

opment of subroutines: "From the very first, I had seen the establishment of a library of subroutines as being of prime importance" (p. 499).

John Mauchly focuses on perhaps the most controversial priority claim of all: who invented the United States' first electronic digital computer? He addresses himself to the *Honeywell vs. Sperry Rand* decision of 1973, which invalidated the ENIAC patent, in part because of the prior invention of John Atanasoff: "Because I visited J. V. Atanasoff for just two or three days in 1941, the 1974 [sic] decision of Judge Larsen was that I derived all my notions about building electronic computers from Atanasoff" (p. 549).

Individual points of view are of course important, but the reader must be aware that the presentations are frequently highly subjective and that recollections of events that occurred more than 30 years ago tend to be selective. There is also a tendency to focus on the past from the vantage point of the present, to emphasize decisions and developments that today are considered "correct," without paying adequate attention to the opinions held at the time, the norms that prevailed, and the decision-making process itself.

For example, Robert R. Everett states the following about the critical decision to convert Project Whirlwind from an analog to a digital machine: "In 1945, Jay Forrester began looking at the new digital computers, talked to a number of people, attended a computer conference, and as I recall it, late that year came back and said 'We are no longer building an analog computer; we are building a digital computer'" (p. 365). Such a critical decision requires far more analysis than this one simple statement.

Similarly, James E. Robertson writes of the ORDVAC: "Although it was first planned to build ILLIAC and ORDVAC from circuit drawings obtained from the Institute for Advanced Study, this intention was later changed, and most of the computers were constructed from circuits designed at the University [of Illinois]" (p. 348). One wonders why the change was made and what effects it had on the design of the ORDVAC. Similar examples appear throughout the book.

There are, however, several papers that demonstrate sensitivity to historical issues and skill in writing history: "The early development of programming languages" by Donald E. Knuth and Luis Trabb Pardo, "From ENIAC to the stored-program computer: two revolutions in computers" by Arthur W.

Burks, and "The start of an ERA: Engineering Research Associates, Inc. 1946-1955" by Erwin Tomash. These authors give some attention to the economic, administrative, institutional, political, and social factors that relate to those developments. Tomash notes, for example, that "1946 was . . . a year of change and movement and new beginnings all across the United States. Engineers and scientists who had worked in war plants or served in the Armed Forces came back to their homes and started looking for work" (p. 488) and that "under the frugal defense funding of the Truman administration before the Korean War, revenues and profits [of ERA] declined" (p. 491). And, as Burks states: "In evaluating ENIAC, one should keep in mind that it was developed during World War II. The immediate goal was to calculate firing tables. . . . Moreover, because of the emergency character of the war, ENIAC was developed very rapidly" (p. 334).

In summary, *A History of Computing in the Twentieth Century* is worthwhile reading for anyone interested in the subject. The chatty, anecdotal style of many of the authors may not give rise to the sort of objective, professional account preferred by historians, but it lends a dimension to the study of history that is not prevalent in more conventional works. The personalities of the pioneers and the issues they currently regard as most important clearly emerge, providing the reader with an understanding of some of the major controversies.

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ASSISTANT PROFESSOR—Tenure-track position available for Ph.D. to teach biological science courses to allied health students starting fall 1981. Background in physiology and microbiology required. Research and development of a graduate course in area of specialization will be encouraged. Submit curriculum vitae, official transcripts, brief statement of interests, and three letters of reference to: **Dr. Kenneth Kaloustian, Chairman, Department of Medical Laboratory Sciences, Box 154, Quinnipiac College, Hamden, Conn. 06518. Equal Opportunity, M/F. Minorities encouraged to apply.**

ASSISTANT PROFESSOR

Assistant professor to teach medical and graduate students. Ph.D. with at least 2 years of postdoctoral experience. Research in human or animal physiology. Preference will be given to applicants with interests in cardiovascular, metabolic, or respiratory systems physiology, with special reference to human physiology. Send résumé with references to: **Dr. Alexander Lind, Professor and Chairman, Department of Physiology, St. Louis University School of Medicine, St. Louis University Medical Center, 1402 South Grand, St. Louis, Mo. 63104. An Equal Opportunity/Affirmative Action Employer, M/F/H.**

The Department of Biochemistry, Colorado State University (CSU), will have an opening available fall 1981 for a tenure-track position at the **ASSISTANT PROFESSOR** level. Responsibilities: participation in teaching program and development of a vigorous research program. Requirements: doctoral degree; postdoctoral experience desirable. Salary negotiable. Send detailed curriculum vitae and names and addresses of three references to: **Winslow S. Caughey, Department of Biochemistry, Colorado State University, Fort Collins, Colo. 80523. Application deadline: 21 May 1981. CSU is an Equal Opportunity/Title IX Employer. Equal Opportunity Office: 314 Student Services Building.**

ASSISTANT PROFESSOR

Assistant professor position available in the Department of Human Oncology and Wisconsin Clinical Cancer Center at University of Wisconsin-Madison beginning 1 July 1981. Ph.D. required. Applicants should have defined research objectives. Preference will be given to applicants with laboratory expertise in pharmacology and/or immunology. Individual should be willing to establish program with strong clinical interest in cancer therapy. Duties will include participating in graduate training program for pre- and postdoctoral trainees. Contact:

Paul P. Carbone, M.D.
Department of Human Oncology
K4/662 Clinical Science Center
600 Highland Avenue
Madison, Wisconsin 53792

Equal Opportunity Employer, M/F

ASSISTANT PROFESSORS DEPARTMENT OF MICROBIOLOGY UNIVERSITY OF SOUTHERN CALIFORNIA (USC) SCHOOL OF MEDICINE

Candidates are sought for two tenure-track positions at the assistant professor level in the areas of molecular biology of eukaryotic cells and tumor virology. Candidates should have carried out significant postdoctoral research in relevant fields such as viral biochemistry and genetics, molecular cloning, chromosome or DNA mediated gene transfer, or electron microscopic analysis of nucleic acids. Successful applicants will be expected to conduct an active research program and to participate in the teaching activities of the medical and graduate schools.

Applicants should provide curriculum vitae, a short statement of their proposed research program, and the names of three scientists willing to write letters of recommendation. *USC is an Affirmative Action/Equal Opportunity Employer.* Send applications to: **Professor Peter K. Vogt, Cell Biology Search, Department of Microbiology, University of Southern California, School of Medicine, Los Angeles, Calif. 90033.**

POSITIONS OPEN

The Division of Reproductive Biology of the Department of Obstetrics and Gynecology, University of Pennsylvania, announces availability of a faculty position at the **ASSISTANT PROFESSORSHIP** level for **CELL BIOLOGIST** or **IMMUNOLOGIST** with interest in reproductive biology, preferably with emphasis on fertilization. Qualified applicants should send curriculum vitae, a detailed statement of accomplishments, research interests, and names and addresses of three references to: **Luigi Mastroianni, Jr., M.D., Chairman, Department of Obstetrics and Gynecology, Hospital of the University of Pennsylvania, 3400 Spruce Street, Philadelphia, Pa. 19104. Applications from women and minority persons are especially welcome. An Equal Opportunity Employer.**

TWO ASSISTANT PROFESSORS Section of Neuroanatomy Yale University School of Medicine

NEUROPHYSIOLOGIST interested in CNS development, plasticity, or higher cortical function in primates. **NEUROANATOMIST** interested in ultrastructural, histochemical, and immunocytochemical analyses of developing brain. Both positions involve some teaching of medical and graduate students. Submit résumé and names of references before 1 June to: **Dr. Pasko Rakic, Chairman, Section of Neuroanatomy, Yale University School of Medicine, 333 Cedar Street, New Haven, Conn. 06510. Yale University is an Equal Opportunity/Affirmative Action Employer.**

ASSISTANT PROFESSOR OF PHARMACOLOGY

Applications are invited for a tenure-track faculty position in a research oriented Department of Pharmacology. Minimal qualifications include a Ph.D. or M.D. degree with strong postdoctoral experience. Candidates must be capable of mounting a vigorous research program and participating in the teaching of medical, dental, and graduate students. Area of research interest is secondary to demonstrable research capability. Send curriculum vitae to: **E. G. Anderson, Department of Pharmacology, College of Medicine, University of Illinois at the Medical Center, P.O. Box 6998, Chicago, Illinois 60680.**

The University of Illinois is an Equal Opportunity/Affirmative Action Employer and encourages applications from women and minorities.

