

LETTERS

(Continued from page 484)

phenomena fit the mental image of a pattern. It is the pattern in its overall outline which seems to me to be the same in different cultural groups, including our own and other industrial societies. This is also the conclusion drawn in the multinational studies which stemmed in part from the British-American comparisons (5). Given the fact, however, that a pattern is involved, it is open to variable interpretation following "schools of thought." It seems to me that the influence of such "schools of thought" explains historical and regional variations better and is a more logical interpretation of the American and British differences than a basic cultural difference in the definition of insanity. Further, the borderlines and the gray areas of a pattern are undoubtedly troublesome. They invite the "reading into" which reflects the emphasis of one's training in this or that school of thought. This is partly why borderline cases are differentially perceived, as Townsend indicates. It is especially regarding gray area phenomena that effort to standardize and refine diagnostic criteria is needed if the adverse consequences which Townsend points to are to be avoided.

Last, Townsend suggests that I encourage complacency about these issues and that I imply that what is universal is reassuringly "right." In the published version of my article I followed what seemed to me the wise counsel of an editor and removed a final statement of what I consider to be the implications of the research I reported. They were, however, opposite to what Townsend supposes them to be. The main implication I see is that psychosis is an exceedingly serious affliction in all the many places around the world where it is found; it deserves the soundest possible research from as many points of view as can reasonably be seen to lead to humane treatments and ultimately, it is to be hoped, to control and prevention.

JANE M. MURPHY

Department of Behavioral Science,
Harvard School of Public Health,
Boston, Massachusetts 02115

References

1. R. Edgerton, *Am. Anthropol.* 68, 408 (1966).
2. M. Kramer, in *Proceedings of the Third World Congress of Psychiatry, Montreal, 1961* (Univ. of Toronto Press and McGill Univ. Press, Montreal, 1963), vol. 3, p. 153.
3. R. Redick, *Statistical Note 92* (Biometry Branch, National Institute of Mental Health, Bethesda, Md., 1973).
4. N. Meyer, *Statistical Note 97* (Biometry Branch, National Institute of Mental Health, Bethesda, Md., 1973).
5. N. Sartorius, R. Shapiro, M. Kimura, K. Barrett, *Psychol. Med.* 2, 422 (1972).

Personnel Placement

POSITIONS WANTED

Aquatic Biologist. M.S. 1974. Extensive field experience, taxonomy. Writing ability. Seeks position in consulting/resource planning. Box 195, SCIENCE.

Biochemist. Ph.D. 1967. Protein/glycoprotein isolation/characterization, tissue culture, nitroso carcinogen metabolism/interaction with nucleic acid, DNA breakdown. Publications. Seeks position in industry/government/academia. Box 189, SCIENCE. X

Biochemist (Ph.D.), Microbiologist (continuous culture), enzymology pathogenic bacteria, enzyme inhibition, 2 United Nations fellowships, Soviet/Eastern European trainings, antibiotics/fermentation products research/industry. Planning, R & D, patents (industry), academic administrative (university), and editorial experiences (recent treatise on mode of action antimicrobial/anticancer agents). Versatile, innovative person. Interested in antibiotics, biomembranes, cancer chemotherapy, research institute/industry. Editing. Box 190, SCIENCE. X

Biologist. M.A. Management experience in environmental planning. Research experience in ornithology. Six publications; four more in preparation. Seeks planning, teaching, or research position. K. Harrison, 4622 Meadow Lane, South Bend, Indiana 46619. X

Cell/Molecular Biologist. Ph.D. 1970, postdoctoral 3 years, senior investigator at research institute for 4 years; looking for new challenging position research/teaching/administration. Publications, supervisory experience, university teaching 3 years, fellowships. Interests: molecular/genetic mechanisms eukaryotic cell regulation and neoplastic growth. Broad experience training biochemistry, genetics. Strongly feel importance of correlating basic research concepts with university education and industrial development. Box 193, SCIENCE. X

Editor seeks freelance work. Eight years experience both scientific (MESA New York Bight Atlas monograph series) and journalistic (Ohio almanac, baseball book). Contact C. L. Williams, 6 Lakewood Drive, Apartment 2, Asheville, N.C. 28803. Telephone: 704-254-0071. X

Microbial Physiologist. Ph.D. 1972. Interests in microbial ecology, oceanography, methods. Three years postdoctoral. Extensive experience teaching, bench research, quality control, supervisory pharmaceuticals manufacturing. Publications. Seeks permanent teaching/research, industrial, or government position. Available immediately. Box 191, SCIENCE. X

Molecular Biologist. Ph.D. 1970, creative investigator. Experienced in protein purification, enzymology, immunochemistry, virology, tissue culture, animal work and various other molecular biological techniques. Several publications, awards, and recognition. Seeks institutional/industrial position. Box 192, SCIENCE. X

Physical Chemist. Ph.D. 1971. Experienced in spectroscopy, photochemistry, and thermoluminescence dating of ceramics. Desires industrial, academic, government, or institutional employment in these or other suitable fields in the western United States. K. M. Cunningham, Apartment 315, 1315 16th Street, NW, Washington, D.C. 20036. X

Quantitative Ecologist-Wildlife Biologist. Recent Ph.D. desires university teaching/research position. Background in ecology, wildlife, population dynamics, experimental design and analysis, sampling techniques, multivariate methods, computer programming. Box 194, SCIENCE. 4/29; 5/6

