

a bit of editorial zeal could have shortened an expensive book by 200 pages. Despite much good material, the overall quality is well below that of previous proceedings, including the useful volume edited by Larwood six years ago. Series have a way of unchecked self-perpetuation. This one badly needs outside review.

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## Galactic Research

**The Large-Scale Characteristics of the Galaxy.** Papers from a symposium, College Park, Md., June 1978. W. B. BURTON, Ed. Reidel, Boston, 1979. xviii, 612 pp., illus. Cloth, \$73.50; paper, \$38.65. International Astronomical Union Symposium No. 84.

Twenty-five years ago, with the aim of coordinating galactic research, the International Astronomical Union held its first symposium. The present symposium, with 180 participants, demonstrates that the field is still vital and that it has matured. As evidence of maturity, the discussions emphasize the Milky Way as a galaxy, as stellar astronomers now speak of the sun as a star. One observer admits poignantly that the comparison is painful because he is forced to disregard most of the detailed observations of the nucleus of our galaxy.

Our galaxy emerges as a normal spiral (type Sbc), similar to the spiral galaxies of the same type in the Virgo cluster (some 15 to 20 megaparsecs distant). The sun is now thought to be about 8.5 kiloparsecs from the center, rotating with a velocity of 225 kilometers per second.

The major components of our galaxy are the disk, with a mass of about  $8 \times 10^{10}$  solar masses and a density that decreases exponentially with distance from the center; a spheroidal (bulge) component, with a mass comparable to or smaller than that of the disk and a density that decreases as the cube of the distance from the center; and an invisible halo (or dark corona), with a mass of more than ten times that of the disk and a density that decreases as the square of the distance out to a cutoff radius estimated to be in the range 50 to 335 kiloparsecs. In external galaxies, the dark halo is tracked by calculating the gravitational attraction that is required to balance the centrifugal force measured from the rotational velocity of neutral hydro-

gen. For geometric reasons, this is not possible for our own galaxy, and a careful study of high-latitude objects (globular clusters or RR Lyrae stars) and galactic satellites will be necessary to pin down the extent of the halo.

Our nucleus seems relatively quiet and does not contain a dead quasar (that is, a  $10^8$ -solar-mass black hole). Interior to 1.5 kiloparsecs, there is a gas disk or bar tilted by  $22^\circ$  to the plane of the galaxy (a puzzle). In addition to stars, the disk contains hot gas ( $10^6$  K), warm gas ( $10^3$  to  $10^4$  K), and cold clouds ( $10^1$  to  $10^2$  K). The energy balance of these various components is still not understood. There are giant molecular clouds with masses as high as  $3 \times 10^6$  solar masses which, in total, contribute  $3 \times 10^9$  solar masses. Their collapse time is short (only  $3 \times 10^6$  years), and if they all collapsed and made stars they would yield 1000 solar masses of new stars a year. In fact, only 3 solar masses of new stars are made a year, so we have another puzzle.

Beyond 15 kiloparsecs, the disk is warped (like the brim of a Stetson). It is attractive to suppose that it was distorted in a tidal encounter with a nearby companion, but quantitatively it has been difficult to establish that scenario, and so "why the warp" remains another puzzle.

At high latitudes, hydrogen clouds are falling onto our galaxy with velocities approaching 500 kilometers a second. Where they come from is unknown.

Our galaxy is a member of the "local group," which is dominated by it and Andromeda, although the group has at least 28 members. By comparing our galaxy with external galaxies in rich clusters (which have thousands of members), we hope to learn how the environment influences the development of a galaxy.

Should you read the book? Yes, if you are professionally interested in galaxies. (This is not a book for the layperson.) Should you buy the book? You will be buying a lot of relatively short-lived material. A third of the 104 contributions are two pages or less (essentially abstracts), and more than half are less than five pages (with discussions). If only the invited reviews had been included (with perhaps abstracts of the contributed papers published separately), the book would have been smaller and cheaper, and then would have been rated a "best buy."

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## Books Received

**Alternative Development Strategies and Appropriate Technology.** Science Policy for an Equitable World Order. Romesh K. Diwan and Dennis Livingston. Pergamon, New York, 1979. xiv, 258 pp. \$19.50. Pergamon Policy Studies on the New International Economic Order, 30.

**Ammonia.** Committee on Medical and Biologic Effects of Environmental Pollutants, National Research Council, University Park Press, Baltimore, 1979. xvi, 384 pp., illus. Paper, \$22.50.

**The Analysis of Social Interactions.** Methods, Issues, and Illustrations. Robert B. Cairns, Ed. Erlbaum, Hillsdale, N.J., 1979 (distributor, Halsted [Wiley], New York), xii, 244 pp. \$16.50.

**Analytical Methods for Glycerol.** M. R. F. Ashworth with a chapter by A. A. Newman. A. A. Newman, Ed. Academic Press, New York, 1979. xii, 258 pp., illus. \$48.50.

**Analytic Medicine.** Vol. 1, Conventions. Graham Rabey. University Park Press, Baltimore, 1979. vii, 76 pp. illus. \$14.95.

**Analytical Profiles of Drug Substances.** Vol. 8. Klaus Florey and seven others, Eds. Academic Press, New York, 1979. x, 558 pp., illus. \$28.

**Animal Marking.** Recognition Marking of Animals in Research. Papers from a conference, London, July 1977. Bernard Stonehouse, Ed. Macmillan, London, 1978 (U.S. distributor, University Park Press, Baltimore), viii, 258 pp. illus. \$37.50.

**Annual Reports in Medicinal Chemistry.** Vol. 14. Hans-Jürgen Hess, Ed. Academic Press, New York, 1979. x, 358 pp. illus. Paper, \$19.50.

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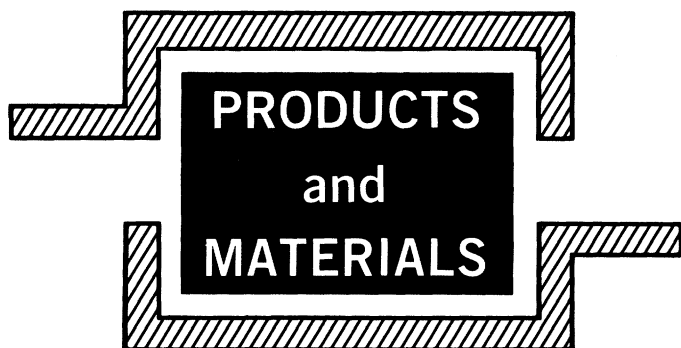
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(Continued on page 1296)



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Bioquant II is a hardware-software system for collection, analysis, and storage of morphometric data. Standard parameters may be determined by tracing an object on a digitizing tablet, and an alphanumeric keypad is provided for point-count stereology. Data may be stored or displayed and manipulated. Hardware includes the Apple II Plus with 64 bytes and dual disk drive, the Hi-pad digitizing tablet, Decwriter IV, and a 9-inch monitor. Software is developed for anatomists, pathologists, and others studying morphology, and custom programming is readily available for individual research needs. R & M Biometrics. Circle 817.

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### Literature

*Fast Kinetics* describes a streak camera applications laboratory for researchers. Hamamatsu. Circle 811.

*Deuterated Compounds for NMR* is a catalog for spectroscopists and chemists. Crescent Chemical. Circle 812.

*Polarography* offers instruments and accessories. Princeton Applied Research, EG & G. Circle 813.

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*BioProducts* features agarose media and accessories for electrophoresis, immunology, and molecular biology. FMC, Marine Colloids Division. Circle 816.

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## BOOKS RECEIVED

(Continued from page 1257)

**Prostate Gland and Seminal Vesicles.** Gerhard Aumüller. Springer-Verlag, New York, 1979. x, 382 pp., illus. \$154. Handbuch der mikroskopischen Anatomie des Menschen, 7. Band, 6. Teil.

**Proteins and Animal Cell Plasma Membranes.** Vol. 2. Donald F. H. Wallach. Eden Press, St. Albans, Vt., 1979 (distributor, Pergamon, New York). xii, 260 pp. \$28. Annual Research Reviews.

**Regulating Hospital Costs.** The Development of Public Policy. David S. Abernethy and David A. Pearson. AUPHA Press, School of Public Health, University of Michigan, Ann Arbor, 1979. xx, 228 pp. Cloth, \$22; paper (10 or more), \$13.95.

**Regulatory Aspects of Carcinogenesis and Food Additives.** The Delaney Clause. Papers from a meeting. Frederick Coulston, Ed. Academic Press, New York, 1979. xxvi, 398 pp. \$24. Ecotoxicology and Environmental Quality, vol. 2.

**Reindeer and Caribou Hunters.** An Archaeological Study. Arthur E. Spiess. Academic Press, New York, 1979. xiv, 314 pp., illus. \$25. Studies in Archaeology.

**Reports on Astronomy.** Edith A. Müller, Ed. Reidel, Boston, 1979. Three parts. viii, 224 pp.; viii, 246 pp.; and viii, 228 pp. Each volume \$29.50. Transactions of the International Astronomical Union, vol. 17A (Reports 1979).

**Research on Steroids.** Vol. 8. Papers from a meeting. A. Klopfer, L. Lerner, H. J. van der Molen, and F. Sciarrà, Eds. Academic Press, New York, 1979. xii, 384 pp., illus. \$32.25. Proceedings of the Sero Symposium, vol. 21.

**Skeletal Musculature in Larval Phases of the Beetle *Epicauta segmenta* (Coleoptera, Meloidae).** Angel Berrios-Ortiz and Richard B. Selander. Junk, The Hague, 1979. vi, 34 pp. + plates. \$26.35. Series Entomologica, vol. 16.

**Social Exchange in Developing Relationships.** Robert L. Burgess and Ted L. Huston, Eds. Academic Press, New York, 1979. xxiv, 422 pp. \$24.