DEPARTMENT OF BIOMEDICAL SCIENCES SECTION OF ANATOMY

Southern Illinois University (SIU), School of Dental Medicine, invites applications for a full-time faculty position in the Department of Biomedical Sciences, Section of Anatomy. Salary and rank will be commensurate with training and experience. Ph.D. or equivalent in human anatomy, with demonstrated research ability, is required. The individual filling this position will: assume total responsibility for teaching human developmental anatomy to dental students with particular emphasis on oral-facial development; participate, as appropriate, in histology, and the laboratory portion of gross anatomy; and actively pursue research of own choice.

Applications will be received until 15 June 1981.

SIU School of Dental Medicine is an Equal Opportunity/Affirmative Action Employer. Send curriculum vitae to: **Dr. Henry M. Cherrick, Dean, School of Dental Medicine, 2800 College Avenue, Alton, Ill. 62002.**

The Department of Pathology, New York State College of Veterinary Medicine, has a position available for a **CLINICAL PATHOLOGIST**. The successful candidate will be expected to serve in the Clinical Pathology Service of the Veterinary Medical Teaching Hospital, assist with the professional student teaching program in clinical pathology, participate in postdoctoral training program in clinical pathology, and develop an independent research program in the field of his/her choice.

Certification in clinical pathology is desired. Academic rank and salary will be commensurate with background and experience.

Applicants should send curriculum vitae, three letters of reference, and a statement of long-term career goals to:

Dr. Robert M. Lewis
Chairman, Department of Pathology
New York State College of Veterinary Medicine
Cornell University
Ithaca, New York 14853

Cornell University is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

The Division of Neurological Surgery, Department of Surgery, University of California, Irvine (UCI), invites applications for the position of **ASSISTANT PROFESSOR OF SURGERY (NEUROSURGERY) IN RESIDENCE**. A broad background in electrophysiology is required; experience with single unit and multiple unit recording with extracellular electrodes and a working knowledge of the use of chronic microelectrode implantation techniques and of intracellular techniques. Programming and systems experience with DEC computers is also required. Research facilities are available and the candidate will maintain an independent research program in addition to directing and coordinating other research laboratories with the division. The position involves teaching of undergraduate medical students and neurosurgical residents. Send curriculum vitae and letters of reference to: **John A. Kusske, M.D., Division of Neurological Surgery, UCI Medical Center, Mail Route 81, 101 City Drive South, Orange, California 92668**, by 30 May 1981. Telephone: 714-634-6705.

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

CIMAS—UNIVERSITY OF MIAMI

The University of Miami is searching for a **DIRECTOR** of its Cooperative Institute for Marine and Atmospheric Studies (CIMAS). CIMAS was established in 1977 by the University of Miami and the Environmental Research Laboratories of the National Oceanic and Atmospheric Administration to serve as a focal point for comprehensive research on specific problems of the ocean and atmosphere.

Present research is concentrated in three areas:

- 1) Oceanic variability on climatic scales,
- 2) Sediment dynamics, and
- 3) Ecological modeling.

The director should have a national and international scientific reputation in one of these three research areas and take an active interest in each of them.

The successful candidate will also receive an appointment as professor in one of the scientific divisions of the Rosenstiel School of Marine and Atmospheric Science of the University of Miami.

The term of the director of CIMAS shall normally be 5 years and is renewable.

Applications, including a current professional résumé and three references, and further information should be sent to: **Dr. Warren J. Wisby, Chairman of the Search Committee for Director of CIMAS, University of Miami, Rosenstiel School of Marine and Atmospheric Science, 4600 Rickenbacker Causeway, Miami, Florida 33149**. Nominations and applications desired by 15 June 1981. Position will remain open until filled.

An Equal Opportunity/Affirmative Action Employer

ENGINEER/RESEARCH SHOP SUPERVISOR. Research institute of major urban university seeks experienced electronics engineer to supervise shops. Qualified individual will be responsible for the maintenance of electroacoustic apparatus used in hearing sciences research. Expertise in the design, fabrication, and maintenance of analog function generators, sound level meters, and small digital computers essential. Prior association with behavioral or biological laboratory desirable. Excellent benefits and salary commensurate with experience and background. Interested candidates please submit résumé and three letters of reference to: **LOYOLA UNIVERSITY OF CHICAGO, Personnel Office, 6525 North Sheridan Road, Chicago, Illinois 60626**. *Equal Opportunity/Affirmative Action Educator and Employer.*

FACULTY POSITION NORTH CAROLINA STATE UNIVERSITY RALEIGH

A tenure-track position is available in the Department of Marine, Earth, and Atmospheric Sciences at the level of assistant or associate professor. Applications are especially invited from individuals trained in **MARINE BENTHIC ECOLOGY** with interests in soft-bottom macrofauna as related to animal-sediment interactions. A Ph.D. is required. The candidate will be expected to strengthen the graduate teaching and research programs. Applicants should forward a résumé and the names of at least three references to: **Dr. Daniel Kamykowski, Chairman, Search Committee, P.O. Box 5068, North Carolina State University, Raleigh, N.C. 27650**. Application materials should be sent by 31 May 1981. *North Carolina State University is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

BIOCHEMISTRY FACULTY POSITIONS UNIVERSITY OF ARIZONA

The newly created, university-wide Department of Biochemistry will occupy newly constructed quarters late in fall 1981. As part of our expanding teaching and research programs, we seek to fill two tenure-track positions to be assumed after January 1982. (i) **RANK OPEN**—To be filled by a person with an outstanding record of accomplishment. (ii) **ASSISTANT PROFESSOR**—To be filled by a person with outstanding potential. For both positions we seek applicants with research interests in areas of contemporary biochemistry. Send curriculum vitae, a one- or two-page summary of future research plans, and three letters of recommendation by 30 June 1981 to: **Dr. Mark R. Haussler, Search Committee, Biochemistry Department, University of Arizona Health Sciences Center, Tucson, Arizona 85724**. *An Equal Opportunity/Affirmative Action/Title IX/Section 504 Employer.*

POSITIONS OPEN

FACULTY POSITION IN INDUSTRIAL HYGIENE. An industrial hygienist is needed for teaching and research. Requires Ph.D. (chemistry preferred), 5 years of experience, and expertise in assessment of workplace exposures. Appointment and salary commensurate with background. Résumé to: **John Peters, M.D., Division of Occupational Health, University of Southern California, School of Medicine, 2025 Zonal Avenue, PMB B309, Los Angeles, Calif. 90033**. *An Affirmative Action/Equal Opportunity Employer.*

University of Michigan Medical School, Department of Physical Medicine and Rehabilitation, has a **FACULTY POSITION** available 1 July 1981. Board-certified (or eligible) physiatrist with 2 to 3 years of experience with the severely disabled. Level from instructor to assistant professor to work in affiliated Veterans Administration hospital. Reply to: **Box 102, SCIENCE**. Code 27FO. *A nondiscriminatory, Affirmative Action Employer.*

CALL FOR PAPERS

Symposium on Terrestrial and Aquatic Humic Materials

University of North Carolina, Chapel Hill, North Carolina, USA

November 4-5, 1981

*Sponsored by the U.S. Environmental Protection Agency
and the Norwegian Institute for Water Research*

Papers and poster session contributions are solicited by June 15 in the following general areas. Limited travel support is available for selected papers.