POSITIONS OPEN

FACULTY POSITION AVAILABLE: diagnostic radiology. Board certified. Rank and Salary subject to qualifications and experience. Send curriculum vitae, list of publications, and references to **Chairman, Department of Radiology, Wayne State University, School of Medicine, 540 East Canfield Avenue, Detroit, Michigan 48201.**

POSITIONS OPEN

AGRONOMIST

UNIVERSITY OF BRITISH COLUMBIA
Applications are invited from agronomists with specialization in forages for a position starting 1 January 1978. Rank open. Salary competitive. Responsibility for undergraduate and graduate teaching and research in forage production and crop ecology. Ph.D. in agronomy desirable, with proven research experience. Candidates should have an interest in extension work and in community and continuing education. Submit curriculum vitae, transcripts, bibliography, and arrange for three letters of reference to be sent by 1 June 1977 to Dr. V. C. Runeckles, Chairman, Department of Plant Science, Faculty of Agricultural Sciences, University of British Columbia, Vancouver, B.C. V6T 1W5, Canada.

ANATOMISTS

Two positions are available for individuals with demonstrated competence in teaching gross and microscopic anatomy. Excellent working conditions and fringe benefits including a progressive retirement plan. Facilities for research in the college are excellent. Teaching experience desirable but not necessary. Salary and rank negotiable. An *Equal Opportunity/Affirmative Action Employer*. Send curriculum vitae to:

Office of Dean of Research
College of Osteopathic Medicine and Surgery
3200 Grand Avenue
Des Moines, Iowa 50312

ASSISTANT DEAN

The Chicago Medical School seeks an experienced educational administrator with advanced degree in health science discipline to provide academic guidance and counseling for its medical students. The person will also be required to assist students in their interactions with faculty and to supervise other student support services. Send resume and names and addresses of three references to: **Donald F. Pochlyly, M.D., Chairman, Department of Health Sciences Education, University of Health Sciences/The Chicago Medical School, 2020 West Ogden Avenue, Chicago, Illinois 60612.** Applications will be accepted until 15 May 1977. An *Equal Opportunity/Affirmative Action Employer*.

ASSISTANT PROFESSOR. Applications are invited for a faculty position at the assistant professor level to become available 1 July 1977. Candidates with a demonstrated interest in membrane transport and biophysics are desired. Duties will include responsibility for teaching renal physiology in core courses of the department. Interested candidates should send curriculum vitae, reprints, and the names of three references to: **Chairman, Department of Physiology, UNIVERSITY OF WISCONSIN-MADISON, 470 North Charter Street, Madison, Wisconsin 53706.** To receive full consideration applications should be received by 1 June 1977. An *Equal Opportunity Employer. Women and minorities are encouraged to apply.*

1) **ASSISTANT PROFESSOR-Anatomy/Physiology.** September 1977. Must teach two-quarter sequence of anatomy, physiology, and underlying scientific principles to beginning students. Expected to participate in upper level and graduate teaching and to develop personal and student physiological research programs. Requirements: Ph.D., teaching experience and research, preferably comparative and cellular approaches to gastrointestinal or renal physiology. Salary about \$13,000 depending on background. Send curriculum vitae, statement of research plans, and names of three references to: **Chairperson, Physiology Search Committee, Biology Department, Northeastern University, Boston, Mass. 02115.**

2) **SABBATICAL REPLACEMENT-Genetics.** September 1977. Academic year appointment as visiting associate professor or as assistant professor. Must teach one-quarter course in eukaryote and developmental genetics for majors, in both fall and winter quarters. Several options available to supplement salary and provide research facilities for replacement who is also on sabbatical, or to add teaching assignments to constitute full-salaried load. For further information write, sending curriculum vitae and names of three references, to: **Dr. H. O. Wernitz, Chairman, Biology Department, Northeastern University, Boston, Mass. 02115.**

Facilities relevant for both positions include nearby marine station, greenhouse, EM center, departmental computer terminal.

Northeastern is an *Equal Opportunity/Affirmative Action Employer*.

POSITIONS OPEN

ASSISTANT DEAN/STUDENT AFFAIRS DIRECTOR OF CLINICAL MEDICAL EDUCATION DIRECTOR OF CONTINUING MEDICAL EDUCATION

East Tennessee State University invites applications from, and nominations of, qualified individuals for the positions of assistant dean/student affairs, director of clinical medical education, and director of continuing medical education of its developing College of Medicine which is being established in affiliation with the Mountain Home Veterans Administration Hospital and three community hospitals in eastern Tennessee. Letters of application or nomination for these immediate openings should include a curriculum vitae and three personal and professional references.

Candidates should possess a doctoral degree and have skills commensurate with the positions for which they are applying. Previous medical school experience in these or related positions is essential.

Responsibilities will include the planning and development of new programs in addition to assisting the dean, his staff, and the faculty in the overall development of the college.

Correspondence should be received not later than 31 May 1977 and should be addressed to:

Dr. Jack E. Mobley, Dean
East Tennessee State University
College of Medicine
Johnson City, Tennessee 37601

East Tennessee State University offers Equal Opportunity in its employment, admissions, and educational activities and is an Affirmative Action Employer.