**Societal Growth.** Processes and Implications. Papers from a meeting, San Francisco, Sept. 1978. Amos H. Hawley, Ed. Free Press (Macmillan), New York, and Collier Macmillan, London, 1979. xii, 388 pp. \$16.50. A Publication of the American Sociological Association.

**The Sociology of Science.** Theoretical and Empirical Investigations. Robert K. Merton. Norman W. Storer, Ed. University of Chicago Press, Chicago, 1979. xxxii, 606 pp. Paper, \$8.95. A Phoenix Book. Reprint of the 1973 edition.

**Solar Energy Application in Buildings.** A. A. M. Sayigh, Ed. Academic Press, New York, 1979. xvi, 444 pp., illus. \$42.

**Solitons in Physics.** Papers from a symposium, Göteborg, Sweden, June 1978. Hans Wilhelmsson, Ed. Royal Swedish Academy of Sciences, Stockholm, 1979. vi + pp. 291-562, illus. Paper, Sw. kr. 250. Physica Scripta, vol. 20, No. 3/4.

**Space Flight.** Arthur I. Berman. Anchor/Doubleday, Garden City, N.Y., 1979. xiv, 206 pp., illus. + plates. Paper, \$4.95.

**Special Education and Development.** Perspectives on Young Children with Special Needs. Samuel J. Meisels, Ed. University Park Press, Baltimore, 1979. xii, 324 pp., illus. \$14.95.

**Speech and Language.** Advances in Basic

Research and Practice. Vol. 1. Norman J. Lass, Ed. Academic Press, New York, 1979. xii, 370 pp., illus. \$24.

**Standard Methods for the Analysis of Oils, Fats and Derivatives.** Part 1 (sections 1 and 2). C. Paquot. Pergamon, New York, ed. 6, 1979. xviii, 170 pp. \$18.

**Standard Operating Procedures in Toxicology.** G. E. Paget and R. Thomson, Eds. University Park Press, Baltimore, 1979. xviii, 650 pp. \$39.50.

**Steroid Hormone Receptor Systems.** Proceedings of a symposium, Shrewsbury, Mass., Oct. 1978. Wendell W. Leavitt and James H. Clark, Eds. Plenum, New York, 1979. x, 490 pp., illus. \$45. Advances in Experimental Medicine and Biology, vol. 117.

**Submolecular Biology and Cancer.** In Honour of Albert Szent-Györgyi on the Occasion of His 85th Birthday. Papers from a symposium, London, Sept. 1978. Excerpta Medica, Amsterdam, 1979 (U.S. distributor, Elsevier, New York). x, 350 pp., illus. \$42.50. Ciba Foundation Symposium 67 (new series).

**Surfaces of Normal and Malignant Cells.** Richard O. Hynes, Ed. Wiley-Interscience, New York, 1979. viii, 472 pp., illus. \$65.

**Surgical Review 1.** J. S. P. Lumley and J. L. Craven, Eds. Pitman, London, 1979 (distributor, University Park Press, Baltimore). viii, 408 pp., illus. \$29.95.

**Swimming III.** Proceedings of a symposium, Edmonton, Canada, July 1978. Juris Terauds and E. Wendy Bedingfield, Eds. University Park Press, Baltimore, 1979. xiv, 346 pp., illus. \$32.50. International Series on Sport Sciences, vol. 8.

**The Syrian Hamster in Toxicology and Carcinogenesis Research.** Papers from a symposium, Boston, Nov. 1977. F. Homburger, Ed. Karger, Basel, 1979. x, 440 pp., illus. \$106.25. Progress in Experimental Tumor Research, vol. 24.

**Techniques and Methods of Radio-Astronomic Reception.** N. G. Basov, Ed. Translated from the Russian edition (Moscow, 1977). Consultants Bureau (Plenum), New York, 1979. vi, 150 pp., illus. Paper, \$37.50. Lebedev Physics Institute Series, vol. 93.

**Time and the Earth's Rotation.** Proceedings of a symposium, San Fernando, Spain, May 1978. Dennis D. McCarthy and John D. H. Pilkington, Eds. Reidel, Boston, 1979. xx, 332 pp., illus. Cloth, \$42; paper, \$26.50. International Astronomical Union Symposium No. 82.

**Toward Distant Suns.** T. A. Heppenheimer. Artwork by Don Dixon. Stackpole Books, Harrisburg, Pa., 1979. 256 pp. + plates. \$16.95.

**Transcendental Arguments and Sciences.** Essays in Epistemology. Papers from a symposium, Bielefeld, Germany, July 1977. Peter Bieri, Rolf-P. Horstmann, and Lorenz Krüger, Eds. Reidel, Boston, 1979. viii, 326 pp. Cloth, \$34; paper, \$14.95. Synthese Library, vol. 133.

**Transmission Electron Microscopy of Materials.** Gareth Thomas and Michael J. Goringe. Wiley-Interscience, New York, 1979. xvi, 388 pp., illus. \$24.

**Vocational Rehabilitation of Severely Handicapped Persons.** Contemporary Service Strategies. Papers from a conference, Mt. Hood, Ore., Feb. 1978. G. Thomas Bellamy, Gail O'Connor, and Orv C. Karan, Eds. University Park Press, Baltimore, 1979. xvi, 276 pp., illus. \$14.95.

**Waste Disposal Management and Practice.** John Skitt. Halsted (Wiley), New York, 1979. 216 pp., illus. \$59.95.

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**Biochemist.** Ph.D. 1976. Seeking research position, industry or government. Extensive experience in magnetic resonance spectroscopy, protein purification, biochemical assays, enzyme kinetics. Post-doctoral experience. Publications. Box 143, SCIENCE. X

**Ph.D. 1971, Biochemistry;** enzyme/protein purification, characterization, herpes viruses, antigens-antibodies, 4 years of interferon research. Desires research or development position in industry, government, academia. Box 147, SCIENCE. X

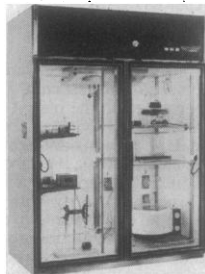
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University of Michigan. The Department of Surgery at the University of Michigan is seeking candidates for a position in **ACADEMIC GENERAL SURGERY**. The candidates should have demonstrated competence in clinical general surgery, teaching, and investigation. The candidates should have completed their residency in general surgery at a university hospital in the United States or Canada and be eligible or certified by the American Board of Surgery. Level instructor thru professor. Reply to: **Box 152, SCIENCE**. A nondiscriminatory, Affirmative Action Employer.

### ASSISTANT PROFESSOR

The University of California, Irvine, Department of Pathology, is recruiting for a faculty position at the assistant professor level. Required: M.D., Board-certified/eligible in clinical pathology. Duties: service and administrative responsibilities in blood banking and cellular immunology, teach medical students and house staff, and research. Send curriculum vitae and references to: **Dr. H. C. Pirkle, Department of Pathology, University of California, Irvine, 101 City Drive South, Orange, California 92678** by 14 July 1980. Affirmative Action Employer.

### ASSISTANT/ASSOCIATE PROFESSOR OF BIOCHEMISTRY

The Department of Biochemistry of the University of Miami invites applications for the tenure-earning position of assistant or associate professor. Applicants should have experience in recombinant DNA techniques, preferably applied to one of the following fields of research: molecular endocrinology, protein processing and membrane proteins, molecular genetics (prokaryotic or eukaryotic).

Applications, including a biographical sketch, a statement of research interests, and the names of at least three referees, should be sent to: **Dr. Rudolf Werner, Chairman of the Search Committee, Department of Biochemistry, University of Miami School of Medicine, P.O. Box 016129, Miami, Florida 33101**.

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**ACADEMIC POSITION** in Department of Pediatrics, University of Michigan. Board-certified. Patient care and teaching in ambulatory pediatrics. Contact: **Dr. Robert C. Kelsch, Department of Pediatrics, University Hospital, Ann Arbor, Michigan 48109**. A nondiscriminatory, Affirmative Action Employer. Code 2300H0.

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Deadline for nominations and application is 31 July 1980. Nominations or application with résumés should be sent to:

**Chairperson  
Assistant Dean Search Committee  
Office of the Associate Dean for Carbondale  
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**VISITING ASSISTANT PROFESSOR OF PHARMACOLOGY**. Applicants must have a Ph.D. degree in pharmacology; the D.V.M. degree is desirable but not essential. Teaching responsibilities will be portions of courses in undergraduate and veterinary medical pharmacology. The individual should be willing to collaborate with other faculty members on research. Salary will be up to \$20,000 for a 12-month period, depending on qualifications. Position available 1 July 1980. Screening begins immediately. Applicants should send curriculum vitae and the names of three references to:

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Permanent, full-time position in **DEPARTMENT OF BIOLOGY**. Approximate 12 to 18 contact-hour load/week. Master of science degree in biology with emphasis in anatomy and physiology required. Preference will be given to those holding or near the doctorate. Background must include microbiology and chemistry. Duties: teach three-course sequence in integrated science to allied health students and occasional sections in freshman biology; provide individual assistance to students; maintain regular communication with Allied Health areas to update course content. Other duties as assigned by the departmental coordinator. Salary: commensurate with qualifications. Opening: 15 August 1980. Contact: **E. A. Myers, Director of Personnel, West Virginia Institute of Technology, Montgomery, West Virginia 25136**. *An Affirmative Action/Equal Opportunity Employer.*

### CHAIRPERSON DEPARTMENT OF BIOCHEMISTRY

The University of Rochester School of Medicine and Dentistry is seeking an individual with an outstanding record of achievement in research and demonstrated abilities in teaching and administration to chair the Department of Biochemistry. The department has a range of scientific interests and activities in medical, graduate, and undergraduate education. Nominations and applications, with curriculum vitae and names of three or more references, should be submitted before 1 August 1980 to: **Dr. Jack Mani-loff, Chairman, Biochemistry Search Committee, University of Rochester Medical Center, Department of Microbiology, Box 672, Rochester, New York 14642**. *An Equal Opportunity Employer, M/F.*

### ST. JUDE CHILDREN'S RESEARCH HOSPITAL IS SEEKING CANDIDATES FOR THE POSITION OF CHAIRMAN, DEPARTMENT OF PHARMACOLOGY

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**Dr. Martin Morrison  
Chairman, Search Committee  
Department of Biochemistry  
St. Jude Children's Research Hospital  
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Memphis, Tennessee 38101**

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Applicants must have an earned Ph.D. and a proven record of scholarship in one of the disciplines of the humanities, sciences or social sciences and nine years experience in higher education combining both teaching and academic administration. Applicants should have demonstrated ability for working in a complex organization, for exercising leadership and for delegating responsibility.