1. Analytical Methods for Structure Determination. Including newer physical methods and degradation approaches.
2. Origins and Reactions of Humic Substances. Involving humic materials in the soil, marine and fresh water environments and including functional group studies, reactions with metals, pesticides, disinfectants, etc.
3. Effects of Humic Materials in Living Systems. Including microorganisms, plants, animals and man.

Program: Morning and afternoon sessions on November 4 and 5 will include *featured speakers* and selected *contributed papers*. There will be a cocktail hour followed by a banquet on the evening of November 4.

Registration: Advance registration may be made by sending payment with form below to one of the General Chairmen.

Final programs will be mailed around August 1981.

General Chairmen: Titles and 200 word abstracts should be sent to:

U.S. and Canada
Dr. Russell F. Christman
Department of Environmental Sciences & Engineering
UNC School of Public Health 201H
Chapel Hill, North Carolina 27514

Europe
Dr. Egil Gjessing
Norwegian Institute for Water Research
P.O. Box 333, Blindern
Oslo 3, Norway

Registration Form—Symposium on Terrestrial & Aquatic Humic Materials

University of North Carolina, Chapel Hill, NC 27514 U.S.A.

November 4 and 5, 1981

NAME _____
(Last) (First) (Middle)

INSTITUTION: _____

ADDRESS: _____

TELEPHONE: _____

Registration Deadline is October 1, 1981

Make checks payable to **Humic Chemistry Symposium** and send with form above to:

Russell F. Christman
Department of Environmental Sciences & Engineering
UNC School of Public Health 201H
Chapel Hill, NC 27514 U.S.A.
Telephone (919) 966-1171

or
Egil Gjessing
Norwegian Institute for Water Research
P.O. Box 333, Blindern
Oslo 3, Norway
Telephone (47 2) 23 52 80

Please check appropriate box:

Registration (includes banquet) \$50.00 []
Registration after October 1, 1981 \$75.00 []
Student (Student card must be presented) \$25.00 []
Hotel Accommodation Required []
(Information will be sent so
attendee can register directly
with hotel)

POSITIONS OPEN

ASSISTANT PROFESSOR OF ENTOMOLOGY. Tenure-track, 100 percent extension position with responsibility for livestock and poultry extension programs in entomology. Duties include initiation, implementation, and expansion of livestock and poultry extension insect pest management (IPM) programs; training and support for livestock and poultry county extension personnel; and formulation of statewide pest control recommendations for livestock and poultry producers. Incumbent will be expected to interact with IPM coordinator and researchers from many related disciplines. Position available 1 July 1981. Apply by sending curriculum vitae, transcripts, Ph.D. thesis summary, one set of reprints, and names of three references before 1 July 1981 to: **Dr. R. J. Kuhr, Head, Department of Entomology, North Carolina State University, Raleigh, N.C. 27650.** *Equal Opportunity/Affirmative Action Employer.*

ASSOCIATE PROFESSOR OF NUTRITION AND FOOD POLICY AND PLANNING

The Department of Nutritional Sciences, University of California, Berkeley, invites applications for a tenured position as associate professor in nutrition and food policy and planning, and 11-month appointment. Investigators with high potential for interdisciplinary research will be considered at the assistant professor tenure-track level. The applicant must hold a Ph.D. (or equivalent) degree in one of the following fields with primary or secondary emphasis on nutrition and foods: nutritional sciences, public policy, nutritional anthropology, economics, political science, public health. The successful candidate will have the responsibility of developing a new academic and research program in the general area of policy analysis and program evaluation in relation to food systems and distribution and the nutritional state of people at the national and international levels. Research areas could include the ecologic, geographic, economic, and cultural aspects of food distribution and utilization patterns; nutritional status measurements, surveillance and evaluation; analysis of intervention methodologies and risk assessment. The position will be available 1 September 1981. To apply, please send curriculum vitae, bibliography, statement of research and teaching interests, and the names of five referees who may be contacted. Apply to: **Chair, Search Committee, Department of Nutritional Sciences, 119 Morgan Hall, University of California, Berkeley, Calif. 94720.** Application deadline: 1 June 1981 or until the position is filled. Salary commensurate with experience.

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

The Graduate Program in Environmental Sciences, The University of Texas at Dallas, seeks a **BOTANIST** at the rank of **assistant professor** to fill a tenure-track position commencing August 1981. Candidates must possess the Ph.D. in botany with experience in vascular plant taxonomy and field ecology. Teaching responsibilities will include graduate courses in terrestrial and aquatic botany. Preference will be given to applicants demonstrating a primary research interest in the effects of pollution on plant communities. An acquaintance with the flora of Texas is desirable. Indication of ethnicity and sex for Affirmative Action statistical purposes is requested but not required. Send statement of current teaching and research interests, current curriculum vitae, and at least three letters of reference by 1 June 1981 to: **Academic Search Number 234, Box 688, Richardson, Texas 75080.** *The University of Texas at Dallas is an Affirmative Action/Equal Opportunity Employer.*

Potential position in Herbarium Pacificum of Bernice P. Bishop Museum. Bishop Museum expects opening for **COLLECTION MANAGER** in Department of Botany. Candidate should have Ph.D. or M.S. or equivalent with experience in herbarium management. Write: **Dr. S. H. Sohmer, Chairman, Department of Botany, Bishop Museum, P.O. Box 19,000-A, Honolulu, Hawaii 96819.** Include curriculum vitae and names of three references. Response required by 31 May 1981.

COMBUSTION PHYSICIST—Ph.D.-level research scientist with a strong background and experience in the numerical modeling of combustion processes, including fluid dynamics and combustion chemistry. Experience in the modeling of homogeneous premixed flames, as well as heterogeneous combustion, is required. Salary: \$25,000 to \$27,000. Please apply in person with copy of this ad (Job Order Number 2512361) at the Virginia Employment Commission at Seven Corners, Va., Monday through Friday, 8:15 a.m. to 4 p.m.

POSITIONS OPEN

DEAN OF THE GRADUATE SCHOOL COLORADO STATE UNIVERSITY

Nominations and applications are invited for the position of Dean of the Graduate School, Colorado State University (CSU). The dean is responsible for graduate education, including program review and evaluation, and administers certain interdisciplinary programs, institutes, and centers. The dean serves as an advocate for graduate education, is responsible to the academic vice president and coordinates graduate activities with the vice president for research, academic deans, and faculty. Qualifications include an earned doctorate and demonstrated accomplishment in teaching, graduate advising, and research or other scholarly/creative endeavor. Appointment is for 12 months and applicant must qualify for a tenure-track appointment in an academic department. Prior academic administrative experience is essential. Knowledge of interdisciplinary programs at a comprehensive university is desirable. Send nominations or applications, résumés, and three letters of recommendation by 31 May 1981 to: **Dr. Robert D. Phemister, Chairman, Search Committee, College of Veterinary Medicine and Biomedical Sciences, Colorado State University, Fort Collins, Colo. 80523.** *CSU is an Equal Opportunity/Affirmative Action Employer. Equal Opportunity Office: 314 Student Services Building.*

FACULTY POSITION (Fall 1981)

MATHEMATICS

Tenure-track position at assistant/associate professor level. Ph.D. required; teaching experience preferred.

Salary and rank of assistant/associate professor commensurate with experience and qualifications. Closing date for applications is 15 May 1981.

