

The second volume focuses on ecosystems and, at best, on the processes organizing them. It includes several descriptive but thoughtful papers, such as a description and classification of sublittoral habitats by K. Hiscock and R. Mitchell and an account by E. Coppejans of phytosociological studies of Mediterranean algae, based on the Braun-Blanquet approach and thorough consideration of physical characteristics of the habitat. One of two reports of North American work is that of R. G. Hooper *et al.* on a 12-year descriptive study of the algae of northern Newfoundland, which is presented with a barrage of cluster analyses. The other study is that of M. M. Littler, who describes the second year of a four-year monitoring program of southern California rocky intertidal systems. This paper relies on permanent quadrats and photographs, but it emphasizes questions and processes. Another rather descriptive study is that of free-living nematodes by H. M. Platt and R. M. Warwick, which emphasizes the abundance and diversity as well as the morphological variation of nematodes. The authors argue that in energetic terms nematodes are the most important metazoans in many shore systems. Still another descriptive survey by R. L. Fletcher is of algal communities on floating structures; it follows but does not go beyond the habitat approach of Lewis's 1964 book. In fact, the views expressed in the descriptive components of these volumes reflect the views held by Lewis in his "naive youth," when he thought there was an important message in descriptive work.

The second volume also includes excellent reviews by A. Wilkinson on estuarine benthic algae; A. Wheeler on relationships between fish and algae; P. J. Hayward on invertebrate epiphytes of marine algae, which he, Knight-Jones, Stebbing, Ryland, and others have exploited well; A. Fletcher on maritime lichens; W. F. Farnham on introduced flora; and K. Lüning on the importance of day-length and temperature on algal life history patterns. J. J. P. Clokie and A. D. Boney offer a long and interesting assessment of changes in an intertidal habitat following a large disturbance resulting from the construction of a terminal in the Firth of Clyde. In addition, they discuss the evolution and value of particular questions relevant to monitoring programs and the criteria for good questions and methods. They argue for the importance of understanding the source of propagules or inoculum as well as the successional processes and stress, with Lewis, the value of understanding

seasonality and an adequate temporal framework. Most important, experimental tests of hypotheses are an integral part of their program. This is one of the best papers of its genre I have seen.

Almost as though from a different world are the valuable synthetic papers of J. H. Price and R. H. Hughes. Though Price refers to his paper as a review, it is much more, because he focuses on many interesting and unresolved questions, such as the value of the niche concept. Perhaps he reviews too many papers, especially as many are of marginal value; nevertheless, this is an excellent essay on shore ecology. Hughes's paper goes well beyond the admonitions of Lewis to study processes, as Hughes suggests that there have been sufficient experimental studies demonstrating the importance of competition and predation and that it would be profitable to look beyond these questions to new and more interesting evolutionary ones. He suggests that optimal foraging theory offers a useful paradigm for future intertidal research.

Though the editors have been successful in presenting integrated holistic studies and many of the papers are current and innovative, explicit recognition of the importance of attempting to falsify hypotheses as a scientific method is generally lacking. Assuredly, emphasis on rigorous testing can be overdone when the hypotheses are trivial. Nevertheless, I would have hoped to see more evidence of the use of the experimental method and an explicit recognition of the scientific futility of testing general hypotheses with computer analyses of data collected without concern for mechanistic questions. Granted that some systems are so poorly understood that the use of cluster analyses yields new insights into relationships, these shore systems are relatively well understood, and I find the emphasis of many papers on cluster analyses depressing. One gazes at the maze of lines and wonders about the meaning and relationships. Do the organisms in clusters have a common habitat? settling surface? planktonic history? predators? food? Or do the analyses simply reflect similarity in size? Perhaps the organisms have common life histories, physiological tolerances, behavior, or color? All or none of the above might be true. What have we learned? Once again this brings us back to Lewis's challenge to ask "why" particular patterns and processes are observed. He points out that a survey remains a static, incomplete, and often misleading picture, and he bemoans the lack of an understanding of mechanisms

important to the dynamics of populations and their communities.

In summary, all the papers are well written and the result of much careful thought. There are several excellent reviews that summarize past work and offer valuable direction for the future. The systems analysis papers as such are well done and cover a broad range of approaches. It is to be hoped that increasing sophistication of regulatory agencies and decreasing funds will soon result in a merger of mechanistic science and environmental monitoring. These volumes should contribute importantly because they have excellent examples of a wide diversity of philosophies and methods.

