

3rd ANNUAL AAAS COLLOQUIUM ON

R&D POLICY R&D in the Federal Budget R&D, Industry, & the Economy

20-21 June 1978
Mayflower Hotel
Connecticut Avenue, NW
Washington, D.C.

The AAAS R&D analysis project, sponsored by the AAAS Committee on Science and Public Policy and initiated in 1976, has resulted in two well-received books on research and development in the federal budgets for FY 1977 and FY 1978, and two highly successful colloquia in June of 1976 and 1977, attended by 200-250 AAAS members, government officials, and others.

The third annual AAAS report on R&D in the federal budget for FY 1979 and including a special section on R&D in industry and its impact on the economy will be the subject of the 3rd AAAS R&D Policy Colloquium. This June colloquium will offer a forum for constructive discussion of current issues in federal and industry R&D with officials of the Executive and Legislative branches and leaders from industry and universities. *Research & Development: AAAS Report III* by Willis H. Shapley and Don I. Phillips, will be available for the June 1978 colloquium.

Colloquium Topics

Topics to be discussed by leaders in government, industry, and the scientific and technical community will include:

Federal R&D - Policies and Issues

- **Current Policy Issues in R&D:** Carter administration R&D policies; federal support of basic research; policies for applied research and technology development; the "investment" concept of R&D.
- **R&D Issues in the Budget:** Issues in the FY 1979 budget; issues to be faced for FY 1980.
- **Impacts of Federal R&D:** Institutional impacts of current R&D policies and budgets on universities, federal agencies, laboratories, and industry.
- **Problems for the Future:** Future levels of federal R&D support; management and utilization of R&D funds; over-bureaucratization of federal R&D.

R&D in Industry and the Economy

- **Factors Governing Industry Investment in R&D:** Economic and financial problems; federal policies; federal regulations.
- **R&D and the Economy:** Relationships of R&D investment to future economic welfare; economic justifications for R&D.
- **R&D Investment Required:** Possible industry underinvestment in R&D; the proper level of investment might be determined; what actions industry or government should take.
- **Need for Better Understanding:** Further studies needed; problems of obtaining more meaningful data; possible useful roles of AAAS, its affiliated societies, and of industrial groups.



3rd R&D Colloquium

Washington 20-21 June 1978

The third AAAS R&D Policy Colloquium will be held on Tuesday and Wednesday, 20 and 21 June 1978 at the MAYFLOWER HOTEL, 1127 Connecticut Ave., NW, Washington, DC 20036. [Although commercial parking is available in the vicinity of the Mayflower, the Hotel is a short walk from the Farragut North (Red Line) and Farragut West (Blue Line—connecting to National Airport) Metro stops.]

AAAS Colloquium (20-21 June) Advance Registration; enclosed is:

- ☐ **\$80** Full Registration (includes lunch on both days, dinner on Tuesday, the R&D: FY 79 Report, and the Colloquium Proceedings)
- ☐ **\$45** Partial Registration (includes Report and Proceedings only)
- ☐ **\$25** Student Registration (includes Report and Proceedings only; available to full-time graduate or undergraduate students only)

Separate Meal Tickets (lunches at **\$12** and dinner at **\$16**):

- ☐ lunch on Tues., 20th; ☐ dinner on Tues., 20th ☐ lunch on Wed., 21st

Previous Reports and Proceedings (at **\$5** each):

- ☐ R&D: FY 78; ☐ R&D: FY 77; ☐ Proc. 77 Col.; ☐ Proc. 76 Col.

Program, badge, meal tickets, and R&D: FY 79 Report will be sent about 12 June; previous reports ordered will be sent as soon as possible; Proceedings of 78 Colloquium will be sent as soon as available.

REGISTRANT'S NAME _____
(last name) (first and initial)

REGISTRANT'S AFFILIATION _____

REGISTRANT'S ADDRESS _____
(street and number)

(city) (state and ZIP)

Mail to: AAAS Meetings R&D; 1776 Massachusetts Ave., NW; Washington, DC 20036

AAAS Colloquium (20-21 June) Hotel Reservation:

ROOM: ___ Single (\$46*); ___ Double (\$58*); ___ Twin (\$58*)

*Plus 8% D.C. sales tax; for special government-employee discount, present evidence of employment at time of Hotel Registration and *check here* ☐

ARRIVAL: Date _____; Time: _____

DEPARTURE: Date _____; Time: _____

Be sure to list definite arrival and departure date and time. Hotel reservations will be held only until 6 p.m. unless otherwise specified. Check out time is 3:00 p.m.

NAMES AND ADDRESSES OF ALL OCCUPANTS OF ROOM:

Name _____ Name _____

Address _____ Address _____

City _____ State _____ ZIP _____ City _____ State _____ ZIP _____

Mail to: AAAS Meetings R&D; 1776 Massachusetts Ave., NW; Washington, DC 20036

Personnel Placement

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

Positions Wanted: 40¢ per word; \$4 extra for use of box number. \$10 minimum charge, per insertion. Prepayment required. This rate is available only to individuals; personnel agencies, companies, colleges, and universities take display rate for all advertising.

Display (Positions Open, Market Place, and so forth): \$5.80 per millimeter; \$145 minimum charge, per insertion (covers 25 millimeters on single column; 25 millimeters equals 10 lines of 50 spaces per line). No charge for use of box number. No agency commission for ads under 103 millimeters (4 inches). No cash discount. Prepayment required for foreign advertising. Purchase orders and billing information required for all other ads.

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

SCIENCE, Room 207
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Telephone: 202-467-4456

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

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1515 Broadway
New York, N.Y. 10036
Telephone: 212-730-1050

Blind ad replies should be addressed as follows:

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

POSITIONS WANTED

Biochemist/Nutritionist/Physiologist. D.V.M., Ph.D. (1969). Strong in analytical biochemistry; college teaching experience in human physiology; research interests in endocrine control of metabolic processes (cyclic nucleotides, adenylate cyclase and protein kinases); 20 publications, scientific reviewer; experience in grant writing. Seeks academic or research position. 1377 Randlewood Drive, East Lansing, Michigan 48823. Home telephone: 517-351-4304. X

Biomedical Engineer. B.S.E.E., M.S. physiology; 14 years of bioinstrumentation R & D. Biomedical electronics teaching, management of physiology department electronics laboratory. Several publications. Seeks university, hospital, or research institution position. Box 198, SCIENCE. X

Bioscientist—Administrator. Ph.D. 1963, M.B.A. 1977; 15 years of biomedical background in neuroscience, behavior, cardiovascular, primates, aging, radiation; 5 years of teaching. Experienced in all phases of grants, contracts, administration. Seeks research/administrative/academic post. Box 199, SCIENCE. X

Earth Scientist. Employment interests, credentials, and ice-sheet-tectonics synthesis are detailed in SUBDUE THE EARTH (Delacorte). R. F. Walworth, P.O. Box 11711, St. Petersburg, Fla. 33733. Telephone: 813-360-4947. X

Immunochemist: Ph.D. biochemistry, M.S. physiology. Strong background in protein chemistry, radioassays, fluorescent techniques, subcellular fractionation, IgG receptor isolation, affinity chromatography. Three-year postdoctoral at leading cancer center; publications. Desires research position in area of immune regulation, isolation of suppressor factors. Box 200, SCIENCE. 6/2, 9, 16

Pharmacologist. Ph.D. 1971, M.Sc. physiology. Seeks teaching/research position, general pharmacology and physiology. Interests: gastrointestinal tract (secretory mechanisms), peripheral nervous system. Experience: academic/industrial, some administrative. Box 202, SCIENCE. X

Ph.D. Physiologist. Strong background of teaching in medical school physiology and in university undergraduate and graduate programs. Research biochemically oriented, emphasizing neurophysiology, drugs, and lipid metabolism. Publications. Will answer all replies. Box 175, SCIENCE. 6/2, 9

POSITIONS WANTED

Microbiologist/Epidemiologist/Health Administrator. M.A. microbiology, M.P.H. general public health, 1978 from Columbia. Twelve years in academic and industrial research in infection/infectious disease. Animal models. Supervisory experience. Interested in research, teaching, health care education and delivery, occupational and environmental health, administration. Curriculum vitae and salary requirements on request. Box 201, SCIENCE. X

Protein Chemist/Immunochemist. Ph.D. 1968. Expertise in coagulation, fibrinolysis, kinine, fibrinogen structure. Versatile experience in isolation, purification, chemical analysis by modern biochemical and immunological techniques including radioimmunoassay. Will relocate. Box 203, SCIENCE. X

Radiation Biologist/Cancer Biologist. Ph.D. 1970. Expertise in DNA repair and DNA replication in human cells in culture (as well as in *E. coli*). Current research: hyperthermia and DNA repair in human cells. Seeking stable research position. Box 129, SCIENCE. X

Science Editor/Writer. Free-lance editing: technical journals or texts. Chemistry Ph.D., with many years of college teaching and industrial R & D experience. Box 204, SCIENCE. 6/2, 9, 16, 23

POSITIONS OPEN

ANATOMIST—Recent Ph.D. with at least 2 years of postdoctoral teaching experience in gross and microscopic anatomy. Expertise in neuroanatomy an asset. Assistant or associate professor appointment. Research opportunity available. Send résumé and salary requirements to:

Chairman, Basic Sciences Department
New York College of Osteopathic Medicine
of the New York Institute of Technology
Wheatley Road
P.O. Box 170
Old Westbury, New York 11568

An Equal Opportunity/Affirmative Action Employer

AQUATIC SYSTEMS ECOLOGIST

The Pritzker Department of Environmental Engineering at the Illinois Institute of Technology has a tenure-track position open at the assistant professor level for fall semester 1978 for an ecologist who specializes in systems analysis of the aquatic environment. Experience in modeling and the ability to work in a multidisciplinary program of scientists and engineers are necessary. A Ph.D. is required and postdoctoral experience is preferred but not required. The successful applicant will teach graduate courses in aquatic ecology and is expected to develop a strong research program and to advise graduate students in thesis research. Interested persons should send their curriculum vitae and a short statement of research and teaching interests to:

Dr. James W. Patterson, Chairman
Pritzker Department of Environmental Engineering
Illinois Institute of Technology
Chicago, Ill. 60616