Nominations must be postmarked no later than Monday, June 16, 1980. Completed applications must be postmarked no later than Monday, July 7, 1980.

Nominations and applications should be addressed to:

Dr. Paul Parkison, Chairman  
Search and Screen Committee for  
Dean, College of Sciences and Humanities  
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Applications are invited for the positions of **CHIEF**, Division of Fisheries Research, and **CHIEF**, Division of Oceanography, from scientists who have an established record of personal research achievement and leadership in an appropriate field of science.

CSIRO is Australia's largest and most comprehensive research organization, having approximately 7400 employees of whom 2500 are research and professional scientists. Its broad charter covers research into problems of primary and secondary industries and also such fields of community interest as human nutrition, the environment, and the development and use of natural resources. The organization has recently grouped its research activities in five institutes.

Up to the present, CSIRO's work in marine science has been carried out primarily within the Division of Fisheries and Oceanography, with headquarters at Cronulla, Sydney, N.S.W., and with laboratories also at Cleveland, Queensland, and Marmion, Perth, W.A. The CSIRO Executive has decided recently that, following the retirement of its present chief, D. J. Rochford in August 1980, the division will be reorganized to become the CSIRO Marine Laboratories. These will comprise a Division of Fisheries Research within the Institute of Biological Resources, and a Division of Oceanography within the Institute of Physical Sciences. The two divisions will have headquarters on the site initially at Cronulla. Arrangements are in train for the relocation of the headquarters of the two divisions to Hobart, Tasmania. It is expected that the divisions will move to the new site in 1985, and the Division of Fisheries Research in 1987.

In parallel with this development, CSIRO is proceeding with the procurement of an oceanographic research vessel of the Oceanus Class (54 metres). It will be operated by the Division of Oceanography as a national facility for oceanographic research. The Division of Fisheries Research will have available the chartered research vessel, the "Soela" (52 metres).

When the two divisions come into being in late 1980, it is expected that the research and associated technical staff of the Division of Fisheries Research will be about 80, including some 57 professional scientists. That of the Division of Oceanography will be about 35, including some 23 professional scientists. The two divisions will have the services of about 70 special support and administrative staff.

The objective of the Division of Fisheries Research will be to study population dynamics of commercial and potentially commercial fish especially in the Australian Fishing Zone. The research will include both strategic work and resource-oriented studies.

The objective of the Division of Oceanography will be to conduct physical, chemical, and appropriate biological research aimed at the understanding of oceanographic processes and phenomena.

The salary for each position is negotiable, but will not be less than A\$37,070 per annum.

The chief of a division is responsible for the leadership, development, scientific direction and integration of the research programs of the division, and is encouraged to promote active collaboration with other divisions, industry, and research bodies working in associated areas.

Appointment to the organization is for an indefinite period and carries Commonwealth superannuation privileges subject to normal conditions. The position of chief is offered for a negotiable term of the order of 7 years, followed by a further term, if mutually agreed, or, another senior position in the organization.

M. V. Tracey, AO, FTS, Director of the Institute of Biological Resources (for Fisheries Research), and Dr. J. R. Philip, FAA, FRS, Director of the Institute of Physical Science (for Oceanography), would be pleased to discuss the positions with potential applicants. They would also be pleased to receive advice concerning these appointments from people with a particular interest in them. They may be contacted at the address below.

Applications stating full personal and professional details and names of at least three referees and quoting reference Number A2267 (Fisheries Research) or A2414 (Oceanography) should reach:

**The Secretary (Personnel)  
CSIRO  
P.O. Box 225  
DICKSON, A.C.T. 2602  
AUSTRALIA**

by 31 July 1980.



**SUPERVISORY PHYSICAL SCIENTIST or SUPERVISORY OCEANOGRAPHER:** The Great Lakes Environmental Research Laboratory of National Oceanic and Atmospheric Administration (NOAA) in Ann Arbor, Michigan, is seeking a senior level scientist to manage its Physical Limnology and Meteorology Group. The incumbent will direct a group of scientists, engineers, and technicians involved with research on Great Lakes water movements, temperature, waves and oscillations, and particle dynamics with theoretical and experimental approaches to improve Great Lakes prediction. In addition, the incumbent will participate in directing a Cooperative Research Program with the University of Michigan. This position is in the Competitive Service and may be filled at either the GS-15 or GS-14 level. Entrance level salaries are \$40,832 and \$34,713 per annum, respectively. Future salary adjustments are subject to the Merit Pay System. **QUALIFICATIONS:** B.S. or higher degree in oceanography, meteorology, or the physical sciences. In addition, 3 years of professional experience which has equipped the candidate with the knowledge necessary to perform the above duties. **SELECTIVE FACTORS:** applicants must have experience in a research and development environment and be capable of directing research in the hydrodynamics of ocean, lakes, and the atmosphere, and in numerical prediction and simulation methods. Additional technical information may be obtained from: Dr. Eugene J. Aubert, telephone: 313-668-2245 or FTS 378-2245. **TO APPLY:** current or former federal employees should submit SF-171 and CD-332 (Employee Appraisal). Form CD-332 may be obtained by telephoning: 303-499-1000, extension 5332 or FTS 323-6332. Applicants not employed by the federal government should submit a complete application package for "Physical Science Positions-1300". These forms may be obtained from the nearest Office of Personnel Management (OPM) which was formerly the U.S. Civil Service Commission. **ALL APPLICANTS MUST SUBMIT THEIR PUBLICATIONS RECORD.** All applications should be submitted to: NOAA/NTIA, Personnel Services Division (R566), Attention: L. Stoll, Boulder, Colorado 80303. Reference Vacancy Number NOAA/ERL 80-176. Applications must be received by 15 August 1980 to receive consideration. *An Equal Opportunity Employer.*

## ZOOLOGY MUSEUM DIRECTOR

The Museum of Zoology of the UNIVERSITY OF MICHIGAN seeks a director. Applicants must be distinguished contributors to systematic or evolutionary zoology, working with organisms in one of the museum's six divisions of mollusks, insects, amphibians and reptiles, fish, birds, or mammals.

Application, including curriculum vitae, should be sent to:



**The University of Michigan**

**Richard D. Alexander  
Search Committee  
Museum of Zoology  
Ann Arbor, Mich. 48109**

*The University of Michigan is a non-discriminatory, Affirmative Action Employer.*

## POSITIONS OPEN

**CHAIRPERSON** Department of Horticulture and Landscape Architecture, Washington State University. Appointee to provide leadership and direction in teaching, research, and extension in a large, consolidated department. Qualifications required include: an earned Ph.D. degree in horticulture or closely related field or an M.L.A. degree; research experience; 10 years of experience in teaching, research and/or extension in horticulture or landscape architecture; and demonstrated evidence of leadership, communication skills, and involvement with horticultural industries or professional landscape architecture. For job description, responsibilities, details of qualifications, and application information, write: Dr. Fenton E. Larsen, Department of Horticulture and Landscape Architecture, Washington State University, Pullman, Wash. 99164. Candidate review will begin 15 August 1980, and will continue until a suitable candidate is found. *Washington State University is an Equal Opportunity/Affirmative Action Employer. We encourage women, minorities, handicapped, Vietnam era and disabled veterans, and aged candidates to apply and to identify themselves on their applications.*

### CHAIRPERSON Department of Human Genetics University of Pennsylvania School of Medicine

The Department of Human Genetics includes seven primary and eleven associated faculty and spans the range from molecular to clinical and population genetics. We are looking for a candidate with an international reputation and an active research program, who can bring breadth and leadership capabilities to this vigorous and growing department. Address inquiries to:

**Neal Nathanson, M.D.  
Chairman, Search Committee  
Johnson Pavilion 209  
School of Medicine/G2  
University of Pennsylvania  
Philadelphia, Pennsylvania 19104**

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

Full-time position available for a **CHEMIST** with clinical and research skills in RIA or radio-pharmaceuticals; must also supervise radioisotope safety program of the hospital. Close institutional affiliation with College of Medicine, University of South Florida. The position is in the federal Civil Service. Candidates will be required to qualify for federal appointment. For further information, contact: Personnel Service (05), James A. Haley Veterans Hospital, 13,000 North 30 Street, Tampa, Fla. 33612. Telephone: 813-971-4500, extension 576. *An Equal Opportunity Employer.*

### STATE OF MAINE DIRECTOR, BUREAU OF MARINE SCIENCES

The Department of Marine Resources, Ph.D. or equivalent position at Boothbay Harbor has responsibility for directing all marine research and fisheries management activities, including selection of biological problems to be investigated.

Further details, qualifications, and application materials available from: Maine Department of Personnel, State Office Building, Station Number 4, Augusta, Maine 04333. Telephone: 207-289-2821. Closing date is 16 July.

*Equal Opportunity Employer, M/F*

**DIRECTOR, DIVISION OF INTERDISCIPLINARY TOXICOLOGY.** The Department of Pharmacology and Interdisciplinary Toxicology at the University of Arkansas for Medical Sciences is seeking a director for the Division of Interdisciplinary Toxicology. The director should be a nationally recognized scholar with a record of research productivity in toxicology. The director will be responsible for the operation and continued development of the Division of Interdisciplinary Toxicology, a large and active program currently consisting of 25 interdisciplinary faculty from the University of Arkansas for Medical Sciences and the National Center for Toxicological Research and 15 graduate students. Rank and salary will be commensurate with the background and experience of the applicant. The position is available 1 July 1980. Send nominations and applications with curriculum vitae to: Dr. Donald E. McMillan, Professor and Chairman, Department of Pharmacology and Interdisciplinary Toxicology, University of Arkansas for Medical Sciences, 4301 West Markham Street, Little Rock, Arkansas 72205.