ASTROPHYSICS POSITION AT NEW YORK UNIVERSITY

The Physics Department of New York University, in fall 1977, expects to have a faculty position for an astrophysicist. Although the position would normally be at the assistant professor level, it is conceivable that a more senior appointment could be made for a highly qualified individual. While there is a preference for a theoretical astrophysicist, observers with suitable programs should apply. Candidates must be able to conduct research of significance and to contribute strongly in the department's undergraduate teaching program. Applications should be submitted to Professor E. L. Schucking, Chairman of the Search Committee, 4 Washington Place, New York, N.Y. 10003. *New York University is an Equal Opportunity/Affirmative Action Employer.*

BIOLOGY FACULTY

With specialty in microbiology; needed fall 1977. Background in applied microbiology is desired. Earned doctorate required. Will teach sections of general microbiology, bacteriology, and introductory biology. Demonstrated teaching ability, publication, and/or evidence of other scholarly contributions is desired. Send résumé to: Dr. Norman J. Norton, Chairman, Department of Biology, BALL STATE UNIVERSITY, Muncie, Ind. 47306. Applications requested by 20 May 1977. *Ball State practices Equal Opportunity in education and employment.*

CHAIRPERSON, Department of Dermatology. Applications and nominations are invited for the chairmanship of the Department of Dermatology, Emory University School of Medicine. Candidates should be highly qualified and should have a firm commitment to research activities and to undergraduate and graduate medical education. Curriculum vitae and list of publications should be sent to: Dr. Alfred W. Brann, Jr., Professor of Pediatrics and Chairman of the Search Committee, Emory University School of Medicine, 69 Butler Street, Atlanta, Georgia 30303. *An Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITION ENVIRONMENTAL ENGINEERING: opening in water resources engineering at the assistant professor level. Applicants should have a Ph.D. in applied fluid mechanics and be interested in research and graduate teaching in flow phenomena pertinent to water supply, water and wastewater treatment, wastewater discharge, or natural aquatic systems. Send curriculum vitae, references, and pertinent publications to Box 188, SCIENCE. *An Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

ASSISTANT PROFESSOR OF PHARMACOLOGY. University of Kentucky College of Medicine. Applications for a position of assistant professor of pharmacology are invited from candidates whose primary research interests and training are in the areas of cardiovascular and renal pharmacology. Responsibilities include teaching of cardiovascular and renal pharmacology to medical and graduate students and developing a research program. Candidates should have either Ph.D. or an M.D. degree. Inquiries with a curriculum vitae and bibliography should be sent to:

Chairman, Department of Pharmacology
Room MN 524, Medical Science Building
University of Kentucky
Lexington, Kentucky 40506
An Equal Opportunity Employer

MEDICAL RESEARCH COUNCIL, NATIONAL INSTITUTE FOR MEDICAL RESEARCH CELL BIOLOGY

The National Institute for Medical Research is proposing to establish a new Laboratory of Cell Biology and invites applications for the post of **HEAD OF LABORATORY**. Those interested should write giving their views on the scope of the Laboratory to the Director, National Institute for Medical Research, Mill Hill, London NW7 1AA, England.

CHAIRMAN
Department of Anesthesiology
University of Washington School of Medicine.

To serve as chairman of an academic department and chief of anesthesiology at University Hospital. Will develop and be responsible for the academic, research and clinical programs of the Department.

Must qualify for full professorial rank and tenure. Inquiries should be directed to: Carl Eisdorfer, Ph.D., M.D., Chairman, Anesthesiology Search Committee, Department of Psychiatry and Behavioral Sciences, Mailstop: RP-10, School of Medicine, University of Washington, Seattle, Washington 98195.

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

The Department of Radiological Sciences at the University of California, Irvine, invites applications for a **CHIEF OF PEDIATRIC RADIOLOGY** at assistant or associate professor level. Applicants should be Board-certified radiologists with special training in pediatric radiology, preferably at a university medical school, and must be prepared to develop a research program. The post will include responsibility for the clinical operation of the Pediatric Radiology Division and teaching at undergraduate and resident levels.

Applications from all qualified candidates are welcome; minorities and women are encouraged to apply. Applications, which must include a short biography and copies of any publications, should be sent to:

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

Closing date: 31 May 1977.

The Department of Radiological Sciences at the University of California, Irvine, College of Medicine invites applications at assistant professorial level for a **PHYSICIST OR ENGINEER** to join the newly developed **MEDICAL IMAGING TEAM**. Candidates must possess a Ph.D. degree in physics or engineering and have experience in medical imaging research in the fields of both nuclear medicine and computed tomography. They must be able to supply evidence of original and innovative research in the above fields. The successful candidate, in addition to developing a strong research program, supervising graduate students, and teaching in the graduate program in radiological sciences will have hospital responsibilities in the Divisions of Nuclear Medicine and CT Scanning. It should be emphasized that only candidates with extensive experience in medical imaging will be considered for this position. *Applications from all qualified candidates are welcome; minorities and women are encouraged to apply.* Applications, which must include a short biography and copies of any publications, should be sent to:

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

Closing date: 31 May 1977.

MICROBIOLOGICAL RESEARCH ANALYST

MERCK & COMPANY, INC., an acknowledged world leader in specialty chemicals, has an excellent staff opening for a professional with highly-sophisticated skills in the development of microbiological procedures and solid experience with microbiological assays in the antibiotic field. Training in analytical chemistry would be an additional plus.