An Equal Opportunity/Affirmative Action Employer

ASSISTANT DEAN FOR CURRICULUM: The Southern Illinois University, School of Medicine, Carbondale Campus, is seeking candidates with strong academic backgrounds for the position of assistant dean for curriculum. The position is available immediately and requires the ability to relate and integrate a variety of faculties, administrators, and resources on two campuses. The assistant dean for curriculum will be the School's chief academic officer on the Carbondale Campus and responsible for administering and evaluating the first-year basic medical science curriculum (Sequence I). Reporting to the assistant dean for curriculum are faculty, curriculum coordinators, curriculum resource administrators and supervisors, and academic advisers. Applicants must possess an earned Ph.D. and/or M.D. degree with teaching, research, and administrative experience in medical education in the basic sciences or equivalent. Academic rank at the level of associate or full professor, with commensurate salary, is available. All inquiries should be received by 15 July 1978, and should be addressed to: **Chairperson, Assistant Dean for Curriculum Search Committee, School of Medicine, Southern Illinois University, Carbondale, Illinois 62901.**

An Equal Opportunity/Affirmative Action Employer

POSITIONS OPEN

UNIVERSITY OF LOUISVILLE ASSISTANT EDITOR

To coordinate reprint yearbook and to act as associate managing editor of international scientific journal. Requires B.A. or B.S. degree. Preference will be given to candidates with degree in English writing or science. Also requires a familiarity with mathematical notation and a minimum of 2 years of experience in editing and journal operations, or the equivalent combination of education and experience. Applicant must be willing to relocate to Louisville. Salary competitive. Send résumés to:

Betty W. Miles
University Personnel Services
University of Louisville
P.O. Box 35260
Louisville, Kentucky 40232

An Equal Opportunity/Affirmative Action Employer

ASSISTANT PROFESSOR. Applications are invited for a faculty position in planetary atmospheric science beginning September 1978. Individuals with extensive experience and expertise in studying the physics and chemistry of the atmospheres and ionospheres of the earth, the other planets, and their satellites are sought. Duties will include undergraduate and graduate teaching in atmospheric science, pursuit of a vigorous research program, advising graduate and undergraduate students, and directing students in Ph.D. and master's thesis research. Interested persons should send curriculum vitae and names of three references to: **Professor W. B. Kuhn, Department of Atmospheric and Oceanic Science, Space Physics Research Laboratory, The University of Michigan, Ann Arbor, Mich. 48109.** A non-discriminatory, Affirmative Action Employer.

ASSISTANT PROFESSOR. Ph.D. in chemical oceanography or marine geochemistry. Research experience and teaching interest in nearshore and estuarine chemical processes. Anticipated opening for 1 year only, with continuation dependent upon grant or contract funding. Contact:

Dean
Center for Wetland Resources
Louisiana State University
Baton Rouge, La. 70803

ASSISTANT PROFESSOR tenure-track position available fall 1978 for a **biochemist** or a **physical chemist**, although other fields will be considered. First-year teaching duties include teaching introductory lecture and laboratory courses while developing biochemistry or upper level courses for future presentation. Demonstrated teaching effectiveness and a Ph.D. required. Send résumé with names of three references to: **Pat Rogers, Science Division, Coastal Carolina College, Conway, South Carolina 29526.** Equal Opportunity/Affirmative Action Employer.

ASSISTANT PROFESSOR OF BIOCHEMISTRY. Position available July 1978. Faculty responsibilities require postdoctoral teaching and research experience and interest in medical and graduate student programs. Background in endocrinology and steroid biochemistry helpful. Active research program essential. Salary range \$15,000 to \$17,000 per 12 months. *Indiana University is an Equal Opportunity/Affirmative Action Employer.* Applicants should submit résumé, transcripts, and three letters of reference to: **Dr. Alvin S. Levine, Director, Indiana University School of Medicine, Terre Haute Center for Medical Education, 135 Holmsted Hall, Indiana State University, Terre Haute, Ind. 47809.**

The **BASIC SCIENCE DIVISION** of the Cleveland Chiropractic College has full time faculty positions in the following areas: **HUMAN ANATOMY, HISTOLOGY, PHYSIOLOGY, MICROBIOLOGY, and BIOCHEMISTRY.** Cleveland Chiropractic College is currently in the process of enlarging its basic science faculty. Teaching expertise is desired and research is encouraged. Preference will be given to applicants with teaching abilities in several areas. Applicants should have a Ph.D. in the major teaching field. Rank and salary depend on qualifications and experience and are competitive. Cleveland Chiropractic College is located in the cultural area of Kansas City, close to libraries and other academic institutions. A letter of application, curriculum vitae, and three letters of reference, with comments on teaching abilities, should be sent to: **Academic Dean, Cleveland Chiropractic College, 6401 Rockhill Road, Kansas City, Missouri 64131.** Telephone: 816-333-8230.

POSITIONS OPEN

ASSISTANT PROFESSOR OF EXPERIMENTAL PATHOLOGY—The Department of Pathology seeks an individual at the assistant professor rank to conduct research and participate in the training of predoctoral students. Candidates should have an M.D. or Ph.D. degree or both and a documented record of scientific accomplishment. The department's current research interests lie in immunology, experimental oncology, inflammation, arthritis, and pulmonary disease. Please send curriculum vitae and three letters of recommendation to: **Dr. Henry Godfrey, Department of Pathology, Health Sciences Center, State University of New York at Stony Brook, Stony Brook, New York 11794. Equal Opportunity/Affirmative Action Employer.**

JEFFERSON MEDICAL COLLEGE OF THOMAS JEFFERSON UNIVERSITY—The Department of Microbiology has a position available 1 July 1978 for an **ASSISTANT PROFESSOR, M.D. or Ph.D.**, with at least 2 years of postdoctoral training in cellular immunology. Interest and experience in teaching immunology and establishing a research program are necessary. Send replies with curriculum vitae and names of three references to: **Russell W. Schaedler, M.D., Professor and Chairman, Department of Microbiology, Thomas Jefferson University, 1020 Locust Street, Philadelphia, Pa. 19107. Affirmative Action/Equal Opportunity Employer.**

BIOCHEMISTRY FACULTY POSITION

The Department of Biochemistry, Eastern Virginia Medical School, invites applications for an assistant or associate professorship in a growing research environment. Candidates should have a demonstrated ability to successfully initiate and develop research projects, as well as participate in teaching of medical students. Applicants should send curriculum vitae and the names of three references to: **Dr. Karl A. Schellenberg, Department of Biochemistry, Eastern Virginia Medical School, 700 Olney Road, Norfolk, Virginia 23501, no later than 1 July 1978.**

An Equal Opportunity/Affirmative Action Employer

BIOCHEMISTRY POSITIONS. The Department of Biochemistry seeks applications for a 1-year appointment of a special postdoctoral teaching-research associate position. The candidate will participate in a high level undergraduate biochemistry laboratory program. In addition, opportunities are available to participate in a variety of research programs. We also seek applicants for full-time postdoctoral research appointments for a variety of areas and investigations. *Rice University is an Equal Opportunity/Affirmative Action Employer.* Interested parties should send a complete résumé, indicating interest in either teaching-research or full-time research and including names of three references, as soon as possible, to: **G. J. Schroepfer, Jr., Chairman, Department of Biochemistry, Rice University, Houston, Texas 77001.**

BIOLOGY. Two assistant professor positions, fall 1978. (i) To teach cell physiology, general physiology, microbiology and/or genetics, and other general zoology courses. (ii) To teach ecology, taxonomy, general zoology, and direct active field program. General qualifications: Ph.D. in field or final dissertation stage, desire to teach in small liberal arts college of high quality; previous teaching desirable. Salary commensurate with qualifications. Send complete résumé, including three letters of reference and transcripts, to:

**Professor James P. McKeown
Chairman, Biology Department
Millsaps College
Jackson, Mississippi 39210**

Deadline: 23 June. *Equal Opportunity/Affirmative Action Employer.*

CLINICAL TRIAL DIRECTOR

The Department of Medicine, Baylor College of Medicine, seeks physician candidates for the position of clinical trial director of a long-term, collaborative, national trial of a hypolipidemic agent. The position is a stimulating academic and clinical research opportunity at the interface of human lipid metabolism, cardiovascular epidemiology, and clinical cardiology. It is a tenure-track appointment as assistant professor of medicine. Send curriculum vitae to: **William Insull, Jr., M.D., Director, Lipid Research Clinic, The Methodist Hospital, 6516 Bertner, Mail Station A-601, Houston, Texas 77030.**

Baylor College of Medicine is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

BIOLOGY FACULTY tenure-track position, starting 25 August 1978 at 4-year women's college. Teaching assignments include human anatomy and physiology, genetics, embryology, and introductory biology. Qualifications: completed Ph.D.; teaching experience preferred. Only completed written applications including official transcript, curriculum vitae, and three letters of reference or placement credentials will be considered. Postmark deadline: 19 June 1978. Send to: **Biology Search Committee, Box 2072, Stephens College, Columbia, Missouri 65201. An Equal Opportunity/Affirmative Action Employer.**

CHAIRMAN, DEPARTMENT OF ANATOMY. Applications are invited for this position, available June 1978. The department has a staff of 15 full-time and one part-time faculty, and six graduate students in its Ph.D. program. It has a strong commitment to both teaching and research. Applications, with a complete curriculum vitae, bibliography, and three references, should be sent to: **Alan D. Conger, Chairman, Anatomy Search Committee, Radiobiology Section, Temple University School of Medicine, 3420 North Broad Street, Philadelphia, Pa. 19140. An Equal Opportunity/Affirmative Action Employer.**

CHAIRMAN, DEPARTMENT OF PHYSIOLOGY AND BIOPHYSICS. College of Veterinary Medicine and Biomedical Sciences, Colorado State University (CSU). Applicants must have a veterinary, medical, and/or Ph.D. degree and proven capability in administrative leadership, teaching, and research. Demonstrated administrative experience, preferably in an academic setting, is desired. The chairman is responsible for personnel and programs in the department, including undergraduate, graduate, and veterinary medical instruction, research, and service activities. The departmental personnel consist of 27 regular and 23 affiliate faculty, 18 postdoctorates, research associates or residents, 40 graduate students, and 45 staff. Salary commensurate with qualifications and experience. Application deadline: 15 July 1978. Appointment date: negotiable. *CSU is an Equal Opportunity/Title IX Employer. Equal Opportunity Office: 314 Student Services Building.* Contact: **A. F. Alexander, Department of Pathology, College of Veterinary Medicine and Biomedical Sciences, Colorado State University, Fort Collins, Colo. 80523.**

DIRECTOR, NATIONAL GEODETIC SURVEY Thorough knowledge of geodesy, geophysics, and surveying. Demonstrated management ability. Ph.D. in geodesy, geophysics, surveying, or related physical sciences. Salary \$47,500. Subject to U.S. Civil Service Commission approval. Location—Rockville, Maryland. Apply to: **Department of Commerce, National Oceanic and Atmospheric Administration, 6001 Executive Boulevard, Rockville, Maryland 20852, AD415:NYB. Equal Opportunity Employer.**

DEPARTMENT OF ANIMAL SCIENCE THREE FACULTY POSITIONS OPEN

1) **Assistant professor in dairy cattle reproductive physiology.** Position available 1 July 1978. Duties are 50 percent teaching, 50 percent research. Qualifications: Ph.D. in reproductive physiology and training in physiology, endocrinology, and biochemistry. Responsibilities include teaching an undergraduate course in general animal physiology and a research program on problems of reproduction in dairy cattle.