Send résumé and letter of application to:
**Director of Personnel/Affirmative Action
State University of New York College of
Technology—Box 8106
811 Court Street
Utica, N.Y. 13502**

An Equal Opportunity/Affirmative Action Employer



FACULTY POSITIONS: Two research assistant professors of biochemistry, one with expertise in peptide and peptide high polymer synthesis, the other with expertise in calculations of polypeptide conformation and ion interaction and familiarity with use of NMR to deduce peptide conformation and interaction. If interested, please contact: **Dr. D. W. Urry, University of Alabama in Birmingham Medical Center, Laboratory of Molecular Biophysics, University Station, Birmingham, Alabama 35294.** *An Affirmative Action/Equal Opportunity Employer.*

UNIVERSITY OF OKLAHOMA COLLEGE OF MEDICINE

Applicants are solicited for **FACULTY POSITIONS** in the following departments:

MEDICINE, two positions (Number 286, Number 287)—**Assistant professor/associate professor.** Participating member of the Pulmonary Disease and Critical Care Section. Serve on consultation service and bronchoscopy service. Must have experience in clinical and/or basic research. If an M.D., will attend general ward and intensive care. Closing date: 1 June 1981. **PHYSIOLOGY** (Number 292)—**Associate professor.** Teaching of medical, dental, graduate, and undergraduate students. Expected to develop an active, independent research program. Must have Ph.D. or M.D. degree and at least 2 years of postdoctoral experience in cardiovascular physiology. Closing date: 1 July 1981.

Applicants should send curriculum vitae, **identifying vacancy number** for which they are applying, to: **O. C. Coleman, Assistant Dean, College of Medicine, University of Oklahoma Health Sciences Center, P.O. Box 26901, Oklahoma City, Okla. 73190.** *We are an Equal Opportunity Employer.*

POSITIONS OPEN

FACULTY POSITION IN INDUSTRIAL HEALTH AND SAFETY

Applicants are invited for appointment as a faculty member (tenure-track) in the Program in Industrial Health and Safety (IHS), Center for Health Sciences, Oakland University, Rochester, Michigan. The IHS program integrates in its curriculum the educational goals and professional aspirations of not only traditional university students but also those of nontraditional students and workers. The responsibilities of the position include teaching selected courses in areas of industrial hygiene, safety, toxicology, human factors, or public health epidemiology, and to conduct research in any of the aforementioned subject areas. Applicants should hold a doctorate degree and be able to demonstrate research and professional competence in a field related to the foregoing position requirements. The appointment will be at the assistant professor level and salary is negotiable.

Oakland University is an Equal Opportunity/Affirmative Action Institution. Submit curriculum vitae to:

**Uwe Reischl, Ph.D.
Program Director
Program in Industrial Health and Safety
Center for Health Sciences
Oakland University
Rochester, Michigan 48063**

IMMUNOLOGY UNIVERSITY OF PENNSYLVANIA SCHOOL OF MEDICINE

The Division of Research Immunology in the Department of Pathology and Laboratory Medicine seeks to fill a tenure-track position at the level of assistant professor. This would involve individuals with demonstrated research activities and interests in the area of molecular immunology. *The University of Pennsylvania is an Equal Opportunity/Affirmative Action Employer.* Please send curriculum vitae, résumé, and three references to:

**Darcy B. Wilson
Head, Division of Research Immunology
Department of Pathology and Laboratory Medicine
University of Pennsylvania
School of Medicine/G3
Philadelphia, Pa. 19104**

IMMUNOLOGY UNIVERSITY OF PENNSYLVANIA SCHOOL OF MEDICINE

The Department of Pathology and Laboratory Medicine seeks to fill two tenure-track positions for physician/scientists at the level of assistant or associate professor. This would involve individuals with research interests in basic aspects of human cellular immunology or in molecular immunology, and the training and proven ability to fill service responsibilities in either clinical immunology or immunopathology. *The University of Pennsylvania is an Equal Opportunity/Affirmative Action Employer.* Please send curriculum vitae, résumé, and three references to:

**Dr. Leonard Jarrett, Chairman
Department of Pathology and Laboratory Medicine
Hospital of the University of Pennsylvania
3400 Spruce Street/G1—Box 671
Philadelphia, Pa. 19104**

PATHOLOGY FACULTY POSITIONS

The Department of Pathology and Laboratory Medicine of the University of Pennsylvania is interested in recruiting two junior faculty to strengthen and expand research activity in the pathobiology of heart, blood vessels, and lung. Candidates must have M.D. or M.D.-Ph.D. degrees and qualified training to actively participate in the diagnostic and teaching activities of the Autopsy Division. Excellent opportunities for collaborative research exist on campus but the applicants are expected to have or develop independent research programs and to successfully compete for grant support.

Salary is commensurate with training and experience. Fringe benefits are excellent. Qualified applicants send curriculum vitae and names of references to: **Giuseppe G. Pietra, M.D., Director, Division of Autopsy Pathology, Box 750, Hospital of the University of Pennsylvania, 3600 Spruce Street, Philadelphia, Pa. 19104.**

The University of Pennsylvania is an Equal Opportunity Employer.

POSITIONS OPEN

FACULTY POSITION—The Department of Biochemistry invites applications and nominations for a position that will become available 1 September 1981, at the level of assistant professor. This is a tenure-track position, with an initial appointment for 5 years. Applicants must have a doctoral degree with postdoctoral experience. Outstanding applicants with research interests in: (i) the function and biosynthesis of membrane components and receptors, (ii) the biochemistry of differentiation, and/or (iii) eukaryotic gene regulation will be considered. Applicants would be expected to develop a research programme in one of the above-mentioned areas. Successful applicants will be expected to share in departmental teaching responsibilities. Salary is negotiable according to qualifications. Applications should include curriculum vitae, a brief description of research experience and future research plans, and the three most recent publications. Applicants should arrange to have three letters of recommendation sent to: Search Committee, Department of Biochemistry, Faculty of Medicine, University of Western Ontario, London, Ontario, Canada N6A 5C1.

FACULTY RESEARCH ASSISTANT—Cooperative program of Department of Chemistry, University of Maryland, with National Bureau of Standards. M.S. degree in chemistry or B.S. plus experience in nuclear and radiochemistry. Work on development and use of nuclear and radiochemical methods of analysis of samples for the National Specimen Bank. Will also use prompt γ -ray activation analysis set up at NBS reactor. Salary: \$14,000 to \$16,000, depending on experience. Apply by 15 May 1981. Candidate should send curriculum vitae and have three letters of recommendation sent to: G. E. Gordon, Department of Chemistry, University of Maryland, College Park, Md. 20742.

LASER SPECTROSCOPY instrument development and maintenance, in a lively bio-Raman research group. Experience with lasers, optics, electronics, and minicomputers needed. Research staff position. Apply: Professor T. G. Spiro, Chemistry Department, Princeton University, Princeton, New Jersey 08540. Princeton University is an Equal Opportunity/Affirmative Action Employer.

MOLECULAR BIOLOGY/IMMUNOLOGY—The Department of Pathology, Harvard Medical School, and the Sidney Farber Cancer Institute invite applications for a faculty position at the level of assistant professor in the general area of molecular biology, with emphasis on its relationship to immunology. The appointee must have had postdoctoral training, and is expected to conduct an independent research program. Applicants should send curriculum vitae, including a short description of research interests and the names and addresses of three references, to: Dr. Harvey Cantor, SIDNEY FARBER CANCER INSTITUTE, 44 Binney Street, Boston, Mass. 02115. An Equal Opportunity/Affirmative Action Employer.