PAUL K. DAYTON

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Books Received

- Advances in Behavioral Pharmacology.** Vol. 3. Papers from a symposium, Ottawa, Canada, June 1978. Travis Thompson, Peter B. Dews, and William A. McKim, Eds. Academic Press, New York, 1981. xvi, 218 pp., illus. \$31.
- Advances in Cellular Neurobiology.** Vol. 2. Sergey Fedoroff and Leif Hertz, Eds. Academic Press, New York, 1981. xvi, 516 pp., illus. \$49.
- Advances in Pharmacology and Chemotherapy.** Vol. 18. Silvio Garattini, A. Goldin, F. Hawking, I. J. Kopin, and R. J. Schmitzer, Eds. Academic Press, New York, 1981. x, 358 pp., illus. \$45.
- Air Pollution Modeling and Its Application I.** Proceedings of a meeting, Amsterdam, Nov. 1980. C. De Wispelaere, Ed. Plenum, New York, 1981. xiv, 748 pp., illus. \$75. NATO-Challenges of Modern Society, vol. 1.
- Alcohol and Public Policy.** Beyond the Shadow of Prohibition. Mark H. Moore and Dean R. Gerstein, Eds. National Academy Press, Washington, D.C., 1981. xiv, 464 pp. Paper, \$15.
- American Environmentalism.** Values, Tactics, Priorities. Joseph M. Petulla. Texas A&M University Press, College Station, 1980. xiv, 240 pp. \$18.50. Environmental History Series, No. 1.
- Aminoglycoside Ototoxicity.** Papers from a conference, Chicago, Sept. 1979. Stephen A. Lerner, Gregory J. Matz, and Joseph E. Hawkins, Jr., Eds. Little, Brown, Boston, 1981. xx, 450 pp., illus. \$32.50.
- Anemias Case Studies.** A Compilation of 49 Clinical Studies. Robert H. Kough, Adel Z. Makary, and Charles T. Thorsvard. Medical Examination Publishing Co., Garden City, N.Y., 1981. xii, 354 pp., illus. Paper, \$23.50.
- Annual Review of Anthropology.** Vol. 10. Bernard J. Siegel, Alan R. Beals, and Stephen A. Tyler, Eds. Annual Reviews, Palo Alto, Calif., 1981. x, 458 pp. \$20.
- Annual Review of Energy.** Vol. 6. Jack M. Hollander, Melvin K. Simmons, and David O. Wood, Eds. Annual Reviews, Palo Alto, Calif., 1981. x, 552 pp., illus. \$20.
- Basic Physiology for the Health Sciences.** Ewald E. Selkurt, Ed. Little, Brown, Boston, ed. 2, 1982. x, 656 pp., illus. \$22.95.
- The Biological Aspects of Rare Plant Conservation.** Proceedings of a conference, Cambridge, England, July 1980. Hugh Synge, Ed. Wiley-Interscience, New York, 1981. xxviii, 558 pp., illus. \$71.50.
- Biology of Behaviour.** Mechanisms, Functions and Applications. Donald M. Broom. Animal drawings by Robert Gillmor. Cambridge University Press, New York, 1981. x, 320 pp. Cloth, \$39.95; paper, \$14.95.
- Bobcat Year.** Text and photographs by Hope Ryden. Viking, New York, 1981. xii, 212 pp. \$15.95.
- The Body Machine.** Your Health in Perspective. Christiaan Barnard and John Ilman, Eds. Crown, New York, 1981. 256 pp., illus. \$19.95.
- The Book of Health.** Ernst L. Wynder, Sidney Hertzberg, and Ellen Parker, Eds. Published for the

(Continued on page 430)

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Spectrofluorometer Option details the "phase-resolved" system to separate the components in a mixture of fluorophores. SLM Instruments. Circle 576.

Chromatographic News is devoted to new products for separatory techniques. Alltech Associates. Circle 577.

Lock-in Amplifiers offers electronic instrumentation that is computer-compatible to control sensitivity ranges, time constants, phase shifts, operating frequencies, zero offset, dynamic reserve, and display modes. EG & G Princeton Applied Research. Circle 578.

Diluter-Dispenser describes the Eppendorf model 5203 for handling microliter volumes in research and clinical applications. Brinkmann Instruments. Circle 579.

Column Chromatography catalog lists supplies and equipment including packed columns, kits for identifying hemoglobin variants, reusable or disposable columns, and accessories. Isolab. Circle 580.



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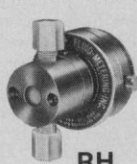
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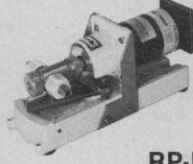
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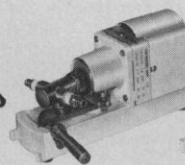
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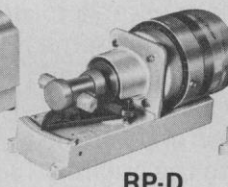
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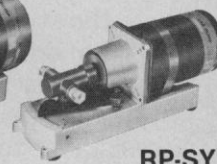
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BOOKS RECEIVED

(Continued from page 394)

American Health Foundation by Franklin Watts, New York, 1981. 732 pp., illus. \$19.95.

Building a Sustainable Society. Lester R. Brown. North, New York, 1981. xiv, 434 pp. \$14.95. A Worldwatch Institute Book.

Business Power and Public Policy. Alfred C. Neal. Praeger, New York, 1981. xiv, 164 pp. Cloth, \$21.95; paper, \$9.95.

Cause, Experiment and Science. A Galilean Dialogue Incorporating a New English Translation of Galileo's "Bodies That Stay atop Water, or Move in It." Stillman Drake. University of Chicago Press, Chicago, 1981. xxx, 238 pp. \$20.