2) **Assistant professor in meat science.** Position available 1 July 1978. Duties are 50 percent teaching, 50 percent research. Qualifications: Ph.D. in meat science with training in muscle biology, biochemistry, and physiology. Teaching will include an undergraduate course in meat science. Research will be in the area of meat animal production and meat science.

3) **Assistant or associate professor in nutritional biochemistry.** Position is available 1 September 1978. Responsibilities: 30 percent teaching, 70 percent research. Qualifications: Ph.D. in biochemistry or nutritional biochemistry with an interest in the study of metabolic systems in ruminant lactating animals. Teaching at the graduate level.

Individuals interested in any of the three positions send curriculum vitae, a statement of research interests, and arrange for at least three letters of reference to be submitted to: **R. J. Young, Morrison Hall, Cornell University, Ithaca, N.Y. 14853. An Equal Opportunity/Affirmative Action Employer; minorities, women, and the handicapped are encouraged to apply.**

POSITIONS OPEN

DEAN, SCIENCE AND TECHNOLOGIES. University of Houston, Clear Lake City, is a rapidly developing, state-supported, upper-level and graduate university located between Houston and Galveston, adjacent to LBJ NASA Space Center. Bachelor's and master's degree programs offered in sciences and technologies. Earned doctorate plus university-level administrative experience. Duties include long-range program development, resource procurement, community/industry liaison, and limited teaching. Appointment: 1 September 1978. Send résumé, salary requirements, and three references by 1 July to: **Dr. Eldon W. Husband, Chair, Search Committee, University of Houston at Clear Lake City, 2700 Bay Area Boulevard, Houston, Texas 77058. An Equal Opportunity, Employer, M/F.**

DIRECTOR. Division of Medical Oncology. Applications and nominations are invited for the position of director, Division of Medical Oncology, in the Department of Medicine, New Jersey Medical School. This division will be responsible for the teaching of oncology to house staff and students, associated research, and the care of such patients in cooperation with the Departments of Surgery and Radiology. Candidates will be evaluated on the basis of their scientific stature, proved teaching ability, and administrative competence. Curriculum vitae and bibliographies should be sent to: **Allen B. Weisse, M.D., Cardiac Care Unit, College of Medicine and Dentistry of New Jersey, New Jersey Medical School, Marland Hospital, 65 Bergen Street, Newark, N.J. 07107. Equal Opportunity/Affirmative Action Employer.**

FACULTY POSITION IN CARDIOVASCULAR PHYSIOLOGY. The Physiology and Biophysics Section of Brown University's Division of Biology and Medicine has an opening at the assistant professor level for an individual with research and teaching interests in cardiovascular physiology. Available 1 January 1979. Applicants must have an M.D. or Ph.D. degree, a minimum of 2 years of postdoctoral training, and demonstrated ability and productivity in research. The successful applicant will be expected to teach cardiovascular physiology to medical and graduate students and to develop an independent research program in experimental cardiovascular physiology which will complement the department's interests in comparative and/or mammalian physiology. Applicants should send curriculum vitae, bibliography, and at least three letters of reference to: **Dr. Helen F. Cser, Section of Physiology and Biophysics, Brown University, Providence, R.I. 02912.** Application deadline is 31 July 1978. *Brown University is an Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITION—MOLECULAR BIOLOGY AND MICROBIOLOGY

Associate professor in pathogenic bacteriology.

Will carry out research and teaching and organize new course in basic mechanisms of bacterial virulence. Must have strong background in teaching and superior research ability in biochemical, genetic, and molecular approaches to problems of bacterial pathogenesis.

To apply, write to: **Dr. M. Schaechter, Chairman, Department of Molecular Biology and Microbiology, Tufts University School of Medicine, 136 Harrison Avenue, Boston, Mass. 02111.**

An Equal Opportunity/Affirmative Action Employer

UNIVERSITY OF CALIFORNIA, IRVINE

The University of California, Irvine, Department of Psychiatry and Human Behavior, invites applications for full-time **FACULTY POSITIONS.** M.D. degree, 3 years of accredited psychiatric residency, California licensure, and evidence of scholarly productivity required. (i) Professor level, Chief of Psychiatric Services, to administer inpatient, outpatient, and liaison program; (ii) assistant or associate professor level, family therapy and liaison with family medicine; (iii) two positions at assistant or associate professor level to direct hospital programs and coordinate medical student teaching; and (iv) four positions at assistant to professor level, to direct clinical teaching, and research programs in consultation/liaison psychiatry. One consultation/liaison position requires training in child psychiatry, and one requires experience in alcoholism programs. *Applications from all qualified candidates are welcome; minorities and women are encouraged to reply.* Send curriculum vitae and names of three references to: **Dr. E. Mansell Pattison, University of California, Irvine, Medical Center, 101 City Drive South, Orange, Calif. 92668.**

POSITIONS OPEN

FACULTY POSITIONS open in the Department of Osteopathic Sciences. Positions involve teaching, patient services, and research. Academic environment, competitive salary, fringe benefits, and liberal faculty practice plan. Send inquiries and curriculum vitae to: **Search Committee, Dr. Charles Steiner, Chairman and Professor, Department of Osteopathic Sciences, COLLEGE OF MEDICINE AND DENTISTRY OF NEW JERSEY, The School of Osteopathic Medicine, P.O. Box 55, Piscataway, New Jersey 08854. Equal Opportunity/Affirmative Action Employer.**

Governors State University (GSU) seeks **FACULTY MEMBER** to teach upper-division undergraduate and master's-level physiology and biochemistry to environmental and health science majors; also to participate in academic committee work; research encouraged. Requires: Ph.D. in physiology, or in biochemistry with physiology minor; 3 years of college teaching. GSU is competency-based and draws 3800 students from Chicago and south suburban area. Application and supporting materials should be sent by 15 June 1978 to: **Dr. Donald Douglas, Associate Dean, CEAS, Governors State University, Park Forest South, Ill. 60466. GSU is an Affirmative Action/Equal Opportunity Employer and encourages applications from members of minority groups and women.**

FACULTY POSITION

Undergraduate teaching position in physiology and anatomy available beginning 1 September 1978. Ph.D. required, preferably in physiology or related area. Must have high motivation for teaching; experience desirable. Responsibilities include instructing students of health sciences in human anatomy and physiology, and upper division course in vertebrate physiology; possible involvement in general biology program. *Women and minorities especially encouraged to apply.* Application deadline: 30 June 1978. Send résumés to: **Dr. Halit M. Kosar, Dean, Science and Engineering Division, Gannon College, Erie, Pa. 16501. Gannon College is an Equal Opportunity/Affirmative Action Employer.**

GROSS ANATOMIST/NEUROANATOMIST, beginning 1 July 1978.

Ph.D., with 3 to 6 years of experience teaching in medical or dental school preferred; rank and salary negotiable.

The West Virginia School of Osteopathic Medicine is an Equal Opportunity/Affirmative Action Employer.

Send curriculum vitae to:

**Dr. Frances H. Higginbotham, Chairman
Department of Anatomy
West Virginia School of Osteopathic Medicine
400 North Lee Street
Lewisburg, West Virginia 24901**

MEMBRANE BIOCHEMIST

Assistant/associate professor level. M.D. or Ph.D. required. Duties: develop/maintain independent research program; research in membrane biochemistry/biophysics with particular emphasis on transmembrane control/regulation of intracellular processes; participate in departmental instructional programs. Send curriculum vitae, bibliography, recent representative reprints, and have three referees send letters of reference to: **Dr. C. H. W. Hirs, Department of Biochemistry, Biophysics and Genetics, University of Colorado Medical Center, 4200 East Ninth Avenue, #B-121, Denver, Colo. 80262. Deadline for receipt of applications: 31 August 1978.**

The University of Colorado is an Equal Opportunity Employer.

PHYSICAL BIOCHEMIST

Assistant/associate professor level. M.D. or Ph.D. required. Duties: develop/maintain vigorous, independent research program; application of physical techniques to study of nuclear proteins and interactions with themselves and polynucleotides; participate in instructional programs. Send curriculum vitae, bibliography, recent representative reprints, and have three referees send letters of reference to: **Dr. C. H. W. Hirs, Department of Biochemistry, Biophysics and Genetics, University of Colorado Medical Center, 4200 East Ninth Avenue, #B-121, Denver, Colo. 80262. Deadline for receipt of applications: 31 August 1978.**

The University of Colorado is an Equal Opportunity Employer.