NUCLEAR ENGINEERING FACULTY POSITION

The Joint Center for Graduate Study at Richland, Wash., is an educational center, administered jointly by the University of Washington and Washington State University, with program participation by Oregon State University. The Center is seeking a resident faculty member to coordinate the graduate program in nuclear engineering, sponsored by the University of Washington. The degree program in nuclear engineering leads to the M.S. degree. Candidates for the faculty position must hold a Ph.D. in nuclear engineering or a related field and have an interest in developing collaborative educational and research programs with the sponsoring universities and with the Hanford laboratories. A strong commitment to teaching, academic and industrial research experience, and administrative capabilities are desired. The appointment level for this position will depend on the qualifications of the applicant. Interested applicants may send three letters of reference and current curriculum vitae to: Chairman, Nuclear Engineering Search Committee, Joint Center for Graduate Study, 100 Sprout Road, Richland, Washington 99352. Deadline for the applications is 15 June 1981.

An Equal Opportunity/Affirmative Action Employer

BIOCHEMIST RECOMBINANT DNA/ INTERFERON RESEARCH

The Roche Institute of Molecular Biology, a facility respected worldwide, needs a professional familiar with laboratory techniques associated with recombinant DNA research and various aspects of interferon. These include:

Isolation of Nucleic Acids
Cloning Hybridization
Restriction Enzyme Analysis
DNA Sequencing
Bacterial Isolation & Screening

You will contribute to the rapid development in these areas and utilization of interferon. BS or MS or equivalent in Biochemistry, Chemistry, or Microbiology, with relevant experience. Roche offers a superb working environment, convenient to North New Jersey and NYC. Send resume in confidence to Mr. Richard L. Dow, Associate Placement Manager,

ROCHE

Hoffmann-
La Roche Inc.

Nutley, New Jersey 07110

Original Research in Chemistry and Medicine
Equal Opportunity Employer M/F

DIRECTOR NATIONAL OFFICE AMERICAN SOCIETY FOR CELL BIOLOGY

The American Society for Cell Biology (ASCB) is seeking a full-time director for its National Office located in Bethesda, Maryland. The duties of the director would include supervision of the National Office which is the communication center of the society and its center of financial operations. The office also assists the officers and council in the planning and organization of the annual meeting.

In addition to these fiscal and managerial responsibilities, the director is expected to play a key role in the initiation of new programs and in the coordination of the society's activities, interfacing with other societies, gathering information on public affairs, and keeping the society and its officers informed of public policy issues of interest to society members.

Applicants should have a doctoral degree, preferably in cell biology, and appropriate managerial expertise and experience. Salary commensurate with experience. Those interested in applying are requested to send a resume, along with the names of three persons who can provide references, to:

Dr. Marilyn Gist Farquhar,
President-Elect, ASCB
Chairman of the Search Committee
Section of Cell Biology
Yale University School of Medicine
P.O.B. 3333
333 Cedar Street
New Haven, Connecticut 06510

The ASCB is an Equal Opportunity/Affirmative Action Employer.

TUMOR BIOLOGIST - MICROBIOLOGIST

ANTIBIOTICS AND CHEMOTHERAPY

The Pharmaceutical Research Division of Warner-Lambert is seeking an outstanding scientist to lead a group of more than 20 professional biologists dealing with the discovery and *in vitro* and *in vivo* evaluation of anticancer drugs from fermentation and synthetic sources. Depending on qualifications and experience the applicant may also supervise the *in vitro* and *in vivo* evaluation of novel antibacterial agents.

The successful applicant will have:

- A Ph.D. with formal training in veterinary medicine and/or microbiology.
- Experience in the development, utilization, and interpretation of anticancer *in vitro* and animal tests.
- Creative ideas for the development of novel *in vivo* and *in vitro* test methods for the discovery of potential new anticancer and antibacterial drugs.
- Administrative and communication skills with the ability to motivate the staff to high levels of scientific performance; responsibility for various operations in the Antibiotic and Chemotherapy group, including routine tissue culture assay of fermentation and chemical samples, development of other tissue culture assays using various cell lines, *in vitro* and *in vivo* evaluation of anticancer leads from the soil screening and synthetic programs, *in vitro* and *in vivo* evaluation of synthetic antibacterials, biochemistry, and activities of the Experimental Data Analysis group.
- Ability to represent the Company within the scientific community.
- Ability to attract and develop personnel within the Section.
- The applicant will liaise closely with other scientists in the Antibiotic Group, Pharmacology, Chemistry, Toxicology, Clinical Research and extramural programs.

Our research facilities, adjoining the University of Michigan campus in Ann Arbor, Michigan, are among the finest and best equipped in the world and are devoted exclusively to the discovery and development of new drugs.

Join the exciting Research and Development Team at Warner-Lambert in this very key position and enjoy outstanding compensation benefits and environment.

Send your resume and salary history/requirements in confidence to: Ms. D. Love, Personnel Supervisor, WARNER-LAMBERT/PARKE-DAVIS, PHARMACEUTICAL RESEARCH DIVISION, 2800 Plymouth Road, Ann Arbor, Michigan 48105. An Equal Opportunity Employer M/F/H.

WARNER
LAMBERT

POSITIONS OPEN

MOLECULAR BIOLOGY IN ALBERTA

Opportunities for promising graduate student candidates and postdoctoral fellows in biomedical research now exist under the auspices of the Alberta Heritage Trust Fund for Medical Research. The Department of Biochemistry of the University of Alberta is recruiting suitable candidates interested in research in the following fields: biochemical virology and viral oncology; membrane biology; the structure and function of proteins, including enzymes; x-ray crystallography and NMR spectroscopy; DNA replication, repair, and structure; DNA-mediated gene transfer; biochemistry of the immune response; metabolic control mechanisms; and molecular biology of bacterial surface structures.

Interested applicants should forward their curriculum vitae to:

Department of Biochemistry
Medical Sciences Building
University of Alberta

Edmonton, Alberta, Canada T6G 2H7

Please apply to: Dr. J. S. Colter, at the above address.

MOLECULAR PHARMACOLOGY— ASSISTANT PROFESSOR POSITIONS

Three assistant professor positions will become available beginning 1 July 1981 in the Section on Pharmacology, The University of South Dakota School of Medicine. The successful applicants will be expected to participate in the teaching of medical students and graduate students. In addition, the successful candidates will be required to develop a vigorous research program in areas of molecular pharmacology such as receptor biochemistry and biophysics. A Ph.D. degree in pharmacology is a prerequisite for this position as is a minimum of 1½ years of postdoctoral study. Salary commensurate with training and experience. Closing date: 1 June 1981. Please apply with letter, curriculum vitae, bibliography, and three letters of reference to: Michael Gordon, Ph.D., Section Head, Section on Pharmacology, Division of Biochemistry, Physiology and Pharmacology, The University of South Dakota School of Medicine, Vermillion, South Dakota 57069. The University of South Dakota is an Equal Opportunity/Affirmative Action Employer.

PLANT ECOLOGIST

Instructor or assistant professor of biology, Colby College. A temporary 1-year appointment, starting 1 September 1981. Applicants should be broadly educated in the biological sciences, and experienced in the taxonomy and ecology of plants. Familiarity with plant communities typical of north-temperate parts of the United States is important. Send curriculum vitae and three letters of recommendation to: Dr. Miriam F. Bennett, Department of Biology, Colby College, Waterville, Maine 04901. An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL—BIOPHYSICAL CHEMISTRY

Studies of normal and abnormal human erythrocyte membranes by biochemical and biophysical (mainly magnetic resonance) techniques. Instruments include ST EPR and 300 MHz NMR. Background in biochemical studies of membranes or EPR/NMR studies preferred. Two positions, immediately available. Send curriculum vitae to: Dr. L. W.-M. Fung, Department of Chemistry, Wayne State University, Detroit, Mich. 48202. Wayne State University is an Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL ASSOCIATE in insect biochemistry and toxicology. Full-time research position available immediately for studies on the pharmacokinetics and action of pyrethroid insecticides in insects and mammals. Background in pharmacology and experience in the development and use of radioligand assays desirable. Starting salary: \$14,000. Send detailed curriculum vitae, transcripts, names of three references, and relevant publications to: D. M. Soderlund, Department of Entomology, New York State Agricultural Experiment Station, Cornell University, Geneva, N.Y. 14456.