*An Affirmative Action Employer*

## POSITIONS OPEN

**CYTOGENETICIST**, Ph.D., assistant professor, to establish and direct genetic analysis laboratory, in association with a developing tertiary genetic health care facility, and to participate in teaching genetics to medical students. Send letter of application, statement of goals, curriculum vitae, and three or more reference letters by 1 July 1980 to: **Cytogeneticist Search Committee, Division of Human Genetics, Department of Pediatrics, East Carolina University Medical School, Greenville, N.C. 27834.** *An Equal Opportunity/Affirmative Action Employer.*

### CYTOGENETICS TECHNOLOGIST

Excellent opportunity to work in modern laboratory in university setting. Set up, grow, and harvest amniotic fluid and human skin cultures applying banding techniques to perform chromosome and karyotype analyses. Duties will also include supervision of laboratory personnel. Requires a master's degree in life sciences, ASCP-registration, plus 2 years of experience in human tissue cultures, or the equivalent combination of education and experience. Please submit résumé with salary requirements.

**UNIVERSITY OF LOUISVILLE  
Health Sciences Personnel  
525 East Madison  
Louisville, Kentucky 40202  
Telephone: 502-588-5821**

*An Affirmative Action/Equal Opportunity Employer*

**DIRECTOR, CHARLES DARWIN RESEARCH STATION,** Galapagos Islands, Ecuador. To begin 1 January 1981 at \$13,000 per year, including living allowance for spouse and two children; free housing and health insurance provided. Biologist with fluency in English and Spanish preferred. Minimum term of 3 years. Request detailed job description/apply by 15 July: **Secretary General, Charles Darwin Foundation for the Galapagos Isles, Greensted Hall, Ongar, Essex CM5 9LD, England.**

The Scripps Institution of Oceanography, University of California, San Diego (UCSD), invites applications and nominations for the position of **DIRECTOR** of its Marine Physical Laboratory, including a professorship in an appropriate department of UCSD. Candidates should be senior scientists who meet research and teaching standards for a professorial appointment in oceanography, physics, or engineering. Leadership in such fields in relation to ocean research is an essential requirement. Administrative experience and knowledge of Navy research and development needs and activities are desirable. The Marine Physical Laboratory is an academic/research division employing 100. Annual budget is \$3 million in federal contracts and grants, and \$2 million in core state support. Principal research areas include acoustical remote sensing and signal processing, ocean acoustics, sea-floor studies, marine geophysics, and marine technology. Salary range (state-funded) to \$51,000 for 11 months, depending on qualifications. Send curriculum vitae and names of references to: **Director, Mail Code A-010, Scripps Institution of Oceanography, University of California, San Diego, La Jolla, Calif. 92093** by 31 July 1980. *The University of California is an Equal Opportunity/Affirmative Action Employer.*

### ENVIRONMENTAL BIOLOGIST

Biology Department, University of Maine at Farmington, has a 1-year (nontenure) position as instructor to teach courses in environmental biology. Apply to: **Dr. R. L. Martin, Chairman, University of Maine at Farmington, 39 High Street, Farmington, Maine 04938.**

*Equal Opportunity/Affirmative Action Employer*

### EXPERIMENTAL PLASMA PHYSICIST

The Department of Physics and Astronomy, Dartmouth College, invites applications from holders of the Ph.D. for an appointment as assistant professor in experimental plasma physics. The appointee will be expected to participate in the undergraduate and graduate teaching and research of the department, beginning January 1981. Applications, including names of three references, should be sent to: **Chairman, Department of Physics and Astronomy, Dartmouth College, Hanover, N.H. 03755.** Deadline for applications: 1 October 1980. *An Affirmative Action/Equal Opportunity Employer.*

**POSTDOCTORAL RESEARCH FELLOW  
DIVISION OF FISHERIES  
AND OCEANOGRAPHY  
CRONULLA, N.S.W., AUSTRALIA**

CSIRO has a broad charter for research into primary and secondary industry areas. The organization has approximately 7400 employees, 2500 of whom are research and professional scientists, located in divisions and sections throughout Australia. **FIELD:** fisheries biology. **GENERAL:** The division is Australia's principal marine research institution with over 90 scientists investigating the physical, chemical, and biological features including fisheries of the oceans around Australia. Headquarters of the division are at Cronulla, Sydney, with regional laboratories in Perth, Brisbane, and a field laboratory at Kaurumba. On-line access to a Cyber 76 computer is available. Two well-equipped medium-sized chartered vessels are available for oceanographical and fisheries research and there are several smaller CSIRO vessels. (Generous removal and resettlement costs including rental assistance for a reasonable period will be paid.) **DUTIES:** To participate in the development and execution of a research program on marine fish resources in the Australian fishing zone. Initially, attention will be directed to demersal and pelagic resources associated with the continental mass. Field investigation on the division's vessels and on commercial fishing vessels in the open sea will be involved. Temporary posting to other parts of Australia may be required. **QUALIFICATIONS:** A Ph.D. degree or equivalent in one of the ecological sciences or fisheries with training in mathematics and statistics, together with demonstrable research ability, and ability to work at sea. A minimum of 6 years of experience in fish biology research is required. Up to 3 years of thesis research can be substituted, provided the subject matter was suitable and substantial portions of the thesis have been published. **SALARY:** Research scientist/senior research scientist: A\$16,632 to A\$24,162 per annum. **TENURE:** Three- to five-year fixed-term appointment. Government superannuation benefits available. **APPLICATION:** In writing, stating full personal and professional details, the names of at least two referees, and quoting reference number A6356 should reach: The Chief, CSIRO, Division of Fisheries and Oceanography, P.O. Box 21, CRONULLA, N.S.W. 2230, AUSTRALIA by 4 July 1980.

**FELLOWSHIP IN  
TELECOMMUNICATIONS  
RADIO RESEARCH BOARD  
AUSTRALIA**

**GENERAL:** As part of its activities designed to foster research in telecommunications and radio science in the universities and other appropriate organizations, the Radio Research Board has established a fellowship scheme. Under this scheme one fellowship may be awarded each year for full-time research by scientists or engineers of exceptional promise and proven merit. These are postdoctoral awards tenable for a period of 2 years in an Australian university, approved research institute, or industrial laboratory as determined by negotiation between a prospective fellow and the Board. The agreed area of research will also be determined by negotiation but the Board is open to consider any proposal in the broad field of telecommunications and radio science.

**QUALIFICATIONS:** The applicants should have a Ph.D. degree or its equivalent, and be preferably under 30 years of age.

Radio Research Board Fellowships are available to applicants of all nationalities but they are asked to indicate their future plans.

**STIPEND:** A\$17,131 per annum, increased to A\$18,403 per annum at age 28 years. Stipend is subject to income tax.

**ALLOWANCES:** Payable in respect of a fellow's dependent spouse (\$500 per annum) each dependent child (\$200 per annum), "superannuation-like" payments (up to 10 percent of stipend), appropriate insurance coverage, and necessary travel expenses. Host institutions may be paid an allowance toward the cost of supporting the fellow.

**APPLICATIONS:** Persons interested in applying for the above fellowship should obtain application forms and a statement of the conditions from: The Secretary, Radio Research Board, P.O. Box 225, Dickson, A.C.T. 2602, Australia.

Applications close on 18 July 1980, and in the normal course of events candidates may expect to be advised on the outcome of their applications by the end of August 1980.



**BIOMECHANICAL AND  
VEHICLE SAFETY ENGINEERS**

**SENIOR RESEARCH ENGINEER**

Our Bioengineering Department is seeking to add to the staff a senior level bioengineer to promote, develop, and manage biomechanical research programs in the areas of advanced test devices, advanced passenger restraint systems and automotive safety. A PhD in Engineering and experience in promoting and conducting automotive passenger safety research programs, conducting experimental testing and evaluation, and conducting contract research is required. The applicant should have published articles in the field of biomechanics.

**RESEARCH ENGINEER OR SCIENTIST**

Our Department of Vehicle and Traffic Safety has an immediate need for a technical professional to work in the field of automotive research. The successful applicant will have a BS in Engineering or Physics and an interest in developing highly specialized skills in the areas of vehicle safety systems, vehicle occupant restraint systems, passenger vehicle propulsion, driver/strain evaluation, and electric vehicles.

The Institute is a private, not-for-profit engineering and scientific research and development corporation supplying government and private industry with a broad range of applied research and development services. We currently have a permanent staff of 1800 and an annual research budget exceeding \$65 million. Salary for these positions will be based on qualifications. A complete benefits program is available. You are invited to submit your resume in confidence to:

**Personnel Department No. 245  
Southwest Research Institute  
P.O. Drawer 28510  
San Antonio, Texas 78284**

or inquire:  
**Bill Crumlett  
512/684-5111, Ext. 2072**

**SOUTHWEST RESEARCH  
INSTITUTE**

*We Are An Equal Opportunity Employer M/F*

**SAN  
ANTONIO**



**RESEARCH  
MEDICAL OFFICER**

The National Institute of Child Health and Human Development, National Institutes of Health, Public Health Service, Epidemiology and Biometry Research Program, Epidemiology Branch has a career position available for a Research Medical Officer, GS-602-15, (\$46,276 per annum). The incumbent will serve as Chief of the Epidemiology Branch and is responsible for designing, organizing, directing and evaluating a major epidemiological research program consisting of independent and cooperative epidemiological studies relating to fetal loss, infant mortality and morbidity, birth defects and mental retardation, with the ultimate aim of determining the conditions, circumstances, factors and causes contributing to fetal and neonatal death and congenital malformations and abnormalities of human growth and development. The incumbent has the responsibility for the thorough assessment and evaluation of the entire research program and makes decisions concerning the framework, content and scope of the research in this Branch subject only to guidance in the realm of broad program policy.