POSITIONS OPEN

FISHERIES BIOLOGY

Assistant professor, research and extension, 12-month tenure-track appointment. Ph.D. degree with experience in warm water fisheries research and aquatic habitat management. Extension activities will include development of fisheries education and landowner assistance programs. Closing date: 31 July 1978. Qualified applicants should send résumé, reprints, three letters of recommendation, transcripts, and statement of career plans and research interests to: **Dr. Jay D. Hair, Coordinator, Fisheries and Wildlife Sciences, Department of Zoology, North Carolina State University, Raleigh, N.C. 27650.**

GEOLOGY/ENVIRONMENTAL SCIENCE. Assistant professor position to begin September 1978. Ph.D. required. Candidate will teach survey courses in geology for nonmajors and help develop a regionally based environmental sciences undergraduate program. Send curriculum vitae and three letters of reference by 16 June 1978 to: **Dr. Joshua Diamond, Chairman, Natural Sciences Division, University of Pittsburgh at Bradford, Bradford, Pa. 16701. An Equal Opportunity/Affirmative Action Employer.**

HEAD, DEPARTMENT OF PHYSICS/PHYSICAL SCIENCE. University of Southern Colorado invites applications for head of 4-member department; starting date: 21 August 1978. Ph.D. in physics required with administrative competence and 4 years of undergraduate teaching experience. Duties include teaching undergraduate general physics, modern physics, optics, and advanced laboratories. Teaching load to average 12 credit hours per semester for academic year of 9 months (2 semesters). Please send résumé and names of three references by 30 June 1978 to: **Dr. Dean McCown, Department of Physics/Physical Science, University of Southern Colorado, Pueblo, Colo. 81001. Affirmative Action/Equal Opportunity Employer.**

UNIVERSITY OF MICHIGAN MEDICAL SCHOOL DEPARTMENT OF RADIOLOGY

Two positions available 1 July 1978 for **INSTRUCTORS**. Board-eligible or Board-certified. The physician will take part in the programs of patient care, teaching, and research carried on in the Department of Radiology. He or she will supervise the activities of the resident staff and aid in the teaching of residents and medical students. Reply to: **Box 195, SCIENCE. Code 1700HO; 2000HO. A nondiscriminatory, Affirmative Action Employer.**

UNIVERSITY OF MICHIGAN MEDICAL SCHOOL DEPARTMENT OF RADIOLOGY

Four positions available 1 July 1978 for **INSTRUCTOR, ASSISTANT PROFESSOR, ASSOCIATE PROFESSOR, or PROFESSOR**. Entering level commensurate with qualifications and experience. Board-eligible or Board-certified. The physician will take part in the programs of patient care, teaching, and research carried on in the Department of Radiology. He or she will supervise the activities of the resident staff and aid in the teaching of residents and medical students. Reply to: **Box 196, SCIENCE. Code 300FO; 400HO; 1000HO; 1300HO. A nondiscriminatory, Affirmative Action Employer.**

NEUROANATOMIST-ELECTRON MICROSCOPIST faculty position (assistant professor or above), to perform research on inner ear endorgans and related neural structures, is available. Research experiences in aforementioned areas are mandatory and more than 3 years of postdoctoral experience as a major investigator in independent research is strongly preferred. Rank and salary depend on personal qualifications. Send curriculum vitae, publications, desired research plans, and three letters of reference to: **Dr. M. Igarashi, Department of Otorhinolaryngology and Communicative Sciences, Baylor College of Medicine, Houston, Texas 77030, immediately.**

An Equal Opportunity/Affirmative Action Employer

NEUROANATOMY/GROSS ANATOMY—Hershey, Department of Anatomy of Milton S. Hershey Medical Center, The Pennsylvania State University, is seeking a qualified scholar in the neuroanatomical sciences. A general anatomical and medical background is desirable. Rank open. Contact: **Bryce L. Munger, M.D., Chairman. Telephone: 717-534-8651.**

POSITIONS OPEN

MARINE GEOLOGIST. Harbor Branch Foundation, Inc., is seeking applications for a permanent position in marine geology. Candidates should hold the Ph.D. degree in geology, have postdoctoral experience in shelf and estuarine sedimentation processes, and familiarity with carbonate environments. The incumbent will be expected to develop an innovative research program in cooperation with ongoing biological, chemical, and physical studies. Institutionally owned surface research vessels and manned submersibles are available to implement research, and research is fully supported by the Harbor Branch Foundation. Salary and rank will be commensurate with experience. Starting: fall 1978. Send curriculum vitae, a statement of research interests and goals, and the names of three references by 31 July 1978 to:

**Dr. Ned P. Smith, Search Committee
Harbor Branch Foundation, Inc.
RR 1, Box 196
Ft. Pierce, Fla. 33450**

Harbor Branch Foundation, Inc., is an Equal Opportunity Employer.

MEDICAL TECHNOLOGY PROGRAM COORDINATOR—Faculty of Biology anticipates new faculty position (assistant professor) beginning September 1978. Salary range: \$13,000 to \$16,000. Candidates must hold Ph.D. and MT (ASCP). Duties include: coordinating Medical Technology Program, teaching basic course in immunology and other courses in candidate's specialty, and developing research program. Send curriculum vitae and names of at least three referees to: **John Baylis, Faculty of Biology, University of West Florida, Pensacola, Fla. 32504. Application deadline: 15 July 1978. An Equal Opportunity/Affirmative Action Employer.**

UNIVERSITY OF TORONTO DEPARTMENT OF BOTANY MICROBIOLOGY POSITION

The Department of Botany at the University of Toronto invites applications for a tenure-stream position at the level of assistant professor, tenable from 1 July 1978 at the Erindale Campus. A Ph.D. in microbiology or related area is required. The successful candidate is expected to participate in undergraduate courses in cell biology, lower protists, and microbial ecology, to develop an active research programme, and to participate in the teaching and supervision of graduate students. Preference will be given to individuals with postdoctoral and teaching experience. A complete curriculum vitae and three letters of reference should be sent to: **Professor T. C. Hutchinson, Chairman, Department of Botany, University of Toronto, Toronto, Ontario, Canada, M5S 1A1, no later than 1 July 1978. The position is available after 1 July 1978.**

NEUROANATOMIST

Anatomist needed to teach neuroscience course. Applicant should have 5 to 8 years of experience, hold Ph.D. or M.D. degree, and have demonstrated competence in both teaching and research. Prefer individual with secondary interest in microscopic anatomy. Position available at assistant/associate level at salary commensurate with qualifications.

Texas A & M University College of Medicine now has its charter class of 32 students. It is located in a pleasant rural area of South-Central Texas. *Texas A & M University is an Equal Opportunity/Affirmative Action Employer.*

Send complete curriculum vitae, including names of three professional references, to: **Dr. J. W. Wagner, Head, Department of Anatomy, Texas A & M University, College of Medicine, Olin E. Teague Research Building, College Station, Texas 77843. Deadline for receipt of applications is 1 July 1978.**

Position of assistant professor open at University of Louisville for **PEDIATRIC CARDIOLOGIST** with extensive experience in non-invasive cardiology and cardiac catheterization. Must have strong experience in research and teaching. Must be Board-certified in pediatrics and Board-eligible in pediatric cardiology. To become third member of Pediatric Cardiology Division. Send résumé to: **Bill F. Andrews, M.D., Department of Pediatrics, Health Sciences Center, P.O. Box 35260, Louisville, Kentucky 40232. The University of Louisville is an Affirmative Action/Equal Opportunity Employer.**

POSITIONS OPEN

NEUROBIOLOGIST

The Center for Brain Research is seeking a basic neurobiologist for appointment at the instructor or assistant professor level (tenure-track). Ability to carry on independent research is essential. Some knowledge of or background in behavioral neurobiology is desirable. Teaching experience is also important as duties will include the teaching of a course in basic neurobiology.

Send curriculum vitae and names of three references to:

Robert M. Herndon, M.D.
Center for Brain Research
Box 605
University of Rochester Medical Center
Rochester, New York 14642
Equal Opportunity Employer, M/F

NEUROPHYSIOLOGIST faculty position (assistant professor or above) for research in vestibular and related areas is available. Research experiences in aforementioned areas are mandatory and postdoctoral experience as a principal investigator in independent research is strongly preferred. Rank and salary depend on personal qualifications. Send curriculum vitae, publications, desired research plans, and three letters of reference to: **Dr. M. Igarashi, Department of Otorhinolaryngology and Communicative Sciences, Baylor College of Medicine, Houston, Texas 77030**, immediately.

An Equal Opportunity/Affirmative Action Employer

POSTDOCTORAL/RESEARCH ASSOCIATE

To investigate protein transport, IgG receptors, and coated vesicle assembly in oocytes. Salary \$10,000 to \$14,000, based on qualifications. Available immediately.

Dr. Thomas F. Roth
Department of Biological Sciences
University of Maryland Baltimore County
Catonsville, Maryland 21228
Telephone: 301-455-2254

An Affirmative Action/Equal Opportunity Employer

POSITIONS OPEN

NEUROPHYSIOLOGIST

Applications are invited for the appointment of a neurophysiologist at the rank of assistant professor in the Department of Physiology. Send applications, with curriculum vitae and names of three referees, to: **Sandra Knowles, Department of Physiology, McGill University, 3655 Drummond Street, Montreal, Quebec, Canada H3G 1Y6**.

POSTDOCTORAL POSITION (research associate II) available immediately involving research on nutritional and metabolic interrelationships of amino acids and minerals. Background in nutrition and biochemistry required. Salary: \$12,600 minimum, negotiable. Send curriculum vitae and have two letters of reference sent to: **Dr. R. E. Austic, Department of Poultry Science, New York State College of Agriculture and Life Sciences, Cornell University, Ithaca, N.Y. 14853** prior to 15 June. *Cornell University is an Equal Opportunity/Affirmative Action Employer. Minorities, women, and the handicapped are encouraged to apply.*

KETTERING RESEARCH LABORATORY POSTDOCTORAL POSITIONS

Postdoctoral positions are available to study:

- 1) Ecophysiological characteristics and comparative physiology (photosynthesis, N_2 -fixation of various *Azolla-Anabaena* associations),
- 2) Physiology and control mechanisms of N_2 -fixation in free-living rhizobia,
- 3) Development of an assay for homologous rhizobia in soil based on binding of host plant lectin,
- 4) The catalytic and regulatory role of glutamine synthetase in N_2 -fixing root nodule bacteria,
- 5) Interdependence between rhizobia and plant cells in culture; chemical separation and purification,
- 6) Purification, physico-chemical and catalytic properties of the Fe-Mo cofactor of nitrogenase, and
- 7) Bioenergetics of the membrane-bound, energy-linked inorganic PPase in photosynthetic bacteria.