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The Department of Radiological Sciences at the University of California, College of Medicine, Irvine, invites applications at associate professor or full professor level for the newly created position of **CHIEF OF MEDICAL IMAGING**. Applicants must possess a Ph.D. degree in physics or engineering with extensive postdoctoral research experience in medical imaging problems and proven ability to attract grant funding. The Department of Radiological Sciences places a strong emphasis on ultrasound development and preference will be accorded candidates with special expertise in this area. Applicants must have proven their ability to assemble a productive research team at a senior level and must be outstandingly creative in their own research area. Duties of this position will include assisting the chairman of the department in building a medical imaging team spanning the Divisions of Nuclear Medicine, Ultrasound, and Radiodiagnosis, taking charge of the on-going graduate program in radiological sciences and assuming the position of supervising hospital physicist at the University of California, Irvine, Medical Center, a position which includes supervision and direction of several physicists with patient-care responsibilities in the areas of radiotherapy, nuclear medicine, and diagnostic radiology.

Applications from all qualified candidates are welcome; minorities and women are encouraged to apply. Applications, which must include a short biography and copies of any publications, should be sent to:

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

Closing date: 31 May 1977

POSITIONS OPEN

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PHARMACOLOGIST

For Research and Development Division of East Coast NYSE pharmaceutical company, to test and evaluate new cardiovascular drugs. Candidate should have a Ph.D. degree in pharmacology and 2 years of postdoctoral experience in cardiovascular pharmacology.

Send résumé and salary requirements to:

Box S 1305

810 7th Avenue, New York, N.Y. 10019

An Equal Opportunity Employer, M/F

ASSISTANT PROFESSOR OF PLANT PHYSIOLOGY/BIOCHEMISTRY. Position available 1 September 1977. Ten-month appointment, \$14,506. Ph.D. with competence to teach undergraduate and graduate-level plant physiology; supervise graduate students in plant physiology and biochemistry; and develop strong research program in biochemistry or molecular biology of plants. Prefer individual with research interests relative to problems of plant productivity such as photosynthetic carbon and/or nitrogen metabolism. Send by 15 May curriculum vitae plus three letters of reference to: **Chairman of Search Committee, c/o Dr. James D. Macmillan, Chairman, Department of Biochemistry and Microbiology, Cook College, Rutgers University, New Brunswick, N.J. 08903.** An Equal Opportunity/Affirmative Action Employer.

CANCER EPIDEMIOLOGIST

Opening for January 1978 at assistant professor level for Ph.D., M.D.-M.P.H., or M.D. Dr. P.H. cancer epidemiologist in the University of Wisconsin-Madison, Department of Human Oncology (Wisconsin Clinical Cancer Center). Opportunity to initiate research program in the etiology of cancer, participate in regional registry effort, help develop population-based cancer reporting system, and collaborate in active program in clinical and preclinical cancer research. Possibility for joint appointment in Department of Preventive Medicine. *The University of Wisconsin-Madison is an Equal Opportunity Employer.*

Send curriculum vitae and addresses of three references to:

**Search Chairman
Wisconsin Clinical Cancer Center
Biostatistics Unit
1120 West Johnson Street
Madison, Wisconsin 53715**

ENVIRONMENTAL SCIENCE/BIOLOGY—Teach courses in general and plant biology and environmental science. Teaching experience and forestry background with doctorate preferred. Require person also comfortable participating in the College transdisciplinary general education program which raises value-related questions, focuses on the intellectual and personal development of students, and utilizes a wide variety of teaching-learning processes. Need enthusiastic, flexible person who enjoys teaching students from a wide range of backgrounds within the context of a small, liberal arts, innovative, church-related college. Rank and salary commensurate with qualifications. *Affirmative Action/Equal Opportunity Employer.* Application deadline: 20 May. Send résumé to **Dean Margaret Goddin, Davis-Elkins College, Elkins, West Virginia 26241.**

YALE UNIVERSITY DEPARTMENT OF BIOLOGY

Junior faculty appointment in molecular/cell biology to begin in academic year 1977 or later. Preference will be given to candidates whose Ph.D. and/or postdoctoral research experience has been in the areas of molecular aspects of cell motility, developmental regulatory processes, or membrane biology. Please send curriculum vitae, statement of research interests, and names of references (not letters) to: **Joseph G. Gall, Faculty Search Committee in Molecular/Cell Biology, Kline Biology Tower, Yale University, New Haven, Conn. 06520.** Applications from women and minority scientists are particularly welcome.

INSTRUCTOR

Teaching (25 percent, gross anatomy or neuroanatomy) and research position. Desirable research area: developmental biology as it relates to reproductive physiology and/or organogenesis. Send inquiries with curriculum vitae to: **Dr. M. R. Schweisthal, Department of Anatomy, School of Medicine, East Carolina University, Greenville, N.C. 27834.** East Carolina University is an Equal Opportunity/Affirmative Action Employer.

MARINE GEOLOGIST/GEOPHYSICIST

The National Science Foundation is seeking qualified applicants for appointment to the Position of Program Director at the EP level (\$33,789 to \$43,923 per annum) in the Submarine Geology and Geophysics Program. The position is excepted from the competitive civil service. The program provides support for scientists primarily from academic institutions to pursue fundamental research in submarine geology, geophysics and geochemistry. The selected candidate will carry out program planning, proposal evaluation, administration of research grants, and liaison with other NSF offices and federal agencies. Applicants should have a Ph.D. in one of the earth sciences (preferably geophysics/marine geophysics) or the equivalent in experience. Further qualifications which are highly desirable include:

- (1) field experience in directing marine geological/geophysical research at an academic institution,
- (2) broad familiarity with the academic oceanographic institutions and the federal funding agencies which support them, and
- (3) experience in research administration at the institution and/or federal level.