POSTDOCTORAL FELLOW

Ph.D. position available immediately for in vivo and in vitro studies of hormone effects on cell kinetics in endocrine-dependent tumor models. Send curriculum vitae and names of three references to: Dr. Richard Santen, Division of Endocrinology, The Milton S. Hershey Medical Center, The Pennsylvania State University, Hershey, Pa. 17033. An Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

POSTDOCTORAL POSITION in ocean acoustics available August 1981. Position involves developing analytic and numerical techniques for use in analyzing long-range acoustic probes of ocean processes on all scales, including the analysis of some experimental data. Background at Ph.D. level in physics, applied mathematics, computer techniques, wave propagation in random media, and fluid dynamics are all relevant to this position. Training in geophysical fluid dynamics will be highly weighted. Send curriculum vitae and names of three referees to: Professor Stanley M. Flatté, Physics, University of California, Santa Cruz, Calif. 95064.

POSTDOCTORAL POSITIONS

The Department of Oral Biology, State University of New York (SUNY) at Buffalo, School of Dentistry, is seeking applicants for the following postdoctoral research positions:

Biochemists:

- 1) For studies of the effects of purified and chemically well-characterized bacterial products on bone metabolism.
- 2) For studies on the enzymology of granulocytes; experience with cell cultures desirable, and
- 3) For studies of the structural basis of glycoprotein function; experience with modern spectroscopic techniques essential.

Biophysicists: For development of methodology for quantitative determination of alveolar bone mass in man.

These positions will be supported by an NIDR research training grant. Applicants must have a Ph.D. with appropriate research training and be a U.S. citizen or have a permanent visa. Stipends vary from \$13,380 to \$17,040, depending upon experience. Send curriculum vitae plus statement of background, career goals, and research interests to: Dr. Rosemary Dziak, Department of Oral Biology, SUNY/ Buffalo, 4510 Main Street, Buffalo, N.Y. 14226.

An Equal Opportunity/Affirmative Action Employer

POSTDOCTORAL POSITION. Protein chemistry enzymology, alkaline phosphatase, acetylcholinesterase, angiotensin-converting enzyme. Write:

I. B. Wilson
Department of Chemistry
University of Colorado
Boulder, Colorado 80309

Affirmative Action/Equal Opportunity Employer

POSTDOCTORAL POSITION

Opportunities for research training in cardiovascular physiology, covering all aspects of human and animal studies, available for Ph.D. or M.D. applicants. Send résumé with references to: Dr. Alexander R. Lind, Professor and Chairman, Department of Physiology, St. Louis University School of Medicine, St. Louis University Medical Center, 1402 South Grand, St. Louis, Mo. 63104. An Equal Opportunity/Affirmative Action Employer, M/F/H.

POSTDOCTORAL POSITION available immediately to study physiological interactions between spirochetes, other bacteria, and animal hosts. Background in microbiology and biochemistry is desired. Send curriculum vitae and names and addresses of three references to: E. Canale-Parola, Department of Microbiology, University of Massachusetts, Amherst, Mass. 01003. An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL RESEARCH ASSOCIATE position. Available immediately or July 1981 to study structure interaction and reconstitution of hormone-sensitive adenylate cyclase components. Strong background in protein purification helpful but not required. Send résumé to: Dr. S. N. Nayfeh, Department of Biochemistry, School of Medicine, University of North Carolina, Chapel Hill, N.C. 27514. Equal Opportunity/Affirmative Action Employer.

RESEARCH ASSISTANT PROFESSOR OF MICROBIOLOGY

Nontenure position open for virologist/molecular biologist (2 to 5 years of postdoctoral) to do research and training in virology, cell biology, membrane biochemistry. Active research, graduate, and postdoctoral training programs. Send résumé to: Chairman, Department of Microbiology, University of Virginia School of Medicine, Charlottesville, Va. 22908. An Equal Opportunity/Affirmative Action Employer

POSITIONS OPEN

Ph.D. required for **POSTDOCTORAL RESEARCH**. Expertise in the biology and chemistry of connective tissue required. Ability to work independently and supervise two persons. Salary: \$17,000. Applicants send résumé to: Connecticut Job Service, 90 Washington Street, Hartford, Conn. 06106. Refer to job order number 200591.

An Equal Opportunity/Affirmative Action Employer

POSTDOCTORAL RESEARCH ASSOCIATE

Individual with knowledge and proven ability in ultrastructural techniques, including immunological methods, to work in close collaboration with laboratory group involved in studying the developmental biology and chemistry of extracellular matrix and basal lamina materials. Applicant should have at least 2 years of applicable postdoctoral research experience.

Technical assistance available. Salary depending on experience. Send curriculum vitae, reprints, and recommendation letters to:

Merton Bernfield, M.D., Department of Pediatrics, Stanford Medical Center, Stanford, Calif. 94305.

Opening in the Dermatology Research Unit for one full- and one part-time **POSTGRADUATE RESEARCH BIOCHEMIST**, 1 July 1981 through 31 March 1983. Applicants need a strong background in biochemistry and immunology of epidermal proteins. Applications to: Dr. William L. Epstein, Room 1092 HSE, University of California, San Francisco, Calif. 94143. An Equal Opportunity/Affirmative Action Employer.

PROFESSIONAL TECHNICIAN II/CRYOGENIC TECHNICIAN. Install, operate, and maintain helium liquefier. Assist in laboratory studies of ³He, ⁴He, and mixtures. Salary in range of \$17,500 per year. Send résumé and three references to: Dr. R. B. Hallock, Hasbrouck Laboratory, University of Massachusetts, Amherst, Mass. 01003. An Affirmative Action/Equal Opportunity Employer.

The Department of Medicine at Harvard Medical School and the Sidney Farber Cancer Institute are jointly seeking to fill a position of **PROFESSOR OF MEDICINE**. The person to be appointed is expected to conduct basic innovative research in the area of tumor virology, as well as to have credentials in general medicine and medical oncology. Both the Harvard Medical School and the Sidney Farber Cancer Institute are Equal Opportunity/Affirmative Action Employers. Applicants should send their curriculum vitae to: Dr. Thomas L. Benjamin, Department of Pathology, Harvard Medical School, 25 Shattuck Street, Boston, Mass. 02115.

University of California
Cooperative Extension

PROGRAM DIRECTOR—PEST MANAGEMENT Location: Berkeley, Davis, or Riverside Campus

Career position open to manage and coordinate off-campus education and research programs in the pest management disciplines: entomology, plant pathology, nematology, weed science. Cooperate with campus departments and Extension staff. Responsible for budget, plans, goals. Assure Affirmative Action in programs. Ph.D. plus experience preferred or equivalent training and competence. Contact: Cooperative Extension Personnel, 331 University Hall, University of California, Berkeley, Calif. 94720. Closes: 29 May 1981. Refer to Number 8107.

Affirmative Action/Equal Opportunity
Employer, F/M/H

International Genetic Engineering, Inc. (INGENE), a biotechnology, research-oriented company located in Los Angeles, seeks highly qualified **RESEARCH SCIENTISTS** and **TECHNICIANS**. Candidates for research scientist positions should have a Ph.D. and a minimum of 2 years of postdoctoral research experience, preferably in the area of recombinant DNA research. Experience in industrial pharmaceutical research and the formulation of proteins obtained by gene cloning is also desired. Candidates for the technician positions should have a B.S. degree and a minimum of 2 years of microbiological or biochemical research experience.