Positions are available until 1 November. Send application and résumé to: **Dr. M. Lamborg, C. F. Kettering Research Laboratory, Yellow Springs, Ohio 45387**.

POSITIONS OPEN

ORNITHOLOGY/CURATOR POSITION

Louisiana State University anticipates a vacancy at the rank of assistant professor on a fiscal year basis. Duties will include teaching ornithology alternating with a freshman course, directing graduate students, curating collections in the Museum of Zoology, and carrying out an active program of research. Applicants must have a strong research interest in neotropical avian biology. Applications with curriculum vitae, college transcripts, bibliography, and three letters of recommendation are due by 10 June and should be sent to: **Ornithology Search Committee, Museum of Zoology, Drawer MU, Louisiana State University, Baton Rouge, Louisiana 70893**.

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

POSTDOCTORAL POSITIONS. Three are available. (i) Microtubule self-assembly (Dr. D. L. Brown). (ii) Molecular biology of lymphocytes activation: membranes and/or RNA-protein synthesis (Dr. J. G. Kaplan). (iii) Microtubules—microfilaments in stimulated lymphocytes (joint sponsorship of D. L. Brown and J. G. Kaplan). Send applications, including curriculum vitae and the names and addresses of two referees, to: **Dr. J. G. Kaplan, Department of Biology, University of Ottawa, Ottawa, Ontario, Canada K1N 6N5**.

POSTDOCTORAL RESEARCH ASSOCIATE—We invite applications for the position of research associate available in July 1978. The applicants must have a Ph.D. degree in molecular biology or biochemistry and must have some experience in microbial cell surface chemistry. The successful applicant will be involved in a project to determine the role of the bacterial cell wall in DNA replication and segregation and cell division. Please send: (i) letter of intent and interest in the research area, (ii) full set of transcripts, and (iii) three letters of reference to either **Dr. R. J. Doyle or Dr. U. N. Streips, Department of Microbiology and Immunology, School of Medicine, University of Louisville, P.O. Box 35260, Louisville, Kentucky 40232**. Salary competitive. *The University of Louisville is an Equal Opportunity/Affirmative Action Employer.*

University of Illinois School of Clinical Medicine at Urbana-Champaign

POSITION OPEN

Physician-Nutritionist: The new School of Clinical Medicine is opening in July 1978 and nutrition is an important component of the curriculum. Efforts are underway to establish a broad program including medical and graduate education in nutrition, as well as research. We are seeking an individual with faculty responsibilities for development of a clinical research program and responsibility for teaching nutrition to medical students, house officers and contributing to continuing education of physicians and other health practitioners.

Qualifications:
M.D., preferably Board certified or eligible in a clinical specialty with research and teaching experience in nutrition. Individual qualifying for tenured rank preferred but will consider all qualified applicants.

Appointment:
Full-time permanent faculty appointment based in affiliated teaching hospital. Starting date open. Salary commensurate with rank and qualifications. Limited clinical practice possible.

Contact:
To receive equal consideration, send CV before June 1 to Willard J. Visek, M.D., Ph.D., Director, Clinical Nutrition Program, University of Illinois, School of Clinical Medicine, Medical Sciences Building, Urbana, Illinois 61801, phone 312-333-0119.

The University of Illinois is an Affirmative Action-Equal Opportunity Employer

CHEMISTRY ASSISTANTS

The Upjohn Company has opportunities in Kalamazoo, Michigan, for chemists to assist research scientists in the synthesis and development of new organic compounds of medicinal interest. Duties include synthesis and isolation and characterization work using TLC, UV, IR, NMR, GLPC, HPLC, column chromatography, and so forth, with some literature searching and technical report writing.

B.S. or M.S. in organic chemistry with a strong background in organic synthesis methods required. Biochemical experience and ability to work with some independence desirable.

Kalamazoo is a pleasant, moderate-size, Midwestern city with a large university and college segment, offering country, suburban, or city living close to the research facilities. Excellent cultural/recreational options, salary, and benefits program.

Submit résumé in confidence to:

Myra W. Johnson
Employment Representative
The Upjohn Company
7000 Portage Road
Kalamazoo, Michigan 49001

Upjohn

An Equal Opportunity Employer, M/F

The Department of Veterinary Science, University of Wisconsin-Madison is accepting applications for tenure-track **APPOINTMENTS**. The positions open are in the following areas of interest: (1) **Animal health economist**, D.V.M., Ph.D., or equivalent preferred, with research experience in cost-benefit analysis or animal disease impact. (2) **Extension veterinarian**, minimum of M.S., particularly for professional continuing education. One-fourth time teaching undergraduate or short courses and clinical research. (3) **Experimental pathologist**, or **immunopathologist**, D.V.M., Ph.D., or equivalent. Board-certification or -eligibility preferred. Ultrastructure capability useful. (4) **Experimental pathologist**, D.V.M., Ph.D., or equivalent. Board-certification or -eligibility desirable. Joint position with Primate Research Center, 25 percent service commitment to Center. Must have research interest in **reproduction**. (5) **Microbiologist**, D.V.M., Ph.D., or equivalent preferred; should have interest in disease mechanisms including host response in bacterial or mycotic diseases. (6) **Parasitologist**, D.V.M., Ph.D., or equivalent preferred. Research interests must be mechanism-oriented; ultrastructure capability useful. (7) **Pharmacologist**, D.V.M., Ph.D., or equivalent preferred. (8) **Physiologist**, experience in teaching physiology to agriculture and undergraduate students, biological science graduate students desirable. D.V.M., Ph.D., or equivalent preferred. (9) **Toxicologist**, D.V.M., Ph.D., or equivalent preferred; may be pharmacologist or experimental pathologist as well. (10) **Virologist**, D.V.M., Ph.D., or equivalent preferred, with an interest in disease mechanisms and epidemiology. All applicants are required to show promise or evidence of strong research capability as an independent investigator and the desire and ability to train graduate students (except for the extension position). All positions, even when not specifically noted in the position description, will have an appropriate teaching commitment to professional students and/or other undergraduates or graduates when the need is presented or when the investigator has an established program. Rank and salary will be commensurate with training and experience. Interested persons should submit their curriculum vitae along with the names of three referees to: **Dr. James A. Will, Professor and Chairman, Department of Veterinary Science, University of Wisconsin, 1655 Linden Drive, Madison, Wis. 53706**. Telephone: 608-262-3177. *The University is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

POSTDOCTORAL POSITION available autumn 1978 for research on Sendai virus and liposomes to determine: (i) the mechanism of membrane fusion and (ii) viral protein-lipid interactions. Experience in membrane research required. Send résumé and names of three references to: **Dr. Anne Haywood, Department of Pediatrics, Box 666, University of Rochester, 601 Elmwood Avenue, Rochester, N.Y. 14642.** An Equal Opportunity Employer, M/F.

POSTDOCTORAL RESEARCH

Applications are invited for a position which will become available 1 July 1978 in our laboratory for studies on messenger RNA of normal and cancer cells and its synthesis in the cell nucleus. Candidates should have experience in nucleic acid chemistry and analytical techniques for studies on messenger RNA and its products. Please send curriculum vitae to: **H. Busch, M.D., Ph.D., Chairman, Department of Pharmacology, Baylor College of Medicine, 1200 Moursund Avenue, Houston, Texas 77030.**

An Equal Opportunity/Affirmative Action Employer

POSTDOCTORAL RESEARCH ASSOCIATE. Position available immediately for a recent Ph.D. to study enzymes involved in the synthesis of mammalian glycoproteins and other cell membrane constituents. Submit curriculum vitae and arrange for letters of recommendation to be sent to: **Dr. John Schutzbach, Department of Microbiology, University of Alabama in Birmingham, University Station, DSB Box 78, Birmingham, Alabama 35294.** Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL RESEARCH ASSOCIATE. Ph.D. degree in chemistry preferred. Position available now for research in carbohydrate synthesis for project related to caries prevention; state-of-art NMR and HPLC available; close interaction with microbiologists. Salary competitive. Send résumé, transcripts, and two letters of reference to: **K. G. Taylor, Department of Chemistry, University of Louisville, Louisville, Kentucky 40208.** The University of Louisville is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL TRAINING

Recent Ph.D. graduates (in biophysics, biochemistry, biology, genetics, or related fields) interested in advanced research training in areas of oncology or radiation biology. From 1 July 1978 to June 1979 with extension possible. Research areas include: hyperthermia, leukemogenesis and studies of cell kinetic and cytogenetic effects of combined and single drug, radiation and heat modalities in vivo. Candidate must have demonstrated abilities to do original research and an interest in basic biologic mechanisms. Rush résumé to: **Sallie S. Boggs, Ph.D., RC 510 Scaife Hall, Department of Radiology, University of Pittsburgh, School of Medicine, Pittsburgh, Pa. 15261.** An Affirmative Action/Equal Opportunity Employer.

PROFESSOR AND CHAIRPERSON DEPARTMENT OF PHYSIOLOGY

The Department of Physiology, University of Nevada School of Medical Sciences, is currently seeking a highly qualified individual as professor and chairperson. This individual will be expected to provide leadership, demonstrate administrative expertise, have an interest in interdisciplinary programs, attract external funding, build a contemporary faculty, conduct and encourage strong research programs and further develop the medical and graduate teaching programs in physiology. This position requires either an M.D. or Ph.D. degree, academic experience in both teaching and research in physiology, and an active research program. Preference will be given to individuals who are currently active in neurophysiological research and have external research support. This position will be available in fall 1978. Salaries are competitive with western regional medical schools and will be based upon training and experience.

All candidates must supply curriculum vitae, a chronologically continuous bibliography, and a brief description of their research interests and teaching experience. Three letters of recommendation are also required. Applications must be received by 15 July 1978 to ensure full consideration. Applications should be addressed to: **Dr. Richard Bjur, Chairman, Physiology Search Committee, University of Nebraska, School of Medical Sciences, Anderson Medical Sciences Building, Reno, Nevada 89557.** Telephone: 702-784-6956. Affirmative Action/Equal Opportunity Employer.