Those interested in being considered for the position should forward Form 171 by 29 May 1977 to the Division of Personnel and Management, Section III, National Science Foundation, 1800 G Street, N.W. Washington, D.C. 20550. *An Equal Opportunity Employer.*

MICROBIAL GENETICIST

Ph.D. level position for a microbial geneticist in our strain improvement programs.

Degree and experience in microbial genetics with training in population genetics and a strong mathematical background desired.

For further information and consideration, please direct a résumé of your qualifications to: **Manager, Research Personnel, Schering-Plough Corporation, 60 Orange Street, Bloomfield, New Jersey 07003.**

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CORPORATION**

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EXPERIMENTAL BIOLOGISTS

One or more associate or full professorships in regulatory or developmental biology will be available in the School of Life Sciences. Individuals of distinctive achievement and promise are sought to strengthen major existing research and teaching programs. Applicants should submit curriculum vitae, bibliographies, and the names of at least three references to **J. R. Larsen, Director, School of Life Sciences, University of Illinois, Urbana, IL 61801.** The University of Illinois is an Affirmative Action/Equal Opportunity Employer.

METALLURGY-POLYMERS- ANALYTICAL CHEMISTRY- HEMATOLOGY

**Food and Drug Administration
Bureau of Medical Devices and Diagnostic
Products**

Civil Service positions available in Bureau's Laboratory requiring experience in the application of proper techniques to evaluate a wide variety of medical devices and in vitro diagnostic products.

Experience Education: Ph.D. or M.S. with appropriate experience.

Salary: Ranges from \$20,442 to \$28,725.

Send: Résumé or SF-171 (Personal Qualifications Statement) to:

**FDA Bureau of Medical Devices & Diagnostic
Products**

**Attn: Patricia Wharen-Do (HFK-1)
8757 Georgia Avenue
Silver Spring, MD. 20910**

U.S. citizenship required—Equal Opportunity Employer

MICROBIOLOGIST—Project HOPE seeks M.D. or Ph.D. microbiologist for Pathology Department of large teaching hospital in Barbados. Responsible for microbiology and public health lab sections, training of medical students and in-service education. Teaching and supervisory experience necessary. Twelve month assignment. Salary commensurate with experience; full benefits and paid relocation expenses provided. Send résumé to **Personnel Department, Project HOPE, 2233 Wisconsin Avenue, NW, Washington, D.C. 20007.** *Equal Opportunity Employer.*

MOLECULAR GENETICS—The State University of New York, Downstate Medical Center, invites applications for a senior faculty appointment in the Department of Biochemistry. The applicant should be an established investigator working in the area of nucleic acid biochemistry and related areas in molecular biology. The candidate should submit a curriculum vitae, several recent reprints, and a description of future research plans to: **Dr. Alfred Stracher, Chairman, Department of Biochemistry, Downstate Medical Center, 450 Clarkson Avenue, Brooklyn, New York 11203.** *Equal Opportunity/Affirmative Action Employer.*

Department of Pathology seeks a qualified **PATHOLOGIST** for a faculty position at the level of assistant professor. Candidates should have a strong interest in experimental pathology as well as motivation for teaching. The Department has recently moved to spacious and well equipped laboratories in a newly constructed building. Please submit curriculum vitae and letters of reference to: **George P. Studzinski, M.D., Ph.D., Professor and Chairman, Department of Pathology,**

**COLLEGE OF MEDICINE AND
DENTISTRY OF NEW JERSEY
N.J. Medical School
100 Bergen Street
Newark, N.J. 07103**

*An Equal Opportunity
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PHYSIOLOGIST-PHARMACOLOGIST. Ph.D. with evidence of postdoctorate teaching/research in areas of cellular physiology and/or pharmacology, toxicology, endocrinology. Undergraduate teaching in human physiology and/or pharmacology-toxicology. Tenure-track position; 11-month appointment; rank/salary commensurate with qualifications. Pharmacy baccalaureate desirable. *Equal Opportunity Employer.* Send curriculum vitae, publications list, and names of three references to: **Dr. M. H. Malone, Physiology-Pharmacology Unit, School of Pharmacy, University of the Pacific, Stockton, Calif. 95211.**

VETERINARY PATHOLOGIST

The National Cancer Institute is seeking several veterinary pathologists for career Civil Service positions in the Bioassay Program. They will be responsible for providing expertise in pathology for the evaluation of experimental design of long-term carcinogenesis studies and for development of standards of pathology for the evaluation and interpretation of carcinogenic effects in these studies. The positions involve monitoring and evaluating pathology efforts in carcinogenesis studies at various laboratories. Opportunities for collaborative research within the Institute are available. Starting salary will be based upon training and experience and will range from \$24,308-\$31,598 (GS-13) to \$28,725-\$37,347 (GS-14). Board certification in veterinary pathology is desired. Experience in laboratory animal pathology is required and experience in toxicologic or experimental pathology with emphasis on carcinogenesis is desirable.

Please submit Standard Form 171 by May 20, 1977 to:

Mrs. Yvonne DeWald
NCI Personnel Office
**NATIONAL INSTITUTES
OF HEALTH**

Public Health Service
Building 31, Room 3A37
9000 Rockville Pike
Bethesda, Md. 20014

An Equal Opportunity Employer

NEW ZEALAND SENIOR AND POSTDOCTORAL RESEARCH FELLOWSHIPS

The New Zealand National Research Advisory Council invites applications for ten senior and postdoctoral fellowships to be taken up in New Zealand in 1978. The awards will be for scientific research in government departments. A good working knowledge of English is required. There is no restriction regarding nationality of applicants, but successful candidates must meet the requirements of the New Zealand immigration authorities.