Please send résumé and a list of three references to:

INGENE
International Genetic Engineering, Inc.
P.O. Box 71491, Arco Plaza
Los Angeles, California 90071



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men and women



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RESEARCH SCIENTIST, INSECT PATHOLOGIST MYCOLOGY SECTION

Salary: \$21,445 — \$39,889
Ref. No.: 81-NCRSO-DOE-3

Environment Canada
Canadian Forestry Service
Sault Ste. Marie, Ontario

The Forest Management Institute of the Canadian Forestry Service has a requirement for a Research Scientist in the Insect Pathology, Mycology Section.

The successful candidate will conduct laboratory and field research on interactions of *Entomophthora* species on insect populations; will study the development of fungal pathogens during all life stages of the host(s) and will participate with other scientists in the development of entomogenous fungi as biological control agents for forestry use.

Qualifications

Graduation with a doctoral degree in biology with specialization in entomology and insect pathology. A masters degree is acceptable if it is coupled with research experience equivalent to that required for a doctoral degree. Experience is required in original research related to fungal diseases of insects particularly as this relates to fungal/insect epizootiology.

Knowledge of English is essential.

Clearance No.: 401-002-056

Additional job information is available by writing to the address below;

Toute information relative à ce concours est disponible en français et peut être obtenue en écrivant à l'adresse suivante:

How to apply

Send your application form and/or résumé to:

Mr. K.E. Lewis
National Capital Region Staffing Office
Public Service Commission of Canada
300 Laurier Avenue West
Ottawa, Ontario K1A 0M7
Closing date: May 30, 1981

Please quote the applicable reference number at all times.

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POSITIONS OPEN

PROTEIN CHEMIST FOR AUTOMATED SEQUENCING

A position is available immediately at the Hospital for Sick Children, Toronto. The successful candidate must be able to run an independent research program and provide a sequencing service to colleagues on a collaborative basis. Qualifications must be adequate for appointment as assistant professor at the University of Toronto. Initial salary: \$25,000 to \$30,000. Applicants should send curriculum vitae and names of three references to: **Dr. D. M. Goldberg, Head of Department of Biochemistry, Research Institute, Hospital for Sick Children, Toronto, Ontario, Canada M5G 1X8.**

RESEARCH ASSOCIATE, Department of Biochemistry, Louisiana State University (LSU) Medical Center, New Orleans, La. Applicants should have a working knowledge of cell culture techniques and animal virology. The individual will work with members of the department with their research. A master's degree or equivalent experience. Starting salary is \$19,000. The position is available after 1 June 1981. Required résumé and names of three references should be sent to the following: **Robert Roskoski, Jr., Head, Department of Biochemistry, LSU Medical Center, New Orleans, La. 70112.** An Affirmative Action/Equal Opportunity Employer.

RESEARCH ASSOCIATE IN IMMUNOBIOLOGY. Two years, Ph.D. or M.S. degree in immunology or microbiology. Immediate opening. Research involves ongoing program on histocompatibility immune response genes in chickens as related to disease resistance. Knowledge of modern immunological techniques required with good biochemical background. Salary: \$13,000 to \$16,000. Send curriculum vitae and two letters of reference to: **Dr. A. W. Nordskog, Department of Animal Science, 201 Kildee Hall, Iowa State University, Ames, Iowa 50011.** Iowa State University is an Equal Opportunity/Affirmative Action Employer.

The Cleveland Clinic Foundation has a position available for a **RESEARCH FELLOW** in the Department of Cardiovascular Research. The fellow will be engaged in biochemical/pharmacological studies of angiotensin II and related compounds, with specific emphasis on possible nuclear localization and protein synthetic pathways. The position will require familiarity with biochemical laboratory equipment and analytical devices. Normal working hours 8:30 a.m. to 5:30 p.m. weekdays in the Research Laboratories of the Foundation. Minimum of bachelor's degree required. Stipend: \$15,000 per year. Contact: **John R. Irwin, The Cleveland Clinic Foundation, 9500 Euclid Avenue, Cleveland, Ohio 44106.** Telephone: 216-444-2342. An Equal Opportunity Employer.

RESEARCH PHARMACOKINETICIST

Applicants are invited from pharmaceutical scientists with experience in pharmacokinetics for a full-time research position in the Center for Molecular Medicine of The Oklahoma College of Osteopathic Medicine and Surgery. Duties will include establishing a pharmacokinetics research laboratory which will participate in a multidisciplinary research program in human metabolism, metabolic diseases, aging, and alcoholism. Applicants must have a Ph.D. degree in a pharmaceutical science and have demonstrated productivity in pharmaceutical science and in pharmacokinetics research. Preference will be given to those applicants with experience in human studies. Send résumé and a statement of career goals to: **Search Committee, Center for Molecular Medicine, Office of Research and Development, The Oklahoma College of Osteopathic Medicine and Surgery, P.O. Box 2280, Tulsa, Oklahoma 74101.** An Affirmative Action/Equal Opportunity Employer.

SWISS INSTITUTE FOR EXPERIMENTAL CANCER RESEARCH, LAUSANNE

Applications are solicited for a position of

SENIOR IMMUNOLOGIST

which will be vacant in January 1983.

Candidates should have experience in cellular immunology. The successful applicant is expected to build up and lead a small research group, to develop new experimental approaches, and to collaborate with other researchers in the department of immunology and in the institute. No regular teaching obligations are involved in this position.

Applications should reach: **Dr. Bernhard Hirt, Directeur, ISREC, 1066-Epalinges, Switzerland, by 31 May 1981.**

POSITIONS OPEN

RESEARCH ASSISTANT to work in area of lipids and mammalian biological membranes. Some experience in enzyme purification or enzyme activity estimations useful. Send résumé to:

Dr. J. N. Kanfer
Department of Biochemistry
Faculty of Medicine
University of Manitoba
770 Bannatyne Avenue
Winnipeg, Manitoba, Canada R3E 0W3

The Sidney Farber Cancer Institute, an affiliate of the Harvard Medical School, is seeking to fill **THREE RESEARCH POSITIONS** at the **ASSISTANT PROFESSOR** level. Candidates should be prepared to develop independent research programs in a basic science area ultimately relevant to cancer. Applicants should send curriculum vitae and bibliography, including a short description of research interests and the names of three references, to: **Dr. Barbara H. Sanford, Director of Research, SIDNEY FARBER CANCER INSTITUTE, 44 Binney Street, Boston, Massachusetts 02115.** An Affirmative Action/Equal Opportunity Employer.

SENIOR RESEARCH IMMUNOLOGIST/TISSUE CULTURE SPECIALIST

The BBL Microbiology Systems, Becton Dickinson, seeks an experienced Ph.D.-level virologist, immunologist, or biochemist to join our research and development department. The position requires in-depth knowledge and experience in tissue culture technology, in vitro growth of viruses and microorganisms, and isolation, purification, and characterization of cell surface or viral antigens. Applicants should be familiar and experienced with hybridoma technology and immunoassays.

Under limited direction of the manager, the individual will be responsible for planning and conducting major R & D projects leading to new and improved immunodiagnostic products.

We offer competitive salaries and benefits including, but not limited to, hospitalization and dental insurance, savings incentive plan, and free parking! For consideration, send your résumé, inclusive of salary requirements, to:

BBL Microbiology Systems
c/o Steve Feldman
P.O. Box 243
Cockeysville, Maryland 21030

Equal Opportunity/Affirmative Action Employer

THEORETICAL COMMUNITY ECOLOGIST/OR-NITHOLOGIST. The Department of Zoology of the University of Tennessee, Knoxville, is seeking candidates for a tenure-track position effective 1 January 1982. Responsibilities will include teaching ornithology, participation in the department's ecology curriculum, and developing a graduate-level course in community ecology. The successful candidate must establish and maintain a high-quality research program. Affiliation with the University of Tennessee Graduate Program in Ecology is available. The position will be filled at the assistant or associate professor level with salary dependent upon qualifications. Candidates are expected to have had at least 1 year of postdoctoral research or teaching and research experience. Curriculum vitae and three letters of recommendation should be sent by 31 July to: **Dr. Susan E. Riechert, Department of Zoology, University of Tennessee, Knoxville, Tennessee 37916.** An Affirmative Action/Equal Opportunity Employer.