POSITIONS OPEN

POSTDOCTORAL/ RESEARCH ASSOCIATE POSITION

Available 1 September 1978 for research in host-virus interactions in adenovirus infected cells. Studies include nuclear anti mRNA, effects of nucleoside analogs on RNA processing, and events in enucleated cells (cytoblasts). Salary range: \$10,000 to \$14,000 annually, for 2-year position. Please send curriculum vitae and names of three references to: **Dr. L. D. Hodge, Department of Cell and Molecular Biology, Georgia Medical College, Augusta, Georgia 30901.**

POSTDOCTORAL RESEARCH IN MUTAGENESIS-CARCINOGENESIS

Three positions for recent Ph.D.'s available 1 July 1978 for 1 to 3 years. Areas of research (depending on the adviser) include: metabolic activation and detoxification of carcinogens; the relationship of DNA repair to mutagenesis and carcinogenesis; mutagenesis and carcinogenesis as effected by continuous or fractionated doses of carcinogens; mutagenesis as a function of the cell cycle. Candidates must be U.S. citizens or permanent residents of the United States. Send inquiries, curriculum vitae, and letters of reference to: **Dr. Helen Evans, Division of Radiation Biology, Case Western Reserve University, Cleveland, Ohio 44106.**

POSTDOCTORAL RESEARCH POSITION available for Ph.D., M.D., or D.V.M. with a strong background in microbiology and immunology to study pathogenetic and immunogenetic mechanisms in gastrointestinal disease. Responses from persons without such background will not be acknowledged. Starting salary will be \$13,000 per annum. Send curriculum vitae (three copies) and references to: **Dr. Philip B. Carter, Trudeau Institute, Inc., P.O. Box 59, Saranac Lake, N.Y. 12983,** before 1 July 1978. Equal Opportunity Employer.

UNIVERSITY OF CALIFORNIA, IRVINE CALIFORNIA COLLEGE OF MEDICINE DEPARTMENT OF RADIOLOGICAL SCIENCES

Applications are invited for the position of **PROFESSOR AND CHIEF of the DIVISION of RADIO-PHARMACY** in the Department of Radiological Sciences (Nuclear Medicine Division) at the University of California, Irvine, California College of Medicine. The successful candidate must be a clearly outstanding figure in the field of radiopharmacy. Requirements for this position include a Ph.D. degree in a field related to radiopharmacy, a minimum of 10 years of experience in academic nuclear medicine, and evidence of a considerable body of original research work in the development and application of radiodiagnostic agents in nuclear medicine. The new chief will be expected to develop a vigorous research program at the University of California, Irvine, to participate in the Graduate Program in Radiological Sciences, to teach residents and medical students, and to assume responsibility for the clinical aspects of the radiopharmaceutical program at the University of California, Irvine, Medical Center. *Applications are invited from all qualified candidates; women and minority candidates are encouraged to apply.* Applications, including a biography and copies of any publications, should be sent to:

**Eric N. C. Milne, M.B., Ch.B., F.R.C.R.
Professor and Chairman
Department of Radiological Sciences
University of California, Irvine
College of Medicine
Irvine, California 92717**

Closing date: 12 July 1978.

RESEARCH ENGINEER IN BIOMECHANICS beginning 1 October 1978. Candidate should have Ph.D. in mechanical engineering or mechanics with substantial background and experience in orthopedic and human joint mechanics. Candidate must also be experienced in pursuing collaborative interdisciplinary research and supervision of technicians. The candidate will be required to design experiments, develop computer programs, and analyze and interpret experimental results related to tissue properties. Starting salary ranges from \$18,000 to \$21,000. Please send résumé and three references before 15 July 1978 to: **Dr. Van C. Mow, Department of Mechanical Engineering, Aeronautical Engineering and Mechanics, Rensselaer Polytechnic Institute, Troy, New York 12181.** Telephone: 518-270-6432.

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POSITIONS OPEN

RESEARCH ASSISTANT

Experience in microanalytical techniques, specifically fluorescence amino acid analysis. Master of science degree in the biochemical sciences required. Send curriculum vitae to: **Chairman of Otolaryngology, Wayne State University School of Medicine, 3740 John R., Room 446, Detroit, Michigan 48201.** Equal Opportunity Employer.

RESEARCH ASSOCIATE

Infectious Diseases Research Laboratory seeking Ph.D. for research position available 1 July 1978. Biochemistry, microbiology, or molecular biology training. Clinical laboratory experience desirable. Knowledge of subcellular separations, RIA, immunochemistry, general microbiology, and biostatistics required. Ongoing projects: aminoglycoside nephrotoxicity and *S. aureus* teichoic acid antibody studies. Salary: approximately \$1,400 per month. Fringe benefits available. Send inquiries to: **David N. Gilbert, M.D., Providence Medical Center, 700 N.E. 47 Avenue, Portland, Oregon 97213.**

RESEARCH ASSOCIATE. Analytical chemist or biochemist experienced in gas chromatography-mass spectrometry and other instrumentation. Duties involve use of GC-MS and development of assays in a clinical research laboratory interested in the neurochemistry of mental disorders. Position requires Ph.D., preferably with postdoctoral experience. Available 1 July 1978; salary range: \$15,000 to \$18,000. Send curriculum vitae to: **Philip A. Shea, Ph.D., Department of Psychiatry, Institute of Psychiatric Research, Indiana University Medical Center, 1100 West Michigan Street, Indianapolis, Ind. 46202.** Indiana University is an Equal Opportunity/Affirmative Action Employer.

RESEARCH ASSOCIATE position for a specialist in radio astronomy **INTERFEROMETRY** is available at the National Astronomy and Ionosphere Center's Arecibo Observatory, located near Arecibo, Puerto Rico. Principal activity will be to develop and use a two-element interferometer system at Arecibo. Will also be responsible for assisting visiting scientists associated with VLBI or other interferometry observational programs. Round-trip air transportation between the observatory and the home institution will be provided for the research associate and immediate family, as well as moving expenses and a dislocation allowance. Appointment will be for 1 year, with a second year possible by mutual agreement. Pending successful review prior to end of second year, research associate will be appointed for a 3-year period. Salary is open. Position available immediately. Send letter of application, curriculum vitae, and names of at least two individuals for references to:

**Professor F. D. Drake, Director
National Astronomy and Ionosphere Center
Cornell University
Ithaca, New York 14853**

The National Astronomy and Ionosphere Center is operated by Cornell University under contract with the National Science Foundation. *Cornell University is an Equal Opportunity Employer.*

RESEARCH ASSOCIATE position for a radio astronomer experienced in **PULSAR** observations is available at the National Astronomy and Ionosphere Center's Arecibo Observatory, located near Arecibo, Puerto Rico. Research associate will carry out research utilizing any of the facilities of the Arecibo Observatory, in accordance with the standard NAIC research proposal approval policies. In addition, research associate will be responsible for assisting visiting scientists conducting pulsar observations. Round-trip air transportation between the observatory and the home institution will be provided for the research associate and immediate family, as well as moving expenses and a dislocation allowance. Appointment will be for 1 year, with a second year possible by mutual agreement. Salary is open. Position available immediately. Send letter of application, curriculum vitae, and names of at least two references to:

**Professor F. D. Drake, Director
National Astronomy and Ionosphere Center
Cornell University
Ithaca, New York 14853**

The National Astronomy and Ionosphere Center is operated by Cornell University under contract with the National Science Foundation. *Cornell University is an Equal Opportunity Employer.*

ASSOCIATE DIRECTOR FOR RESEARCH

The Woods Hole Oceanographic Institution is seeking applicants for the position of Associate Director for Research. This is a full-time, professional position at the Institution.

The duties are: responsible for the coordination and development of the research programs of the Institution, both basic and applied, in the oceanographic disciplines including Biology, Chemistry, Geology and Geophysics, Physical Oceanography and Ocean Engineering. Principal functions include oversight of the quality of research programs of the Institution, ship scheduling, liaison with granting or funding agencies, and adequacy of research facilities. Works closely with department chairmen in the staffing and appointments of scientific personnel. Provides liaison with other research organizations and works closely with the Dean of Graduate Studies in coordinating educational and research activities.

Qualifications for this position are a Ph.D. or equivalent experience in Oceanography and a minimum of ten years' experience in a similar research or educational institution. It is expected that the candidate would meet the qualifications for Senior Scientist position at the Institution.

Interested individuals should write directly to Dr. John H. Steele, Director, before July 15, 1978.



**WOODS HOLE
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INSTITUTION**
Woods Hole, MA 02543

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CHIEF LABORATORY OF ANIMAL GENETICS

The National Institute of Environmental Health Sciences has a career Civil Service position for Chief, Laboratory of Animal Genetics. The Laboratory (1) plans and conducts studies in microbial, somatic cell and mammalian genetics intended to improve understanding at the molecular level of the processes which generate mutations following exposure to environmental agents; (2) develops and elucidates *in vitro* and *in vivo* test systems and models to facilitate extrapolation from experimental systems to humans; (3) develops improved methodology for monitoring populations for genetic change and damage, and develops approaches to the study of genetic damage in exposed human populations; and (4) advises on matters pertaining to population and mammalian genetics and the screening of environmental agents for mutagenicity.

Applicants must have a Ph.D or equivalent in genetics or a closely related field. Candidates must have postdoctoral training in a research laboratory and at least 1 year experience at the GS-15 level or equivalent. In addition, candidates must have demonstrated their ability to implement equal employment opportunity objectives, and have had managerial experience in developing, directing, and evaluating the work of professional research investigators and supporting staff.

It is desirable that candidates have recent state-of-the-art publications in the field of genetics and/or mutagenesis, preferably in the areas related to environmental health. It is also desirable that candidates have an outstanding scientific reputation as evidenced by consultancies, lectures, editorial responsibilities in the field of genetics, and awards for scientific leadership or research excellence.

Candidates will be evaluated on the extent to which they possess the desirable qualifications by a panel of subject matter specialists.

Salary will range from \$36,100 to \$47,500 per annum, depending on qualifications (salary, qualifications, and classification of the proposed incumbent are subject to the final approval of the U.S. Civil Service Commission). Send Personal Qualifications Statement (SF-171), Curriculum Vitae, and Bibliography by July 14, 1978, to: Mr. S. G. Jones, NIEHS Personnel Office, National Institutes of Health, Public Health Service, P.O. Box 12233, Department S, Research Triangle Park, N.C. 27709. Equal Opportunity Employer.

medical opportunities

RESEARCH ASSOCIATE MEDICAL ONCOLOGY

Position available immediately for PHD cellular immunologist with experience using *in vitro* assays for human immune function (mitogen stimulation, chromium release assays, etc.). Expertise in immunochemistry desirable. The ideal candidate will be one who is 2-5 years beyond the PHD level and has obtained some post doctoral research experience. Salary negotiable. Send curriculum vita and names of 3 references to Mr. Phil Olson, Human Resources.