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

All emoluments are taxable.

Senior Research Fellowships—Applicants should possess a Ph.D. degree or higher qualification or have a distinguished record of scientific research. The fellowships are intended for research workers who have had professional experience and have published original material. Fellowships are normally for a period of from 9 months to a year. If a fellow's spouse accompanies him/her a grant equivalent to his/her return fare will be paid provided the fellowship is for a term of at least 9 months. If applicable, the employer's contribution to a superannuation scheme will be paid. The emoluments will range from NZ\$13,390 to NZ\$19,649 (14 March 1977) a year. Fellows will also be eligible for the standard Public Service leave entitlements.

Postdoctoral Research Fellowships—Applicants should possess a Ph.D. or equivalent degree. The fellowships are intended for research workers who are recent graduates and may have had some research experience since graduation. Fellowships are normally for a period of from 2 to 3 years. A grant equivalent to return economy class air fare for a fellow and his/her spouse and dependent children will be paid provided they join him/her within 6 months. A grant will also be made toward the cost of transport of personal effects. The emolument will be NZ\$11,343 (14 March 1977) a year.

Application forms and further particulars may be obtained from: **National Research Advisory Council, Box 12240, Wellington North, New Zealand**; **The Senior Scientific Adviser, New Zealand High Commission, New Zealand House, Haymarket, London S.W.1 Y4TQ, England**; from the **New Zealand Embassy, 19 Observatory Circle, NW, Washington D.C. 20008**, from the **New Zealand High Commission, Suite 804, Commonwealth Building, 77 Metcalfe Street, Ottawa, Canada, K1P 5L6**; from the **New Zealand High Commission, Commonwealth Avenue, Canberra 2600, A.C.T., Australia**; from the **New Zealand Embassy, 20-40 Kamiyama-cho Shibuya-ku, Tokyo 150, Japan**; from the **New Zealand Embassy in Athens, Bangkok, Bonn, Brussels, The Hague, Jakarta, Lima, Paris, Rome, Santiago, Seoul, Vienna**; from the **New Zealand Consulate-General in Geneva, Sydney**; from the **New Zealand Commission in Hong Kong**; and from the **Office of the High Commissioner for New Zealand in Kuala Lumpur, and Singapore**.

Applications must reach the Council's office by 1 September 1977. Late or incomplete applications **will not** be accepted.

Institute On Scientific Problems Relevant To Coal Utilization

WEST VIRGINIA UNIVERSITY

MAY 23-25, 1977

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

PROGRAM COMMITTEE

B. R. Cooper (Chairperson)
Physics, WVU
E. K. Diehl, BCR
A. C. Donaldson, Geology/
Geography, WVU
A. F. Galli, ChE., WVU
J. E. Mitchell, Exxon
W. D. Jackson, ERDA
S. Katell, Mineral & Energy
Resources, WVU
P. H. Kydd, Hydrocarbon
Research

W. R. Moore, Chemistry, WVU
N. L. Peterson, Argonne Lab.
H. L. Retcofsky, PERC
W. Rovesti, EPRI
J. R. Schrieff, Physics, PENN
P. Scott, ERDA
M. S. Seehra, Physics, WVU
P. G. Shewmon, Metal Eng.,
OSU
D. K. Stevens, ERDA
F. D. Stevenson
W. E. Wallace, MERC
C. Y. Wen, ChE., WVU
D. E. Woodmansee, G.E. R. & D

FOR FURTHER INFORMATION WRITE:

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

POSITIONS OPEN

POSTDOCTORAL POSITIONS available immediately for studies on structure, metabolism, and permeability of basement membranes. Projects include studies on placental, retinal vessel, and kidney basement membranes from normal and diabetic human and animal tissues. Previous experience in basement membrane, collagen, or glycoprotein biochemistry preferred. Send curriculum vitae and references to **Dr. Elias Meezan, Department of Pharmacology, University of Arizona, College of Medicine, Tucson, Arizona 85724.** The University of Arizona is an Equal Opportunity/Affirmative Action Employer under state and federal laws and regulations, including Title IX, 1972 Educational Amendments.

POSTDOCTORAL POSITION available summer or fall 1977 in NRSA program in environmental pathology. Preference given to recent graduate in molecular biology, nucleic acid biochemistry, or related discipline with interest in molecular mechanisms of cellular toxicity, mutagenesis, or carcinogenesis. Send curriculum vitae and names of three references to **Dr. Joe W. Grisham, Department of Pathology, University of North Carolina, Chapel Hill, N.C. 27514.** Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION in a challenging program involving studies of the mechanism of the amine-assisted degradation of sugars, related interactions, and dehydrations. Available 1 July 1977. For information contact **Milton S. Feather, Department of Biochemistry, 322 Chemistry Building, University of Missouri, Columbia, Missouri 65201.**

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POSTDOCTORAL POSITIONS IN GENETICS. The Department of Genetics has two vacant positions. The first is for one year from 1 September 1977 to work on synthesis of messenger RNA by hybridization techniques under Dr. John A. Hunt. The second will be available from the same date and will be tenable until June 1979 and is for work on screening for inborn errors of metabolism with Dr. Y. E. Hsia. Send copies of curriculum vitae and names of references to **Dr. John A. Hunt by 31 May 1977. John A. Hunt, Chairman, Department of Genetics, John A. Burns School of Medicine, University of Hawaii, 1960 East-West Road, Honolulu, Hawaii 96822.**

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POSTDOCTORAL POSITION: Immediate opening for one year with a possibility of two successive annual renewals for person with strong chemistry/biochemistry background to conduct biophysical studies of plant lectin-cell membrane interactions. Experience in ^{13}C -NMR desirable. Send curriculum vitae (indication of sex and ethnicity for Affirmative Action statistical purposes is requested but not required) and two reference letters by 1 June 1977 to **Dr. A. D. Sherry, The University of Texas at Dallas, P.O. Box 688, Richardson, Texas 75080.** The University of Texas at Dallas is an Affirmative Action/Equal Opportunity Employer.