Applicants for this position must possess an M.D. with a strong administrative background as well as substantive research experience in epidemiology and biomedical research and a working knowledge in one or more of the other disciplines relevant to the research program such as obstetrics, pediatrics, teratology, genetics or other related areas. Since patient care responsibility is not involved, licensure is not a mandatory requirement.

Please send SF-171, C.V. and Bibliography by July 31, 1980 to: Ms. Dee Newlin, Personnel Management Specialist, NICHD Personnel Office, Building 31, Room 2A25, 9000 Rockville Pike, Bethesda, Maryland 20205. An Equal Opportunity Employer.

**NATIONAL INSTITUTES  
OF HEALTH**

## POSITIONS OPEN

### DIRECTOR, SCHOOL OF PHYSICS

Applications and nominations are solicited for the position of director of the School of Physics at the Georgia Institute of Technology, starting September 1980, or as soon thereafter as possible. The department, with 30 faculty members, 10 postdoctoral and research scientists, 55 graduate students, and 200 undergraduate majors, conducts an extensive program of graduate and undergraduate instruction and research. Applicants must have an excellent academic reputation in research and teaching, with some administrative experience, and must qualify for the rank of professor. Curriculum vitae and names of references should be sent to: Dr. H. S. Valk, Chairman, Search Committee, College of Sciences and Liberal Studies, Room 301 Administration Building, Georgia Institute of Technology, Atlanta, Georgia 30332, preferably before 1 August 1980. Telephone: 404-894-3300. Georgia Tech is an Equal Education and Employment Opportunity Institution.

The NEW ENGLAND AQUARIUM, Boston, Massachusetts, seeks to fill the position of **DIRECTOR OF EDUCATION**. The director is the principal administrative officer whose duties include the implementation and direction of educational programs and exhibits for visitors to the Aquarium, including students and the general public. The director of education assists the executive director in administrative and financial matters relative to the department and has administrative responsibilities for a staff of ten. A Ph.D. and/or expertise in biology, research, and teaching preferred. Send résumé to: John H. Prescott, Executive Director, New England Aquarium, Central Wharf, Boston, Massachusetts 02110; telephone: 617-742-8830, by 8 August 1980. The New England Aquarium, a private, nonprofit educational institution, is an Affirmative Action/Equal Opportunity Employer.

### DIRECTOR OF RESEARCH AND TECHNOLOGY

Desire capable scientist to improve and expand existing research program for an established trade association. The industry is concerned with urban, industrial, and public health pests and their efficient management and control.

**Desired background**—Ph.D. in entomology, pest management, or related disciplines; knowledge of household, wood products, stored products, and structural pests, their management and technology related to each; knowledge and understanding of deleterious effects of pests and pesticides upon property, man, and the environment; familiarity with research funding and grant evaluation; ability to analyze research proposals and results, prepare position papers; awareness of association functions and procedures; ability to motivate and work with volunteer leaders and coordinate own efforts with those of other staff members.

**Salary:** negotiable. **Full fringe benefit program.** Growth opportunity with well-established association entering period of dynamic growth expansion.

Send résumé and letter expressing interest to: Selection Committee, National Pest Control Association, 8150 Leesburg Pike, Suite 1100, Vienna, Virginia 22180. NO TELEPHONE CALLS PLEASE.

### ENVIRONMENTAL CHEMIST

One-year appointment, starting September 1980, to replace faculty on leave. Primary teaching responsibilities in addition to environmental chemistry would be in the area of physical or inorganic chemistry. Submit résumé and names of three references to: Professor Nadim Shaath, Chemistry Search Committee, State University of New York College at Purchase, Purchase, New York 10577. An Equal Opportunity/Affirmative Action Employer.

### FACULTY POSITION IN ANATOMY FOR A NEUROANATOMIST

Rank up to associate professor, depending upon the applicant's qualifications. The position requires Ph.D. or M.D. degree, proficiency in teaching neuroanatomy and histology, and proven research productivity in neurobiology. Salary will be commensurate with appointed rank.

Please send complete curriculum vitae and the names of three individuals whom we may contact for reference to: Dr. Anthony J. Schmidt, Chairman, Department of Anatomy, College of Health Sciences, Rush University, 600 South Paulina Street, Chicago, Illinois 60612.

Rush University is an Equal Opportunity/Affirmative Action Employer.

## POSITIONS OPEN

### UNIVERSITY OF OKLAHOMA COLLEGE OF MEDICINE

Applicants are solicited for faculty positions in the following departments:

**ANATOMICAL SCIENCES (Number 238)**—Assistant professor, teaching, lectures, counselling or advising students in the traditional courses in anatomical sciences but primarily in gross anatomy. Ph.D. in anatomy or M.D. in medicine with training in anatomy is mandatory. Teaching experience with students in the various medical and health related fields. **MEDICINE (Number 237)**—Chief of Pulmonary Section, responsible for directing an established training program in pulmonary in the Department of Medicine, University Hospital, and VA Medical Center. M.D.-eligible or certified in pulmonary disease. **PHYSIOLOGY (Number 239)**—Assistant or associate professor, strong research in membrane physiology, renal transport, epithelial transport, and regulation of excitable membranes. Ph.D. or M.D. with 2 years of experience at the postdoctoral level. **PSYCHIATRY (Number 194)**—Clinical assistant/associate professor, clinical evaluator for psychotherapy of depression collaborative study. Ph.D. in clinical psychology. Interest in the measurement of human behavior and in clinical research. (Number 195) **Adjunct assistant/associate professor**, project coordinator for psychotherapy of depression collaborative study, Ph.D. in psychology. Research training and experience.

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

**FACULTY-LEVEL OR POSTDOCTORAL POSITION** in cell and molecular biology of mammalian cells in culture. Gene cloning, gene transfer, somatic cell genetics, tumor biology (ts viral transformants), biochemistry of cell division and of membranes and transport, growth factor mechanisms, bacterial physiology, and plasmid regulation/technology are all aspects of our present research scope for which we seek able collaborator(s) with appropriate prior experience. Competitive salary; sprawling grasslands campus 25 minutes from Manhattan. Address inquiries to: Dr. J. Hochstadt, Department of Microbiology, New York Medical College, Valhalla, N.Y. 10595 or telephone: 914-347-5678.

The Department of Pharmacology of the Medical College of Virginia, Virginia Commonwealth University, invites applications for a **SENIOR LEVEL FACULTY POSITION** in the area of biochemical or molecular pharmacology. Applicants should have a strong record of research productivity and grant support, as well as a commitment to teaching at the professional school and graduate level. Send curriculum vitae and names and addresses of three references to:

Louis S. Harris, Ph.D.  
Chairman and Professor of Pharmacology  
Medical College of Virginia  
MCV Station Box 27  
Richmond, Va. 23298

An Equal Opportunity/Affirmative Action Employer

**HEALTH PHYSICIST.** Professional technical position with statewide emergency preparedness program. Involves research and planning in nuclear civil protection. Qualifications: degree in physical or biological sciences and graduate academic or professional experience in nuclear/radiation field. Salary negotiable, depending upon qualifications and experience. For application and additional information, telephone: 612-296-2923. Forward résumés to: Minnesota Department of Public Safety, Attention: M. J. Anderson, 210 Transportation Building, St. Paul, Minn. 55155. An Equal Opportunity Employer.

**INSTRUCTOR, GENERAL BIOLOGY.** One-year replacement appointment beginning 20 August 1980. To assist professor in charge of audio-tutorial introductory biology courses. Duties include development, setup, and presentation of demonstration laboratory materials, supervision of student teaching assistants, and student contact in recitation and independent sessions. Requirements include master's degree and background suitable to instruction in general biology. Send résumé, transcripts, and three letters of recommendation by 15 July to: Dr. Allen Rogerson, Chairperson, Biology Department, St. Lawrence University, Canton, N.Y. 13617. An Equal Opportunity Affirmative Action Employer.

## POSITIONS OPEN

Position open for **ANATOMIC PATHOLOGIST** at the level of assistant professor, Northwestern Memorial Hospital and Northwestern University School of Medicine, Chicago, Illinois 60611. Competence in autopsy pathology with a special interest in membrane biology. Active research program in basement membrane biology obligatory. *Equal Opportunity/Affirmative Action Employer.* Send replies to: Dante G. Scarpelli, M.D., Ph.D., Northwestern University School of Medicine.

Position open for **IMMUNOLOGIST** at the level of assistant professor, Northwestern Memorial Hospital and Northwestern University School of Medicine, Chicago, Illinois 60611. Competence in cellular immunology with special interest in neoplasia. Active research program in immunoregulation in lymphoproliferative disease of humans obligatory. *Equal Opportunity/Affirmative Action Employer.* Send replies to: Dante G. Scarpelli, M.D., Ph.D., Northwestern University School of Medicine.

**INDUSTRIAL HYGIENIST.** Faculty position. Doctoral degree in industrial hygiene required; aerosol physics experience desired. Participate in nationwide epidemiologic studies on fibrotic and immunologic occupational lung diseases and develop own research interests. Applications with three letters of reference to: Hans Weill, M.D., Pulmonary Diseases Section, Tulane University School of Medicine, 1700 Perdido Street, New Orleans, La. 70112. Deadline: 15 July 1980. *Affirmative Action/Equal Opportunity Employer.*

### INSTRUCTOR IN PATHOLOGY

Applications are invited for an M.D. with training in anatomic pathology and cell genetics to supervise an interdepartmental core facility in quantitative cytology. Experience with flow microfluorescence and knowledge of fluorescence-activated cell sorter and related computer technology is essential. Send curriculum vitae, bibliography, and four letters of reference to: George M. Martin, M.D., Department of Pathology, SM-30, University of Washington, Seattle, Wash. 98195.

