle contraction, ionophores and drugs in hemodynamic studies. Active research group in many areas of cardiovascular research. For further information write: **Dr. A. L. Bassett, Director of Training Grant, Department of Pharmacology, University of Miami Medical School, P.O. Box 520875, Miami, Florida 33152.**

free university amsterdam

The Department of Geology of the Free University, Amsterdam (The Netherlands) invites applications for the position of

full professor in (ore-)petrology

in the group Ore Geology-Petrology-Mineralogy.

Candidates should have a sound knowledge of and substantial research as well as teaching experience in the application of physical chemistry and geochemistry to (ore-) petrological problems.

The duties of the appointee will include teaching graduate students in the field mentioned. He will take active part in the research projects of the group, including the supervision of post-graduate studies.

The appointee will be expected to act as chairman of the group, to contribute to its organizational duties and to promote close cooperation with the corresponding group of the University of Amsterdam.

The salary range is between Dutch guilders 76,000.- and 120,000.-/year (including holiday-allowance), depending on age and experience.

Applicants are requested to agree with the Christian charter of the Free University.

Additional information can be obtained from Prof.dr. J.R. van de Fliert, Chairman of the committee, phone 020-548 24 34.

The applicant is requested to submit his application, with a curriculum vitae, a list of publications, and the names of three referees, before May 1, 1977 to the Personnel Department, De Boelelaan 1105, P.O. Box 7161, Amsterdam, quoting reference number 330-27.



Institute On Scientific Problems Relevant To Coal Utilization

WEST VIRGINIA UNIVERSITY

MAY 23-25, 1977

Time	Monday, May 23	Tuesday, May 24	Wednesday, May 25
9:00	WELCOMES	CORROSION K. Natesan Argonne Natl. Lab.	SYNTHETIC GASES A. Vannice Penn State U.
10:00	OVERVIEW G. Hill EPRI	EROSION N. Suh M.I.T.	PROCESSING PANEL (Organizer - P. Woodmansee, General Electric)
11:00	COAL PHYSICAL CHARACTER- IZATION A. Davis Penn State U.	CATALYSIS M. Boudart Stanford	PROBLEMS IN MINING J. Garvey BCR
12:00	CHALLENGE TO ORGANIC CHEMIST H. Sternberg Lawrence Livermore	MATERIALS PANEL (Organizer - D. Stevens ERDA)	PREPARATION
	ANALYTICAL PROBLEMS A. G. Sharley, Jr. PERC		
2:00	LUNCH	LUNCH	LUNCH
3:00	CHEMISTRY, PHYSICS & CHARACTER- IZATION OF COAL PANEL (Organizer- J. Larsen U. Tenn.)	PROCESSING SYSTEMS	ENVIRONMENTAL PROBLEMS H. Shaw Exxon
4:00	MAGNETIC SEPARATION E. Maxwell Bitter Magnet Lab.	LIQUEFACTION W. Wiser U. Utah	FUNDING PANEL (Organizer - P. Scott ERDA)
	POSTERS	POSTERS	POSTERS
5:30	DINNER	DINNER	
8:00	MHD POWER GENERATION W. Jackson ERDA		
9:00	MECHANICAL & ELECTRICAL PROPERTIES P. Shewmon Ohio State U.	RECEPTION	
10:00	POSTERS		