RESEARCH ENTOMOLOGIST, DECIDUOUS TREE FRUITS

Research position located at the Washington State University Tree Fruit Research Center, Wenatchee, Wash., to serve on a 3-member team of entomologists addressing solutions to short and long term problems facing the tree fruit industry. The Ph.D. is required. Applications will be accepted through 15 May 1977. A more complete position description is available from:

Dr. W. W. Cone
Chairman, Search Committee
Irrigated Agriculture Research and Extension Center
Prosser, Wash. 99350

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RAMAPO COLLEGE OF N.J. TEACHING POSITIONS FALL 1977

#067 Math, Assistant professor. All but dissertation or doctorate, math and 2 years college teaching; teach math, computer courses, assist in remedial program. #068 Biology, Assistant professor. All but dissertation or doctorate and 1 year college teaching. Teach basic biology, marine science, and comparative endocrinology. Ten-month salary: \$13,157 to \$14,473. Send resumes by 9 May 1977 to **Dr. Arthur T. Jacobs, c/o Affirmative Action Office, Ramapo College, 505 Ramapo Valley Road, Mahwah, New Jersey 07430** (refer to position number).

An Affirmative Action/Equal Opportunity/Handicapped Employer. RCNJ is barrier-free.

POSITIONS OPEN

RESEARCH BIOCHEMIST to study the effects of alcohol on nerve and muscle. Applicant should have at least 3 years of postdoctoral experience, preferably in the field of alcohol research. This is an interdisciplinary project in an academic setting with good potential for growth. Please send curriculum vitae, bibliography, and summary of career goals to:

Theodore L. Munsat, M.D., Professor and Chairman
Department of Neurology
Tufts-New England Medical Center
171 Harrison Avenue
Boston, Massachusetts 02111

RESEARCH FACULTY POSITION: Study of formation and structure of fibrin and interaction of fibrin with plasma components, using physical techniques. Work to be done under the direction of Dr. Jan Hermans. Qualifications: Ph.D. in physical chemistry and several years of postdoctoral experience in studies of protein structure. Appointment will be at the rank of research assistant professor, at a 12 month salary of \$15,000, derived from an NIH grant awarded for the period 1 December 1976 through 30 November 1979. Contact by 13 May. Equal Opportunity/Affirmative Action Employer.

Dr. Jan Hermans
Department of Biochemistry
University of North Carolina
Chapel Hill, N.C. 27514

RESEARCH SCIENTIST, M.S., trained in immunology and liquid column and gel chromatography. Program is based on viral diseases of neuromuscular type. Salary up to \$14,000, based upon experience. Location is southern Florida. Send resume of education and experience to **Box 187, SCIENCE.**

RICKETTSIOLOGIST, research associate or postdoctoral fellow with interest and background in basic research on rickettsiae. Our present work involves arthropod vectors and cultured cells and their interaction with rickettsiae as well as the purification and characterization of rickettsial antigens. Send curriculum vitae and references to **Dr. S. Ito, Department of Anatomy, Harvard Medical School (telephone 617-732-1743) or Department of Microbiology, Harvard School of Public Health, Boston, Mass. 02115.**

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A STAFF POSITION in the Department of Psychiatry, Indiana University School of Medicine, is available for a biochemist with research interests in both clinical biochemistry and neurobiology (neurotransmitters, drug actions, and so forth). Applicant should have experience in microanalytical techniques and be willing to participate in a multidisciplinary research program. Send curriculum vitae to **Professor H. C. Hendrie, Chairman, Department of Psychiatry, Institute of Psychiatric Research, Indiana University School of Medicine, Indianapolis, Indiana 46202.** Indiana University is an Equal Opportunity/Affirmative Action Employer.

ASSISTANTSHIPS

ASSISTANTSHIPS for M.S. and Ph.D. candidates in biochemistry are available for June or August. Up to \$5,200 yearly. Apply to: **Director of Admissions, Department of Biochemistry, 322 Chemistry Building, University of Missouri, Columbia, Missouri 65201.**

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FELLOWSHIPS

HYPERTENSION RESEARCH FELLOWSHIPS. Fellowships in hypertension research for 2 years, with option of 1 additional year of clinical training for qualified applicants, are available at the Mayo Clinic and Mayo Graduate School of Medicine beginning July 1977. This NIH funded multidisciplinary program provides research training in hypertension by faculty in nephrology, endocrinology, cardiovascular, clinical pharmacology, pediatrics, biochemistry, and physiology. Applicants should have the M.D. or Ph.D. degree. Degree programs leading to the masters or Ph.D. degrees are available. For further information write to **R. D. Brown, M.D., Director, Multidisciplinary Hypertension Research Training Program, Mayo Clinic, Rochester, Minn. 55901.** An Equal Opportunity/Affirmative Action Institution.