*Equal Opportunity/Affirmative Action Employer*

**MOLECULAR GENETICS**—The Department of Microbiology is seeking candidates with strong research backgrounds in fundamental areas of molecular genetics in eucaryotic or procaryotic systems for three appointments as assistant or associate professors. Interested persons should submit complete curriculum vitae, list of publications, brief outline of previous and proposed research directions, and the names of three references who are familiar with the research background and research potential of the candidate to:

Dr. M. J. Osborn  
Department of Microbiology L-2034  
University of Connecticut School of Medicine  
Farmington, Conn. 06032  
*An Equal Opportunity Employer*

### POSTDOCTORAL ASSOCIATE POSITIONS UNIVERSITY OF IOWA

Please contact the appropriate department to express your specific interest:

**ANATOMY**—Dr. Terence H. Williams, Basic Sciences Building. Multidisciplinary research emphasizing the following biological systems: nervous, reproductive and cardiovascular. Projects include neuroplasticity, fertilization, prostrate histopathology, monoamines.

**BIOCHEMISTRY**—Dr. Edward C. Heath. Basic Sciences Building.

**INTERNAL MEDICINE**—Francois M. Abboud, M.D., professor and head, or Darris Goerd, telephone: 319-356-2850. Administrator—openings available in all disciplines in internal medicine.

**MICROBIOLOGY**—Dr. Irving P. Crawford, professor and head. Basic Sciences Building. Research in microbial genetics and physiology, as well as mammalian virology.

**PEDIATRICS**—William V. Aldershof, General Hospital. Research in all subspecialty areas of pediatrics.

**PHYSIOLOGY AND BIOPHYSICS**—Dr. Robert E. Fellows, professor and head, Basic Sciences Building. Research in membrane physiology and biophysics, endocrinology, neurophysiology, and mammalian cell biology.

The College of Medicine, University of Iowa, Iowa City, Iowa 52242, is an Equal Opportunity/Affirmative Action Employer.



#### **PHYSICIAN/SCIENTIST**

**Squibb Institute  
for Medical Research  
Princeton, New Jersey**

We have a challenging opportunity available for an experienced Clinical Pharmacologist to participate in our new drug development programs. The main thrust of our research effort is in the cardiovascular, anti-inflammatory (systemic and topical) and anti-infectious areas. The facilities of a clinical pharmacology unit are available at a local Medical Center for the conduct of human investigation. The position also carries with it the opportunity to work closely with preclinical scientists at all levels.

Candidates are required to have a M.D. degree with 2 years or more of research experience and a strong record of achievement including publication in refereed journals.

The position offers excellent salary, benefits and opportunity for advancement. Please submit C.V. to: **Joseph R. Convery, E.R. Squibb & Sons, Inc., Department MCK, P.O. Box 4000, Princeton, New Jersey 08540.** An Equal Opportunity Employer - M/F/H.

## **WANTED! SCIENTIFIC and TECHNICAL DIRECTOR**

(Senior Executive Service Position)

This position requires, as a minimum, progressively responsible experience (preferably with professional education at the doctoral level) in one or more fields of marine-oriented sciences such as oceanography, geophysics, underwater acoustics, ocean technology, etc. This experience must have involved line management of marine-oriented scientific programs and supervision of professional, scientific and technical personnel at the second and/or higher supervisory levels. Salary Range: \$47,889 to \$50,112.50 per annum.

Send a resume and/or Standard Form 171 (Personal Qualifications Statement) available at your local U.S. Office of Personnel Management (OPM) to:

**U.S. Naval Oceanographic Office  
Civilian Personnel Office  
Code 2100 (DAS), Bldg. 1200: NOO-37(80)  
NSTL Station, Bay St. Louis, MS 39522**

Resumes/SF-171's must be received by 30 June 1980 in order to receive full consideration.

An Equal Opportunity Employer

**The Royal Netherlands Academy of Arts and Sciences invites applications for the post of**

## **DIRECTOR (M/F)**

**of the**

**International Embryological Institute  
Hubrecht Laboratory, Utrecht, Netherlands**

The International Embryological Institute is an interdisciplinary research laboratory for Developmental Biology. The current research programme encompasses studies on the levels of organism, cells and molecules, with emphasis on vertebrate systems.

The Director carries full responsibility both for the research activities and for the administrative and operational support services. The Director is assisted by a Deputy Director and a Laboratory Manager. The institute has a total personnel of about 60 and is well equipped.

Applicants should have an excellent research record in the field of Development Biology, as well as experience in research management.

Appointment will be in the Netherlands Civil Service (salary range D.fl. 8773,-per month, depending upon age and experience).

A full account of qualifications, past career, and experience considered relevant, should be sent to: Dr. D. van der Mei, Director, Royal Netherlands Academy of Arts and Sciences, P.O. Box 19 121, 1000 GC Amsterdam, Netherlands.

The above-mentioned salary is exclusive of the 8% vacation pay.

## POSITIONS OPEN

**NEUROPHYSIOLOGIST.** Nontenure-track position available for 2 or more years. Experience in recording from muscle afferents required, including small myelinated and unmyelinated fibers. Ph.D. not required. Training will be offered in design of experiments for the study of limb position sense, use of computers for data analysis, and evaluation of experimental findings. Starting salary: \$14,000. Contact:

**P. R. Burgess**  
Department of Physiology  
410 Chipeta Way, Research Park  
Salt Lake City, Utah 84108

*The University of Utah is an Equal Opportunity/Affirmative Action Employer. Deadline for applications: 31 July 1980.*

**NEUROPHYSIOLOGIST/BIOENGINEER.** The University of Wisconsin, Madison, Speech Motor Control Laboratories, is interested in hiring a Ph.D. with training and experience in analysis of neuromotor control and biomechanics from a systems physiology perspective to join an established research group studying the neural mechanisms of speech production. Salary is competitive. **J. H. Abbs, Director, Speech Motor Control Laboratories, 1500 Highland Avenue, Madison, Wis. 53706.** *An Equal Opportunity Employer.*

**ORNITHOLOGIST.** Applications are invited for the position of assistant or associate curator in the Department of Ornithology and Mammalogy for appointment on or after 1 September 1980. Responsibilities include chairing the department, maintaining an active research program, and participating in the academy's educational and exhibit programs. Requires a Ph.D., broad systematics background, use of modern approaches. By 1 July, submit a résumé, statement of long-term research goals, and names of three references to: **Dr. William Eschmeyer, Director of Research, California Academy of Sciences, Golden Gate Park, San Francisco, Calif. 94118.**

### PHYSICAL OCEANOGRAPHER: MEMORIAL UNIVERSITY OF NEWFOUNDLAND

The Department of Physics is seeking to fill a regular faculty position in physical oceanography. Applicants should be well-versed in the dynamics of the ocean with experience and strong interest in field work in cold ocean regions. The successful candidate should have a Ph.D. in physical oceanography. His/her primary teaching responsibilities will be in physical oceanography. An M.Sc. program has been established and a Ph.D. program is planned. The program in physical oceanography at Memorial is new and offers the successful applicant an opportunity to participate in the development of this field in a frontier area.

Memorial University is located in St. John's, Newfoundland, has an enrollment of nearly 10,000 students, a faculty of 750, and modern buildings and laboratories. It is rapidly becoming a centre of cold ocean studies related to fisheries and offshore oil and gas development. The university accommodates several activities involved in various aspects of marine science and ocean engineering. These include the Ocean Engineering Group of the Engineering Faculty, the Centre for Cold Ocean Resource Engineering (C-CORE), the Marine Science Research Laboratory, and a recently established Newfoundland Institute for Cold Ocean Science. The Canadian government will build a world-class Arctic Vessel and Marine Research Institute on the campus, scheduled to be fully operational in 1982 under the National Research Council. In addition the St. John's area has many other industrial and governmental activities involved in marine research.

Please submit your résumé to: **Dr. C. W. Cho, Head, Department of Physics, Memorial University of Newfoundland, St. John's, Newfoundland, Canada A1B 3X7.**

**POSTDOCTORAL POSITION** for research on the mechanisms of hypertension involving projects on prostaglandins, control of renin release, and control of aldosterone secretion. Position open 1 July or thereafter; salary starting at \$13,380 or higher, depending on experience. Position available with **Dr. Patrick Mulrow, Chairman, Department of Medicine, Medical College of Ohio.** Send curriculum vitae to: **Dr. John Rapp, Head, Hypertension Training Program, Department of Medicine, Medical College of Ohio, C.S. 10008, Toledo, Ohio 43699.** *An Equal Opportunity Employer, M/F.*

## POSITIONS OPEN

### POSTDOCTORAL POSITION—BIOCHEMISTRY

An NIH Training Grant position is available for a biochemist with experience in protein chemistry and/or enzymology to work on calmodulin using NMR methods. Send résumé and names of three references to: **Dr. Dorr G. Dearborn, Pulmonary Division, Department of Pediatrics, Case Western Reserve University, 2101 Adelbert Road, Cleveland, Ohio 44106.** *An Equal Opportunity Employer.*

### POSTDOCTORAL POSITION

Regulation of prokaryotic DNA topoisomerases. Strong background in enzyme purification and assay required.