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP. Multidisciplinary research on gastric mucosal ion transport and isolated surface cells. Biophysical and/or cellular physiological and/or biochemical background highly desirable. Applicant should have Ph.D. or M.D. degree and hold a permanent visa if not a citizen of the United States. Competitive salary and benefits. Fellows will be appointed for 1 or 2 years with option for longer renewal.

We are an Equal Opportunity/Affirmative Action Employer. Letter of interest with curriculum vitae and names of two references should be sent by 30 June 1981 to:

David Fromm, M.D., Professor and Chairman
Department of Surgery
State University of New York—
Upstate Medical Center
750 East Adams Street
Syracuse, New York 13210

FELLOWSHIPS

PRE- AND POSTDOCTORAL FELLOWSHIPS now available for training in radiation research. Research areas include physics, biochemistry, or molecular biology. Send curriculum vitae and letter stating career goals to: **Dr. Raymond Meyn, The University of Texas System Cancer Center, M. D. Anderson Hospital, Department of Physics, 6723 Bertner Avenue, Houston, Texas 77030.**

GEORGE S. WISE POSTDOCTORAL FELLOWSHIPS

The George S. Wise Faculty of Life Sciences at Tel Aviv University offers postdoctoral fellowships, commencing 1 October 1981, in basic and applied biology.

The faculty is engaged in various research areas such as anatomy, taxonomy, and physiology of plants; anatomy, sociobiology, and physiology of animals; marine biology; cellular and molecular biology and genetics; lipid and protein research; bioenergetics; neurobiochemistry; immunology; virology, biotechnology, and nature preservation.

Applications should be sent to: **Dean, The George S. Wise Faculty of Life Sciences, Tel Aviv University, Tel Aviv, Israel.** They should indicate the area of interest of the applicant and contain complete curriculum vitae, list of publications, and names of three references.

POSTDOCTORAL FELLOWSHIP—CELL BIOLOGY

Postdoctoral fellowship available at the Ocular Surface Laboratory at the Massachusetts Eye and Ear Infirmary, starting 1 July 1982 for 2 years. Fellow will assist in clinical and laboratory studies of corneal and conjunctival epithelial growth and differentiation. Specific activities to include development of tissue culture of ocular surface epithelium for use in transplantation studies, and biochemical and morphological evaluation of same. Familiarity with basic cell biology techniques desirable. Salary: \$13,500 to \$17,000. Send curriculum vitae and two references to: **Richard A. Thoft, M.D., Associate Professor of Ophthalmology, Harvard Medical School, Massachusetts Eye and Ear Infirmary, 243 Charles Street, Boston, Mass. 02114.**

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SYMPOSIUM

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DEAN
SCHOOL OF PUBLIC HEALTH

The University of California at Berkeley invites applications/nominations for the position of **Dean of the School of Public Health**.

The School is responsible for instruction and training in public health on both the Berkeley and San Francisco campuses of the University. The School, located on the Berkeley campus, is comprised of two departments: Biomedical and Environmental Health Sciences and Social and Administrative Health Sciences, which offer nearly a dozen curricular areas of specialization. More than 400 graduate students are enrolled in programs for the professional degrees, M.P.H. and Dr.P.H., academic degrees that lead to the M.A., M.S., and Ph.D. degrees, and joint degree programs with other departments and schools.

Among the qualifications that are sought in the person to be appointed are notable accomplishment in health sciences and a level of professional scholarship that warrants appointment to the full professorship at Berkeley, a successful experience in academic administration, evidence of a perception of the needs and directions of the field of public health in general, and of a School of Public Health in particular. Thus the dean will be closely involved in curricular developments in the School not only as it relates to a campus with no medical school (Berkeley), but also as it relates to the University's medical center campus (San Francisco). Active encouragement of research and of programs to meet community and societal needs, coordination, and promotion of the School's programs jointly administered with other educational units on the Berkeley campus are integral to a successful tenure as dean.

Nominations or applications must be received by 15 June 1981. Detailed curriculum vitae, a list of three to five professional references, and a general statement giving one's ideas on education for public health should be sent to: **Dean of Public Health Search Committee, Office of the Provost-Professional Schools and Colleges, 200 California Hall, University of California, Berkeley, Calif. 94720.**

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

INTERNATIONAL HEALTH CARE OPPORTUNITIES

Geneticist Virologist SR. Biochemist

The Laboratory at the King Faisal Specialist Hospital and Research Centre is undergoing an expansion program. Managed by the Hospital Corporation of America group, this modern 250-bed specialty referral facility is located in Riyadh, the capital of Saudi Arabia.

The following positions are available now:

Geneticist—Requires a Ph.D. in Biological science with a special emphasis on cell biology and genetics; 3-5 years experience in Applied Genetics obtained in a Clinical laboratory, including special techniques/routine Karyotyping including banding and interpretations of peripheral Lymphocyte cultures. Will consider candidates with MSc in biological science and same clinical background comprising 5-7 years of experience.

Virologist—Requires Ph.D. in biological science with special emphasis on virology and with 3-5 years experience in Clinical Virology. Will consider candidates with MSc in biological science and 5-7 years of experience in Clinical Virology.

Senior Biochemist—Ph.D. in Clinical Chemistry/Biology research experience at university level required; a minimum of at least five years clinical lab experience (supervisor level or above desired); blood background in biochemistry; clinical chemistry and instrumentation is essential.

Compensation and benefits are excellent and include furnished lodging, free transportation, bonus pay and leave, 30 days paid annual vacation, and more. Twenty-four month commitment.

If you would like to become a part of this dynamic, multinational team, we'd like to hear from you. Please send professional resume to: Steve H. Ludlam, Senior International Representative, Hospital Corporation International, One Park Plaza, Nashville, Tennessee 37202. An Equal Opportunity Employer.

**HOSPITAL
CORPORATION
INTERNATIONAL**

BOTANIST RANGE MANAGER

To work just outside Bakersfield, California and serve as investigator on endangered species program. We need an advanced degree and experience in practical applied programs to conduct botanical research and studies on habitat restoration for endangered species. If you have the potential to develop the habitat restoration plan, and have additional skills in areas such as:

- Radiation Ecology
- Statistics
- Computers
- Program Development

this is for you! Supervisory capabilities and good communication skills are required. This is a position where you can utilize your talents to develop a significant program. We need someone with 3-5 years field/lab experience and a take-charge attitude! Good salary and excellent benefits accompany this position. If interested, contact:

Betty White
Personnel Administrator



EG&G

Energy Measurements Group

**130 Robin Hill Road
Goleta, Ca. 93117**

U.S. Citizenship Required
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Yale University

invites applications and nominations
for the post of

DEAN School of Forestry and Environmental Studies

As leader of the faculty of this graduate level school, the Dean is responsible for policy, administration, development of research programs, and the training of students working toward master's and doctor's degrees in forestry, resource management, environmental policy and general ecology. The Dean should help to strengthen existing joint programs with the Law School, the School of Organization and Management and the Department of Epidemiology and Public Health, and should plan enlargement of Forestry's undergraduate teaching in Yale College.

Candidates must have demonstrated outstanding scholarly, administrative or combined skills in fields related to the mission of the school.

The position becomes available July 1, 1982. Nominations and applications, together with supporting documents, should be submitted by September 1, 1981 to: Prof. Arthur W. Galston, Chairman, Dean's Search Committee, Yale University, Woodbridge Hall, 105 Wall Street, New Haven, CT 06520. Yale University is an affirmative action, equal opportunity employer.



Yale University

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