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POSITIONS OPEN

PSYCHOLOGY, EXPERIMENTAL. Anticipate opening for assistant or associate professor to be filled as early as fall 1978. Research and teaching excellence stressed. Specialization open, but prefer experimental lifespan developmental or applied experimental or animal behavior. Send curriculum vitae, reprints, statements of research goals, teaching interests, and letters of reference to: **Dr. D. C. Wright, Experimental Recruitment, Department of Psychology, University of Missouri, Columbia, Missouri 65211.** An Equal Opportunity/Affirmative Action Employer.

RESEARCH ASSOCIATE. Postdoctoral position available to study relationship of sugar transport and metabolism in cells. Send curriculum vitae and references to:

**Dr. A. Kleinzeller
University of Pennsylvania School of Medicine
Department of Physiology
Philadelphia, Pa. 19104**

An Equal Opportunity/Affirmative Action Employer

The University of North Carolina in Chapel Hill has a **RESEARCH POSITION** at the assistant professor level in the Department of Surgery with a possible joint appointment in the appropriate basic medical science department. Applicants should have either M.D. or Ph.D. and must have 2 to 3 years of postdoctoral basic research experience. Training in immunology and infection (viral and bacteria) essential. Research experience in collagen chemistry, especially in cross-links, is important, with experience in maintaining laboratory animals and dissection preferred. Teaching experience in health-related sciences is desirable. *The University of North Carolina is an Equal Opportunity/Affirmative Action Employer.* Send curriculum vitae to: **Colin G. Thomas, Jr., M.D., Professor and Chairman, Department of Surgery, University of North Carolina, 136 Clinical Sciences Building 229-H, Chapel Hill, North Carolina 27514.**

RESEARCH POSITIONS

Postdoctoral positions are available at the California College of Medicine, in the Departments of Medicine and Psychiatry and Human Behavior; at the School of Biological Sciences, in the Departments of Molecular Biology and Biochemistry and Psychobiology; and at the School of Social Sciences in the recently funded Alcohol Research Center at the University of California, Irvine. The faculty involved and areas of research are as follows. S. Tewari, Ph.D., and P. F. Hall, M.D., Ph.D.—effects of ethanol on cerebral protein synthesis with experience in neurochemistry/neuroanatomy/neurophysiology/and biochemistry; effects of alcohol on testicular function; biochemistry and neuroanatomy background required with electron microscopy experience. K. K. Tewari, Ph.D.—on the transcription of cerebral DNA with a background in biochemistry of nucleic acids and neurophysiology. R. F. Thompson, Ph.D.—brain mechanisms of learning; neurophysiology/neuroanatomy/behavioral background desired. N. M. Weinberger, Ph.D.—neurophysiology of learning and ethanol action; electrophysiology or behavioral conditioning background preferred. C. S. McLaughlin, Ph.D.—RNA and protein synthesis in eukaryotes; a background in biochemistry and molecular biology. E. K. Wagner, Ph.D.—course of HSV infection in vivo and in vitro with a background in animal cell culture, animal virus techniques, and biochemistry. E. M. Pattison, M.D.—social systems and alcoholism; social science and psychological science background with expertise in social network theory and analysis.

All qualified candidates welcome; minorities and women encouraged to apply.

For further information contact individual faculty members in their areas of expertise through: **Dr. S. Tewari, Scientific Director, Alcohol Research Center, Department of Psychiatry and Human Behavior, University of California, Irvine, California 92717.**

SENIOR FACULTY POSITION IN EUKARYOTIC CELL BIOLOGY

Cornell University at Ithaca is seeking applicants who have established research programs with demonstrated excellence and originality in the area of eukaryotic cell biology. A willingness and ability in teaching in cell biology is also important. Rank and salary commensurate with experience and ability. Send résumé to: **Cell Biology Search Committee, Section of Biochemistry, Molecular and Cell Biology, Wing Hall, Cornell University, Ithaca, N.Y. 14853.** An Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

SCIENCE AND DEVELOPMENT PROGRAM

A Washington, D.C., scientific institution is seeking candidates for an opening for **professional associate** in the international science, technology, and development area. Responsibilities: coordinate and arrange workshops, meetings, and U.S. participation in international meetings contributing to production of reports on varied aspects of science and technology contributing to economic and social development in developing countries. Qualifications: Ph.D. or equivalent in applied science area, preferably involving both social and natural sciences; at least 4 years of teaching and/or research experience in area; training and/or working knowledge of overseas development philosophies and programs, particularly in Africa; administrative experience and French language facility desirable; ability to write well essentially. Submit résumé to: **Box 197, SCIENCE.**

An Equal Opportunity Employer

TWO TEMPORARY TEACHING POSITIONS: Ph.D. or near completion of it required. (i) Mineralogy/petrology, full academic year, 1978–1979. (ii) Geological mapping, introductory geology, fall semester only, 1978. Send résumés and names of three references to: **Dr. M. Kontrovitz, Department of Geosciences, Rider College, Lawrenceville, New Jersey 08648.** Application deadline is 15 June 1978. *Rider College is an Equal Opportunity/Affirmative Action Employer, M/F.*

VETERINARY CLINICAL PATHOLOGIST. The College of Veterinary Medicine, Colorado State University (CSU), is seeking applications from veterinary clinical pathologists who are interested in teaching, service, and research in an academic environment. Applicants must have a D.V.M. with advanced training in clinical pathology, preferably a Ph.D. and/or ACVP-certification or -eligibility. Duties include shared responsibility for the operation of the clinical pathology laboratory and teaching of clinical pathology. Participation in graduate education and research will be encouraged. Rank and salary commensurate with training and experience. Application deadline: 1 July 1978, or until position is filled. Appointment date: negotiable. *CSU is an Equal Opportunity/Title IX Employer. Equal Opportunity Office: 314 Student Services Building.* Contact: **A. F. Alexander, Head, Department of Pathology, College of Veterinary Medicine and Biomedical Sciences, Colorado State University, Fort Collins, Colo. 80523.**

VIROLOGIST. Instructor/assistant professorship, to study molecular pathogenesis of persistent infections caused by measles virus, and by visna virus, available 1 July 1978 in the Infectious Disease Unit, Medical Service of University of California, San Francisco (UCSF) at the VA Hospital. Applicants should have experience in animal virology and biochemistry; preference given to applicants with experiences in nucleic acid hybridization. Send résumé and three letters of recommendation to: **Dr. A. Haase, 151F, San Francisco VA Hospital, San Francisco, California 94121.** *UCSF is an Equal Opportunity/Affirmative Action Employer. Women and minorities are encouraged to apply.*

SUMMER COURSES

LINEAR STRUCTURAL RELATIONS COVARIANCE STRUCTURES, FACTOR ANALYSIS

University of Chicago
August 30–September 2 & September 4–7, 1978

Karl Jöreskog and Dag Sörbom will offer two four-day intensive training programs on the use of the LISREL IV program for the analysis of linear structural relationships and path theoretic models and the EFAP program for factor analysis. Sessions will include a computer laboratory. Tuition \$275.00. Write: **R. D. Bock, 5835 S. Kimbark Ave., Chicago, IL 60637.** Phone: (312) 753-3876.

TRAINEESHIPS

TWO POSTDOCTORAL TRAINEESHIPS are available in biochemistry at the University of California, Los Angeles (UCLA), Mental Retardation Research Center through an award from USPHS. Studies focus on various aspects of inborn errors of metabolism and metabolism of ketone bodies. Apply to: **Dr. G. Popjak, Mental Retardation Research Center, 760 Westwood Plaza, UCLA School of Medicine, Los Angeles, California 90024.** An Equal Opportunity Employer.

ASSISTANTSHIPS

RESEARCH ASSISTANTSHIPS and TEACHING ASSISTANTSHIPS available for September 1978 leading to the M.S. or Ph.D. degrees with majors in physical, organic, analytical, inorganic, or biochemistry. Half-time stipend for a teaching assistantship is \$4150 per academic year, and for a research assistantship is \$5000 per academic year. Write: **W. H. Zuber, Chairman, Graduate Recruiting, Department of Chemistry, Memphis State University, Memphis, Tennessee 38152.** *Memphis State University is an Equal Opportunity/Affirmative Action Employer.*

FELLOWSHIPS

FELLOWSHIP, CLINICAL CHEMISTRY

The University of California, Irvine, Department of Pathology, is recruiting for a fellow in clinical chemistry. Required: M.D. with at least 2 years in clinical pathology or clinical/anatomical pathology. Duties include supervision of resident staff in division of clinical chemistry and research (basic or clinical). *All qualified candidates welcome; minorities and women encouraged to apply.* Send curriculum vitae and references to: **H. Simpkins, M.D., Ph.D., Chief, Division of Clinical Chemistry, University of California, Irvine Medical Center, Orange, California 92668,** by 3 July 1978.

POSTDOCTORAL FELLOWSHIP

Neuroendocrinology. Research associate position available immediately. The candidate must have superior qualifications in radioimmunoassay and receptor isolation/identification. Please send curriculum vitae to: **Dr. Uzi Weinberg, Department of Neurology, Montefiore Hospital and Medical Center, 111 East 210 Street, Bronx, N.Y. 10467.** *Equal Opportunity Employer, M/F.*

PREDOCTORAL AND POSTDOCTORAL TRAINING IN VIROLOGY

The Departments of Microbiology, Pathology, and Surgery offer training in research on the structure and biosynthesis of viral nucleic acids and proteins, and viral genetics, immunology, and membrane biology. Preceptors are **Dr. J. C. Bennett, Dr. D. H. L. Bishop, Dr. R. W. Compans, Dr. E. Hunter, Dr. E. W. Lamon, Dr. J. Lebowitz, Dr. J. Mole, and Dr. J. P. Segrest.** For further information write to: **Dr. Richard W. Compans, Department of Microbiology, University of Alabama Medical Center, Birmingham, Alabama 35294.**

POSTDOCTORAL FELLOWSHIP in neurotransmitter-related enzymology and/or immunohistochemistry concerned with aging human brain. Ph.D. or M.D. required, preferably with study and experience in relevant areas. NIH stipend levels. Send résumé and names of two referees to: **Dr. Peter Davies, Department of Pathology, Albert Einstein College of Medicine, 1300 Morris Park Avenue, Bronx, New York 10461.** An Equal Opportunity/Affirmative Action Employer.