**Box 150, SCIENCE**

**POSTDOCTORAL POSITION IN PHYSIOLOGICAL PHYTOPLANKTON ECOLOGY.** Applications are sought for a 2-year postdoctoral position in phytoplankton physiology, available immediately. Candidates will be expected initially to participate in one or more of several ongoing research projects, including studies of phased cell division and rhythms in marine diatoms and a field and laboratory investigation into various aspects of the physiological ecology of *Gonyaulax tamarensis*. Development of new research areas will be encouraged. Send curriculum vitae and names, addresses, and telephone numbers of three references to: **Sallie W. Chisholm, Ralph M. Parsons Laboratory for Water Resources and Hydrodynamics, 48-425, Massachusetts Institute of Technology, Cambridge, Massachusetts 02139.** *An Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL POSITION** in biochemistry for studies on enzymes involved in amino acid synthesis in developing maize endosperm. Strong background in enzyme isolation, purification, and kinetic analysis; 12-month appointment, renewable; beginning September 1980 preferred. Send résumé and three letters of reference to: **Dr. R. R. Henke, The University of Tennessee/DOE Comparative Animal Research Laboratory, Oak Ridge, Tennessee 37830.** *An Equal Opportunity Employer.*

### POSTDOCTORAL POSITION IN PROTEIN NMR

Work as research associate on peptide inhibitor binding to pepsin and other carboxyl proteases. Employ spin labels and F-19 labeled enzyme; 270 MHz FT instrument is used exclusively by our group. Experience in protein chemistry and/or NMR preferred. Send curriculum vitae and three references to: **Dr. Paul G. Schmidt, Oklahoma Medical Research Foundation, 825 Northeast 13 Street, Oklahoma City, Oklahoma 73104.** *Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL POSITION IN PHARMACOKINETICS—**A postdoctoral research position in pharmacokinetics is available about 1 July 1980. Applicants should possess the Ph.D. degree in pharmacy or a related biological field with emphasis in pharmacokinetics (particularly drug metabolism). Experience in the assay of biological samples and related analytical techniques such as HPLC is desirable but not essential. Send curriculum vitae and three letters of recommendation by 1 July to: **James Blanchard, Ph.D., Associate Professor, College of Pharmacy, University of Arizona, Tucson, Ariz. 85721.** *Equal Opportunity/Affirmative Action Employer.*

**POSTDOCTORAL POSITION** available July 1980. Unexpected vacancy in molecular immunology/immunopharmacology program. Emphasis on differences in nucleotide and nucleic acid metabolism in lymphocyte subpopulations. Contact: **Dennis A. Carson, M.D., Research Institute of Scripps Clinic, 10666 North Torrey Pines Road, La Jolla, California 92037.**

**POSTDOCTORAL POSITION** available for studies on the purification and characterization of a template-specific RNA-dependent RNA polymerase found in brome mosaic virus-infected barley leaves (Hardy *et al.*, PNAS 76:4956, 1979). A familiarity with enzyme extraction procedures is desired, and experience with polymerases is preferred. For details, please contact: **Dr. T. C. Hall, Department of Horticulture, University of Wisconsin, Madison, Wis. 53706.**

## POSITIONS OPEN

### POSTDOCTORAL FELLOW

Position available for postdoctoral fellow with Ph.D. in molecular biology/biochemistry. Research will relate to studies of the molecular biology of RNA tumor viruses. Experience in recombinant DNA, restriction enzyme analysis, and nucleic acid sequencing technique preferred. Send résumé and names of three references to:

**Personnel**  
Position Number 1625  
**FREDERICK CANCER RESEARCH CENTER**  
Litton Bionetics, Inc.  
P.O. Box B  
Frederick, Md. 21701

Applications are invited for the position of **PROFESSOR AND HEAD, DEPARTMENT OF BIOCHEMISTRY, DALHOUSIE UNIVERSITY.** Qualified applicants should have a strong commitment to research and teaching, as well as administrative experience and ability to provide strong leadership. Teaching responsibilities include undergraduate and graduate students in the Faculties of Medicine, Dentistry, Health Professions, Arts and Science, and Graduate Studies. Facilities include ample laboratory space in a recently constructed medical building providing excellent opportunity for communication and collaborative research with other departments.

Please send application, including up-to-date curriculum vitae, to: **Dr. S. Salisbury, Chairman, Search Committee for the Head, Department of Biochemistry, Office of the Dean of Medicine, Dalhousie University, Halifax, Nova Scotia, Canada B3H 4H7.**

The Department of Radiology, Medical University of South Carolina (MUSC), is seeking qualified applicants for a position in **RADIATION BIOLOGY** at the instructor or assistant professor level. The qualifications are a Ph.D. in a biological, biochemical, or biophysical science with a molecular orientation and some experience in radiation effects. The person chosen for the position will be engaged primarily in basic and applied research relating to cancer therapy and other associated areas. Some teaching responsibilities for residents in radiology and other fields will be required. The individual chosen for this position will also be responsible for development of the radiation biology section for the Basic Science Division.

The Department of Radiology of MUSC has clinical divisions of Diagnostic and Therapeutic Radiology and Nuclear Medicine and a Basic Radiation Sciences Division includes Physics, Biology, Engineering, and Radiation Safety. Some laboratory space and equipment for biology is available. Present research in this section is development of animal models for radiation and hyperthermia.

Interested persons should contact:

**J. O. Fenn, Ph.D., Director**  
Division of Basic Radiation Sciences  
Department of Radiology  
Medical University of South Carolina  
171 Ashley Avenue  
Charleston, South Carolina 29403  
Telephone: 803-792-3271

*The Medical University of South Carolina is an Equal Opportunity Employer, M/F/H.*

**RESEARCH ASSOCIATE** to investigate immunological response to jellyfish venom/components, isolation, and pharmacology. Experience needed in immunology, biochemistry, or pharmacology. Salary: \$14,500. Send curriculum vitae with references to: **Dr. J. W. Burnett, Division of Dermatology, University of Maryland Medical School, Baltimore, Md. 21201.**

### IMPERIAL CANCER RESEARCH FUND TISSUE/CELL RELATIONSHIPS LABORATORY

**RESEARCH FELLOW** to study control of growth of human normal and dysplastic breast epithelium in monolayer and three-dimensional gel cultures. Areas include cell:cell, cell:substrate, and growth factor interactions; experience in tissue culture and cell growth quantitation would be of advantage.

Appointment will be 3 years. Salary with entry according to qualifications and experience with range of £5792 to £8823.

Further information from: **Dr. Hallows (telephone: 01242 0200, extension 307).** Applications, with curriculum vitae and names of two referees, should be sent to: **The Secretary, Imperial Cancer Research Fund, Lincoln's Inn Fields, London WC2A 3PX, England** by 31 August 1980, quoting reference 216/80.



**JPL**  
**PHYSICAL OCEANOGRAPHER**

The Jet Propulsion Laboratory (JPL) of the California Institute of Technology invites applications for a full-time position in physical oceanography. Candidates are expected to have a Ph.D. in oceanography, experience at sea, and an interest in exploring the usefulness of synthetic aperture radars for studying near-surface circulation, fronts, and internal waves as part of a program applying satellite techniques for study of the oceans. Position level and salary will depend on experience.

Send résumé to: **Professional Staffing Department, CO3,**

**Jet Propulsion Laboratory  
California Institute of Technology  
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**FIRST ANNOUNCEMENT  
A COGENE PRACTICAL COURSE ON  
RECOMBINANT DNA TECHNIQUES  
BENARES HINDU UNIVERSITY  
VARANASI, INDIA  
2 to 22 FEBRUARY 1981**

A practical course on recombinant DNA technology, sponsored by COGENE, will be held from 2 to 22 February 1981 at Benares Hindu University, Varanasi, India. COGENE is the Committee on Genetic Experimentation of the International Council of Scientific Unions, and the course is being organized with the cooperation of Unesco. The topics to be covered include preparation of restriction endonucleases and ligase; preparative and analytical electrophoresis of DNA fragments; growth and preparation of plasmid and bacteriophage vectors; ligation and transfection techniques; selection and mapping of recombinant clones; screening of libraries of mammalian DNA fragments for specific sequences; site-directed mutagenesis in vitro and insertional mutagenesis by bacteriophage Mu and transposons. The laboratory exercises will be complemented by lectures and discussions. The principal instructors for the course will be Dr. A. I. Bukhari, D. J. Sambrook (Cold Spring Harbor Laboratory, N.Y.), and Dr. A. M. Skalka (Roche Institute, Nutley, N.J.). The students, who should hold either a bachelor's degree or a doctorate, must live or work in the Indian subcontinent or a Southeast Asian country. The course will be taught in English and proficiency in that language is essential. Funds are available to help defray the costs of student travel and subsistence.

Inquiries should be directed to, and application forms may be obtained from:

**Dr. M. Chakravorty, Department of Biochemistry, Institute of Medical Sciences, Benares Hindu University, Varanasi-221005, U.P. India, or**

**Dr. W. J. Whelan, P.O. Box 016129, Miami, Florida 33101, or**

**Dr. J. Tooze, EMBO, Postfach 1022.40, 6900 Heidelberg, Federal Republic of Germany.**

The deadline for completed and returned applications is 1 October 1980.

## DIRECTOR, NATIONAL CENTER FOR ANTIBIOTICS ANALYSIS

The Food and Drug Administration's (FDA) Bureau of Drugs has a permanent civil service or Public Health Service (PHS) Commissioned Corps position available for the Director, National Center for Antibiotics Analysis, in Washington, D.C. Responsibilities involve serving as key adviser and directing a multidisciplinary staff of scientific and professional personnel engaged in broad research and testing programs and activities related to antibiotic drugs.

Applicants must have professional experience in directing broad scientific programs; significant research accomplishments in drug technology; demonstrated leadership and managerial abilities in a scientific environment; ability to effectively deal with high-level governmental officials, the scientific/academic communities, national/international organizations, regulated industry representatives, and others; and ability to implement equal employment opportunity programs. It is desirable that applicant has international recognition as an authority in the field of pharmaceutical science and a doctorate in microbiology, chemistry, biology, or a closely related physical, biological, or health science.

Applicants for this position under the Civil Service System are advised that this position has been designated to be in the Senior Executive Service (SES); the selectee will be required to join the SES and serve a 1-year probationary period. Under the SES, the annual salary range is \$47,889 to \$50,112.50. Applicants for this position under the Commissioned Corps are advised that pay and allowances are dependent on rank and years of creditable service. U.S. PHS Commissioned Corps Officers as well as Civil Service candidates are encouraged to apply. Applications will be accepted from all qualified U.S. citizens.