FELLOWSHIPS

POSTDOCTORAL FELLOWSHIP-LIPID BIOCHEMISTRY

Position available for M.D. or Ph.D. for biochemical studies of lipid soluble factors which regulate chloride transport. The research project would at first consist of purification, identification and development of an assay for a newly described chloride transport stimulatory factor, probably an adrenocortical steroid. This research area is a component of a comprehensive NIH-supported training program in membrane biology. Fellowships will be awarded for 2 years; various starting dates are possible. Stipend is \$10,000 to \$11,500 depending upon experience. American citizenship or permanent visa required. For further information send curriculum vitae to **Charles O. Watlington, M.D., Ph.D., Department of Medicine, Medical College of Virginia, Richmond, Virginia 23298.**

POSTDOCTORAL FELLOWSHIP in latent viral infections. Requires a Ph.D. in microbiology or a related field of study. Experience in either DNA or RNA virology and/or nucleic acid chemistry preferred. Available July 1977. Send curriculum vitae and names of three references to: **Dr. William Meinke, Department of Microbiology, College of Medicine, University of Arizona, Tucson, Arizona 85724.** An Equal Opportunity/Affirmative Action Employer under state and federal laws and regulations including Title IX, 1972 Education Amendments.

GRADUATE FELLOWSHIPS

The University of Louisville announces University Fellowships available in the Departments of Anatomy, Biology, Chemical Engineering, Chemistry, English, Interdisciplinary Studies, Microbiology, Pharmacology, Physiology, and Physics beginning in August 1977. The University fellowship carries a stipend of \$4,600 a year plus fee remission. To qualify for admission, applicants should have a cumulative undergraduate grade average of B+ or higher and should have achieved scores on the Graduate Record Examination that are well above the national average. Each prospective candidate should send (i) an official transcript of his/her undergraduate work, (ii) scores on the GRE, and (iii) letters of recommendation from two persons who are well acquainted with his/her academic work. Along with the application for admission to the graduate school, these materials should be sent to:

Office of Admissions
University of Louisville
Louisville, Kentucky 40208

Each applicant should contact the chairperson of each of the above departments notifying them that they have applied for admission to the University and desire to be considered for the fellowship available in their department. Applications for the graduate fellowship must be received by 15 May 1977. The award will be determined and the recipient notified by 1 June 1977. The University of Louisville is an Equal Opportunity/Affirmative Action Employer.

PROGRAMS

JOINT Ph.D. PROGRAM IN THE BIOMEDICAL SCIENCES

Applications are being accepted from students interested in obtaining a Ph.D. degree in the biomedical sciences. Clark University, Worcester Polytechnic Institute, and the Worcester Foundation for Experimental Biology have initiated a joint Ph.D. program in the biomedical sciences for the exceptional, self-motivated student, who is capable of accelerated study. This novel Ph.D. program will accord special consideration to those students who have a clearly defined research objective and have exhibited evidence of prior research achievement. It is expected that all applicants will have a substantial background in the natural sciences so as to enable the initiation of full-fledged research immediately. Specific areas of research include: (i) cellular and molecular biology, with emphasis on membranology, nucleic acids, and virology; (ii) neurobiology and behavioral sciences; (iii) endocrinology and reproductive biology; and (iv) cell senescence, and other aspects of cell biology relating to biological and cellular engineering. A limited number of teaching assistantships are available for the program. For additional information write: **Dr. Ronald B. Luftig, Chairperson, Ph.D. Admissions Committee, Worcester Foundation for Experimental Biology, 222 Maple Avenue, Shrewsbury, Mass. 01545.**

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MARINE BIOLOGISTS Ph.D's

AQUATIC Ecology Research

Battelle's Wm. F. Clapp Laboratories is seeking well qualified individuals for several senior staff positions in marine and estuarine ecological research. You should have a Ph.D., several years of strong track record performance in mission oriented contract research, and experience in benthic ecology, systems ecology, fisheries biology, or physiological ecology. Demonstrated ability in team oriented research activities is required.

You'll be expected to participate in current research projects and play an integral role in developing additional research programs in your own area of expertise.

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To head section responsible for safety evaluation of new drug substances. Should have Ph.D. degree and 5 years' experience in design of protocols, data evaluation, report writing, and FDA requirements.

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J. T. MacLachlan,



Laboratories, Inc.

110 East Hanover Avenue
Cedar Knolls, New Jersey 07927

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Scientist-Ph.D.

Biochemical

Pharmacology

We are seeking a Pharmacologist to fill the position as Scientist in our Biologic Research Department. Qualifications for this position include a Ph.D. Degree in Pharmacology, with significant Biochemical training and orientation. Specific academic and/or industrial experience should include research activities dealing with prostaglandin/cyclic nucleotides and their effect on the cardiovascular system.

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CHEMICAL ENGINEERS PHYSICAL CHEMISTS

Opportunities exist in the Research Laboratories of General Motors Corporation for qualified individuals interested in research and development work in the areas of electrochemical energy conversion, electrodeposition, surface characteristics, and material conservation/resource recovery/recycle processes.

Requirements include Ph.D. in Chemical Engineering, Physical Chemistry, Materials Sciences, or a related discipline; and a background in one or more of the following areas:

- Battery R&D, using computer-controlled test facilities
- Electrodeposition, including interfacial studies of metal and substrate
- Effluent treatment for recycle/recovery of solid and liquid wastes

Send resume to:

Dr. J. L. Hartman, Head
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General Motors Research Laboratories
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