FELLOWSHIP IN OTOLARYNGOLOGY

Ph.D. or M.D. required. Desire background in anatomy/physiology, with knowledge of otology, to develop and direct a temporal bone laboratory and bank. Salary negotiable. Submit curriculum vitae to: **Chairman of Otolaryngology, Wayne State University School of Medicine, 3740 John R, Room 446, Detroit, Michigan 48201.** *Equal Opportunity Employer.*

POSTDOCTORAL RESEARCH FELLOWSHIP in experimental ophthalmic pathology available July 1978 at Jules Stein Eye Institute, University of California, Los Angeles (UCLA). This 2-year fellowship is sponsored by NIH. Applicant must have prior training in immunology. Must be U.S. citizen. Send résumé and three references to: **Alan L. Shabo, M.D., Jules Stein Eye Institute, UCLA School of Medicine, Los Angeles, Calif. 90024.** An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL FELLOWSHIP. Candidates who have had training in protein and nucleic acid biochemistry and some exposure to molecular genetics are invited to apply for a 2-year position in a laboratory actively studying the biochemistry and molecular genetics of the *E. coli recA* and *lexA* genes and their products. Apply to: **Dr. David W. Mount, Department of Microbiology, College of Medicine, University of Arizona Health Sciences Center, Tucson, Arizona 85724.** Please include names of three references. *Equal Opportunity/Affirmative Action/Title IX/Section 504 Employer.*

**NATIONAL SCIENCE FOUNDATION (NSF)
DIRECTORATE FOR APPLIED SCIENCE
AND RESEARCH APPLICATIONS**

1 Deputy Assistant Director	\$47,500
1 Office Head	\$42,423 to \$47,500
1 Section Head	\$42,423 to \$47,500
8 Program Managers	\$26,022 to \$47,025
3 Task Coordinators	\$26,022 to \$47,025
2 Problem Analysts	\$26,022 to \$47,025

DIVISION OF SCIENCE RESOURCES STUDIES

1 Section Head	\$42,423 to \$47,500
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The National Science Foundation, an independent agency of the federal government, welcomes applications for the above positions. The Directorate for Applied Science and Research Applications has responsibility for identifying and supporting research and related activities that strengthen the ties between basic and applied research and contribute to the understanding and resolution of significant problems. The Division of Science Resources Studies is responsible for a survey and analysis program covering the current and projected magnitude, characteristics, and dynamics of U.S. scientific and technical human resources. Applicants selected will be offered excepted appointments under the NSF Act of 1950 as amended within the salary range shown above, based on qualifications and experience. These positions may be filled on a permanent basis or through rotational or term appointments of from 1 to 3 years duration. Extensions beyond the initial appointment may be considered. Specific background and experience needed for these positions is as follows:

Deputy Assistant Director, ASRA (Ann. No. EX-78-13): Ph.D. or equivalent experience in an appropriate field of science and extensive R & D management and policymaking experience in the multidisciplinary fields of science and engineering.

Head, Office of Problem Analysis (EX 78-14): Ph.D. or equivalent experience in an appropriate field of the social or physical sciences; multidisciplinary R & D planning, analytic, and management experience.

Section Head, Applied Social/Behavioral Science (EX 78-15): Ph.D. or equivalent experience and extensive research and administrative background in one or more of the following fields: economics, sociology, political science, anthropology, psychology, industrial administration, business administration, public administration, or management science.

Program Manager (EX 78-16): earthquake engineering background, particularly in soils, geotechnical engineering, engineering seismology, and/or engineering geology.

Program Manager for Design Research (EX 78-17): earthquake engineering, architecture, civil, or structural engineering background.

Program Manager for Design Practice (EX 78-18): earthquake engineering background, particularly in shock and vibration (for buildings); structural engineering experience.

Program Manager for Chemical Threats (EX 78-19): research experience in analytical, biological and/or organic chemistry in health and environmental effects; advanced degree in relevant fields preferred.

Program Manager for Policy Research (EX 78-20): background in earthquakes hazard reduction, geography, land use allocation, and regional planning.

Program Manager for Applied Geophysical Sciences (EX 78-21): Ph.D. or equivalent experience in a geoscience area and strong research background.

Program Manager for Applied Biology and Biological Applications (EX 78-22): Ph.D. or equivalent experience in physiology, cell biology, or a related field and strong research background.

Task Coordinator (Physical Sciences) (EX 78-24): Ph.D. or equivalent experience in instrumental analyses appropriate to physical properties of materials; knowledge of mechanics and solid state physics.

Task Coordinator (Economist/Social Scientist) (EX 78-25): research background in analysis of data related to distribution of goods and services, particularly econometrics and microeconomics. Experience in public and industrial finance, and urban and labor economics are required.

Task Coordinator (Physical Chemist) (EX 78-26): Ph.D. or equivalent experience in physical or organic chemistry; research background in analyzing relationships between chemical and physical properties of organic and inorganic compounds.

Problem Analyst (two positions available) (EX 78-27): multidisciplinary background in two or more scientific or engineering disciplines and/or experience in policy analysis.

Section Head, Scientific and Technical Personnel Studies (EX 78-28): advanced degree in labor or human resources, economics or other related fields. Experience in the management of analytical and/or statistical programs in an academic or governmental setting.

Applications will be accepted until the positions are filled. For further information, **telephone: 202-632-4106**, or to apply, send full biographical summary or Standard Form 171 (Personal Qualifications Statement) for each position to:

**Division of Personnel and Management
National Science Foundation
1800 G Street, NW
Washington, D.C. 20550
ATTENTION: Section B**

An Equal Opportunity/Affirmative Action Employer

EXPERIMENTAL PATHOLOGISTS

(\$30 - 40)

Rapidly expanding biomedical operation located in suburban Maryland close to NIH and AFIP has immediate openings. Applicants are invited for staff positions, involving participation in the design of experimental bioassays of chemicals and evaluation of results.

Board Certification and knowledge of tumor pathology desirable. DVM with 3+ years directly related small animal experience required.

Qualified candidates should send curriculum vitae, complete bibliography, and the names of three references to

Box 194, SCIENCE

An Equal Opportunity Employer M/F

MICROBIOLOGIST

SENIOR VIROLOGIST

Pitman-Moore, Inc. is seeking a candidate for a position as Senior Virologist in our Research Division. The successful candidate will be responsible for the development of vaccines and virological diagnostic products. Background should include demonstrated expertise in viral diseases of food animals and a DVM Degree with a Master's or PhD in Virology.

Pitman-Moore offers excellent compensation and a comprehensive benefits program including medical insurance, life insurance, group accident coverage, and pension plan.

Qualified applicants may submit resumes including salary history and requirements in confidence to J.R. Borowy, Personnel Administrator, Pitman-Moore, Inc., P. O. Box 344, Washington Crossing, N.J. 08560.

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PITMAN-MOORE

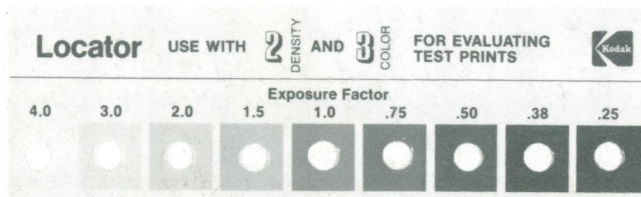
The leap from black-and-white
to big, superb color prints
made in your own darkroom
is now easier
but still justifies
considerable pride
of accomplishment

To have fun with this device next winter
start now to catch summer's color on negatives

It's a black mask of film—the KODAK EKTACOLOR FilterFinder—bearing one clear hole and 96 precise tints of color. It works with a gray card that you include in a test shot made at the scene on the same roll of film. When you begin your printing, you place the FilterFinder on the enlarging easel over the image of the gray card to make a test print. From the image of the clear hole on the processed test print, with the use of this Locator ▼

1	RECORD	TEST PRINT NO. _____ _____ M + _____ Y _____ SECONDS AT f/ _____
	2	DENSITY
3	COLOR	GRAY SQUARE _____ + _____
	4	CALCULATE
5	RECORD	NEXT PRINT _____ M + _____ Y _____ SECONDS AT f/ _____

KODAK EKTACOLOR FilterFinder
© EASTMAN KODAK COMPANY, 1978



you read off an exposure correction factor from your best test print. You also mark off which one of the 96 little squares has come out closest to gray on the test print. The two coordinates of that tint tell you what changes are needed in the combination of color filters you used in the enlarger for the test print. You jot down all the data right on the test print in the spaces provided on the FilterFinder image.

Then, with the corrections applied to the exposure and filter combination, you use the enlarger with an empty negative carrier as the light source for contact-printing your whole roll of negatives to a sheet of Ektacolor paper on the easel. That gives you proof prints for selecting the negatives best worth enlarging. Knowing they will require the same filters and exposure, you cut down frustration and waste.

The KODAK EKTACOLOR FilterFinder Kit, comprising the gray card you'll be including in the summer's test negatives, the FilterFinder, the Locator, a calculator dial, a "Color Space Map" for guidance in cases where none of the 96 squares comes out neutral on the first test print, and detailed instructions, is available from dealers in professional photo supplies. They also sell *Basic Developing, Printing, Enlarging in Color* (Kodak Publication No. AE-13) and the more advanced *Printing Color Negatives* (No. E-66). Might even be a good idea to check out those books first.

A little sidelight

We proudly announce that this way of appreciating color photographs as much in the doing as in the seeing came in through the company suggestion system. John T. Phelps, the young man who devised it and who will be appropriately rewarded, was joined by a retired Kodaker, Robert P. Speck, in applying those 96 tints to Kodalith film by means of the venerable Kodak Dye Transfer Process. Even today with the presently available color-sensitized papers, that process is still the one to use when quality matters above all in color prints. Speck is one of the two men who worked it out before joining Kodak. Some day you may graduate to it.