Applicants under Civil Service must send a current complete application for Federal employment (SF-171) to: **FDA, Operational Policy Branch, HFA-440, Parklawn Building, 5600 Fishers Lane, Rockville, Maryland 20857, or telephone: 301-443-3634, Attention: James Keady.** Applicants for the Commissioned Corps may submit a résumé to be considered for this position, but appointment is contingent upon acceptance into the Commissioned Corps. Applicants must provide detailed evidence of possession of each of the experience, knowledge, skill, ability, and other personal characteristic requirements and show how and when they were used (either on the SF-171, a separate attachment, or in the résumé). Applicants will be evaluated on the basis of their abilities, education, relatedness of experience, and career progression. All applications are subject to the Privacy Act and become the property of HEW. *An Equal Opportunity Employer.*

## POSITIONS OPEN

**POSTDOCTORAL RESEARCH ASSOCIATE** position for person with training in endocrinology and animal behavior is available in September. Position involves studying the hormonal control of amphibian sexual behavior. Ph.D. is required. Experience with radioimmunoassay or radioreceptor assay is desirable. Salary is \$12,500. Please send curriculum vitae and have references sent before 15 July to: Frank L. Moore, Department of Zoology, Oregon State University, Corvallis, Oregon 97331. Oregon State University is an Affirmative Action/Equal Opportunity Employer and complies with Section 504 of the Rehabilitation Act of 1973.

**RESEARCH ASSISTANT/ASSOCIATE** with a B.A./M.A. in the biological sciences, required for the Cancer Research Laboratory. Work will involve human and animal tumors, pharmacology, endocrinology, and biochemistry. Salary commensurate with experience, in the range of \$11,000 to \$16,000 per annum. Please send curriculum vitae and references to: Dr. Oliver Alabaster, Suite 624, The George Washington University Medical Center, 2150 Pennsylvania Avenue, NW, Washington, D.C. 20037.

## RESEARCH PHYSICIST

The Department of Physics of the University of California, Irvine, offers a position for an experimental research physicist with at least 5 years of experience in pulse power/plasma physics to work on new accelerator concepts; 1-year appointment can be extended if funds available. Position available 1 July 1980. Send résumé, bibliography, and names of three professional references to: Professor Norman Rostoker, Department of Physics, University of California, Irvine, Irvine, Calif. 92717. University of California is an Affirmative Action/Equal Opportunity Employer.

**SCIENCE WRITER, BIOMEDICAL.** New York City-based national health agency seeks writer with scientific training. Reports, brochures, correspondence, translation of technical material to lay language. Equal Opportunity Employer. Send curriculum vitae to: Box 151, SCIENCE.

## CAPRICORNIA INSTITUTE OF ADVANCED EDUCATION (CIAE) ROCKHAMPTON SENIOR LECTURER/LECTURER IN BIOLOGY

Applications are invited from persons in any relevant discipline area but preference will be given to those capable of teaching in the more applied and practical aspects of their subject.

The department teaches internal and external students across a breadth of courses from UG3 Laboratory Techniques to UG1 Bachelor of Applied Science (Biology) and it is expected that the successful applicant would teach to all levels as appropriate. Current salary scale: senior lecturer: A\$22,842 to A\$26,623 per annum; lecturer: A\$14,673 to A\$22,364 per annum.

Appointments are normally made either on a 2- or 3-year contract with a terminating gratuity equivalent of 15 percent of total salary.

Application forms and information from: The Registrar, CIAE, Rockhampton, Queensland, 4700, Australia, with whom applications close on 7 July 1980.

## SENIOR STAFF ASSOCIATE IN PHARMACOLOGY

The Department of Pharmacology, Columbia University, College of Physicians and Surgeons, seeks applications for the position of senior staff associate in pharmacology. Major skills required are in biochemistry, particularly relating to isolation of cardiac myosin and actomyosin, cation effects on ATPase activity of contractile proteins, fractionation of cardiac microsomes and sarcoplasmic reticulum and studies of calcium transport.

Salary will be commensurate with experience. Candidates should submit curriculum vitae and the names of three references to: Dr. Brian F. Hoffman, Department of Pharmacology, College of Physicians and Surgeons, 630 West 168 Street, New York, N.Y. 10032. Columbia University is an Affirmative Action/Equal Opportunity Employer.

## POSITIONS OPEN

### RESEARCH DIRECTOR

The Center for Environmental Education, a non-profit organization in Washington, D.C., is seeking a research director. The Center's policy-oriented research program focuses on marine habitat issues which affect whales, sea turtles, and seals.

Responsibilities include identification of key issues, preparation and presentation of position papers, staffing, and research program administration and coordination with other Center programs.

The director is expected to work with other environmental organizations, government agencies, industry, and the academic community.

Required skills include policy analysis, research, writing, and speaking.

Qualifications include Ph.D. or equivalent experience, publications, and knowledge of the policy process and marine affairs.

Please submit statement of interest, résumé, and reprints to: Thomas Grooms, Executive Director, Center for Environmental Education, 1925 K Street, NW, Washington, D.C. 20006.

**WILDLIFE ECOLOGIST.** Assistant professor. Teach one course per semester. Wildlife management and population ecology in alternate fall semesters; environmental conservation or ornithology each spring. Expected to develop research program and advise undergraduate and graduate students. This is a 9-month position, with summer salaries dependent upon research grants. Requires Ph.D. in wildlife science, ecology, or closely related area. Application deadline: 10 July 1980 or until suitable applicant is accepted; position available 15 August. Send résumé, transcripts, statement of teaching and research interests, and have three letters of reference sent to: Dr. Lester D. Flake, Search Committee Chairman, Department of Wildlife and Fisheries Sciences, South Dakota State University, Brookings, S.D. 57007. Affirmative Action/Equal Opportunity Employer, F/M.

## COURSE

### SHORT COURSE ON PRACTICE OF LIGHT SCATTERING

28 and 29 June 1980, Institute of Colloid and Surface Science, Clarkson College, Potsdam, New York 13676. Contact: J. P. Kratochvil at this address; telephone: 315-268-2353 or -2389. Tuition fee: \$250.

Emphasis on application of static and dynamic light-scattering techniques to macromolecules and colloids. Instructors: B. Chu, B. R. Jennings, M. Kerker, and J. P. Kratochvil. The course precedes the 10th Northeast Regional Meeting of ACS at Clarkson College, 30 June to 3 July (final program in Chem. & Eng. News, 5 May 1980, p. 51).

## GRADUATE STIPENDS

**GRADUATE STIPENDS**—Department of Veterinary Microbiology, College of Veterinary Medicine, University of Missouri, Columbia, Mo. 65211. Toward M.S. and Ph.D. in virology, bacteriology, parasitology, immunology, epidemiology. Send transcripts and three letters of reference to: Dr. C. A. Carson. The University of Missouri is an Equal Opportunity/Affirmative Action Employer.

## FELLOWSHIPS

**POSTDOCTORAL FELLOWSHIPS IN LIPID AND LIPOPROTEIN RESEARCH:** NIH traineeships are available for the study of lipids, lipoproteins, and atherogenesis. Areas of interest include lipid synthesis, membrane structure and function, lipoprotein assembly, structure and metabolism, and the enzymology of cellular lipid and sterol accumulation. Our training program includes 12 faculty members with expertise in physical biochemistry, biochemistry, molecular biology, cell culture, organ perfusion, and whole animal physiology and pathology. We encourage collaborative projects among postdoctoral trainees and various faculty members. Individuals with a strong interest in gaining research training in the above areas are invited to write to: Dr. George Rothblat, Department of Physiology/Biochemistry, The Medical College of Pennsylvania, 3300 Henry Avenue, Philadelphia, Pa. 19129.

## FELLOWSHIPS

**POSTDOCTORAL POSITIONS** available for well-qualified candidates with a sound knowledge of the biophysical chemistry of proteins to work on calcium-binding proteins, including CALMODULIN. Experience in sedimentation analysis, CD, NMR, and fluorescence useful. Competitive salary and removal expenses offered. Send curriculum vitae with three letters of recommendation to: Professor Rodney S. Roche, Biochemistry Division, Department of Chemistry, University of Calgary, Calgary, Alberta, Canada T2N 1N4.

### POSTDOCTORAL FELLOWSHIP— VIROLOGY/ENZYMOLGY

SYNTEX RESEARCH on the San Francisco peninsula has an opening for a postdoctoral fellow to study herpes viral specific enzymes and specific inhibitors of these enzymes. Candidate should have a strong background in biochemistry/enzymology. The postdoctoral fellow will be part of an interactive group of molecular biologists, immunologists, and chemists involved in the antiviral research program at SYNTEX. Position starts 1 August; salary: \$16,000 plus benefits. Send curriculum vitae and names of three references to: Dr. D. A. Epstein, SYNTEX RESEARCH, 2375 Charleston Road, Mountain View, Calif. 94043. An Equal Opportunity Employer.

## MARKET PLACE

### RESEARCH GRANTS

*Research Funding Journal (RFJ)* is published monthly. RFJ is an ongoing source of information on both governmental and foundation funding sources for the biological, medical, and physical sciences. Funding sources along with their eligibility, deadlines, and application procedures are described in each issue. Price: \$39 per year. Warren Research, Department 109, Box 1771, Decatur, Illinois 62525.

Wanted: **TISSUE PROCESSING AND SECTION PREPARATION SERVICE.** We provide wet tissue blocks and require hematoxylin and eosin-stained section. Overnight service needed. Volume variable. Quality essential; price important. D. K. Merkeley, P.O. Box 21145, Seattle, Washington 98111.

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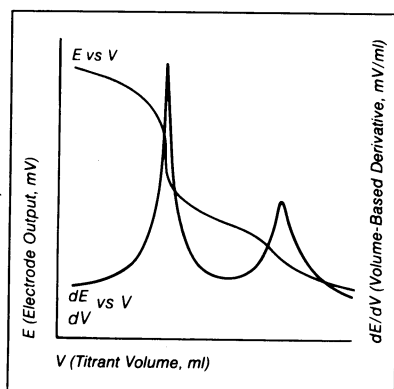
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