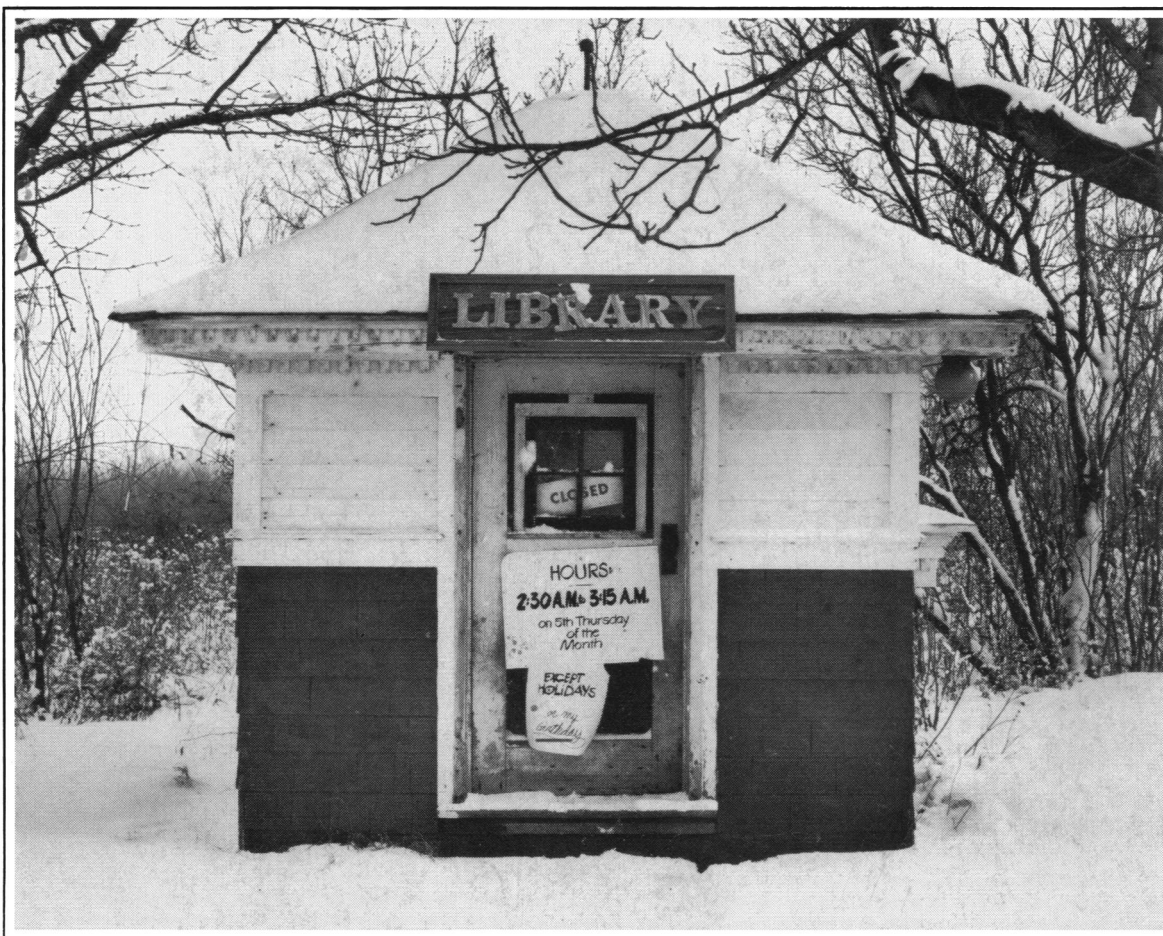
PROGRAM COMMITTEE

B. R. Cooper (Chairperson)
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E. K. Diehl, BCR
A. C. Donaldson, Geology/
Geography, WVU
A. F. Galli, ChE., WVU
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OSU
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C. Y. Wen, ChE., WVU
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FOR FURTHER INFORMATION WRITE:

Institute for Coal Utilization, Fred Galli
College of Engineering, Room 421
WEST VIRGINIA UNIVERSITY
MORGANTOWN, W. VA. 26506
OR Phone: B. R. Cooper at (304) 293-3423



Easy way to run a library

If you let it grow and invite use, you create problems.

That became obvious in the 2nd century B.C. when the scholar Callimachus decided to catalog some of the more than 400,000 scrolls and codices in the pigeonholes (*nidi*) in the Great Library of Ptolemy II at Alexandria, with its hordes of slave librarians.

When that world was succeeded by the businesslike world of the Romans, record-keeping seemed so important that papyrus from the marshes of North Africa was worth carrying across the Mediterranean, the Alps, the Channel, and the length of today's England to the outposts on today's Scottish border in order that the written word and numeral stand guard against deceit and faulty memory.

The penchant for putting things down on paper brings the need later to find the right piece of paper. A librarian is the person to facilitate that for both the scholarly and the business-minded library users, and there has been a tendency to emancipate librarians from slavery. Where once they saw themselves as guardians of paper, many now

claim that in a library big, active, and complete enough to serve for more than casual browsing and relief from tedium, more and more paper must go and be replaced with microforms.

"WHY?" bellow the users.

Answer: Retrieval to fit the need.

If all the literature or administrative records or whatever the library specializes in were microfilmed and the reels of microfilm were kept in old shoe boxes, it would save a lot of valuable space, but the users might be incensed enough to burn down the library, as Ptolemy's was (in 47 B.C. by Caesar, a practical man).

At the other extreme, the users might be quite pleased with a system which instantly reproduces full-sized hard copies of the ten most recent works on any question that can be expressed to a computer—pleased until the inevitable announcement that there is no money left for salaries.

Following are some retrieval techniques worthy of consideration in the light of an individual library's reason for existence, but if and only if they will

serve the user quicker or better (or both) than paper will:

ROLL MICROFILM

- Flash Target Indexing
- Eyeball Coding
- Odometer Indexing
- Code Line Indexing
- Image Control Indexing
- Coding for KODAK MIRACODE and KODAK ORACLE Retrieval Equipment

MICROFICHE

- Title and Index
- Title and Index, Frame Eyeball Coding
- Column Eyeball Coding
- Automated Microfiche Retrieval

The best way to understand what these terms mean is to let an up-to-date, emancipated librarian explain them and their relative merits. Librarians who want to check on whether they are up-to-date may wish to request "Retrieval Techniques" from Kodak, Dept. 55S, Rochester, N.Y. 14650.