Cellular Immunology. Selected Readings and Critical Commentary. Compiled by Vicki L. Sato and Malcolm L. Gaffer. Addison-Wesley Advanced Book Program, Reading, Mass., 1981. xiv, 648 pp., illus. Paper, \$21.50.

Charles Darwin. "A Man of Enlarged Curiosity." Peter Brent. Harper and Row, New York, 1981. viii, 536 pp., illus., + plates. \$20.75.

Chemical Analysis and Biological Fate. Polynuclear Aromatic Hydrocarbons. Papers from a symposium, Columbus, Ohio, Oct. 1980. Marcus Cooke and Anthony J. Dennis, Eds. Battelle Press, Columbus, Ohio, 1981 (distributor, Van Nostrand Reinhold, New York). xxx, 770 pp., illus. \$59.95.

Chemical Derivatization in Analytical Chemistry. Vol. 1, Chromatography. R. W. Frei and J. F. Lawrence, Eds. Plenum, New York, 1981. xii, 344 pp., illus. \$39.50. Modern Analytical Chemistry.

The Chemistry of Chalcones and Related Compounds. Durga Nath Dhar. Wiley-Interscience, New York, 1981. xvi, 286 pp., illus. \$38.50.

Circular Statistics in Biology. Edward Batschelet. Academic Press, New York, 1981. xvi, 372 pp., illus. \$69.50. Mathematics in Biology.

Drinking and Damage. Theoretical Advances and Implications for Prevention. B. Gail Frankel and Paul C. Whitehead. Rutgers Center of Alcohol Studies Publications Division, New Brunswick, N.J., 1981. xviii, 100 pp., illus. \$12.50. Monographs of the Rutgers Center of Alcohol Studies, No. 14.

Dyslexia. Theory and Research. Frank R. Vellutino. MIT Press, Cambridge, Mass., 1981. xviii, 428 pp. Paper, \$12.50. Reprint of the 1979 edition.

Effects of Mass Loss on Stellar Evolution. Papers from a colloquium, Trieste, Italy, Sept. 1980. C. Chiosi and R. Stallo, Eds. Reidel, Boston, 1981 (distributor, Kluwer Boston, Hingham, Mass.). xxii, 570 pp., illus. \$73.50. Astrophysics and Space Science Library, vol. 89.

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Enantiomers, Racemates, and Resolutions. Jean Jacques, André Collet, and Samuel H. Wilen. Wiley-Interscience, New York, 1981. xvi, 448 pp., illus. \$52.50.

Environmental Politics and the Coal Coalition. Richard H. K. Vietor. Texas A&M Press, College Station, 1980. xvi, 286 pp. \$19.50. Environmental History Series, No. 2.

Environmental Risk Analysis for Chemicals. Richard A. Conway, Ed. Van Nostrand Reinhold, New York, 1981. xxvi, 558 pp., illus. \$37.50. Van Nostrand Reinhold Environmental Engineering Series.

Ergodic Theory and Dynamical Systems I. Proceedings, Special Year, Maryland 1979-80. A. Katok, Ed. Birkhäuser, Boston, 1981. xii, 334 pp., illus. \$18. Progress in Mathematics, vol. 10.

Esophageal Manometry. Methods and Clinical Practice. Thomas R. Wilbrauch, Urban & Schwarzenberg, Baltimore, 1981. viii, 136 pp., illus. \$22.50.

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Farmland or Wasteland. A Time to Choose. Overcoming the Threat to America's Farm and Food Future. R. Neil Sampson. Rodale Press, Emmaus, Pa., 1981. xxii, 422 pp., illus. \$16.95.

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Growth Points in Nuclear Physics. Vol. 3. P. E. Hodgson. Pergamon, New York, 1981. x, 262 pp., illus. Cloth, \$21; paper, \$10.30.

A Guide to Emergency Health Management after Natural Disaster. Pan American Health Organization, Washington, D.C., 1981. vi, 68 pp. Paper, \$6. Scientific Publication No. 407.

Guidelines for Development of Biology Data Banks. Philip L. Altman and Kenneth D. Fisher. Federation of American Societies for Experimental Biology, Bethesda, Md., 1981. Various pages. Paper, \$4. NLM/LSRO-81/1.

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Handbook of High Resolution Multinuclear NMR. C. Brevard and P. Granger. Wiley-Interscience, New York, 1981. xxii, 230 pp., illus. \$24.50.

Handbook of Severe Disability. A Text for Rehabilitation Counselors, Other Vocational Practitioners, and Allied Health Professionals. Walter C. Stolov and Michael R. Clowers, Eds. Rehabilitation Services Administration, Washington, D.C., 1981 (available from the Superintendent of Documents, Washington, D.C.). xvi, 446 pp., illus. \$14.

Handbook of Stable Strontium. Stanley C. Skornya, Ed. Plenum, New York, 1981. xvi, 644 pp., illus. \$75.

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Lymphokines. A Forum for Immunoregulatory Cell Products. Vol. 4. Edgar Pick, Ed. Academic Press, New York, 1981. xviii, 438 pp., illus. \$49.50.

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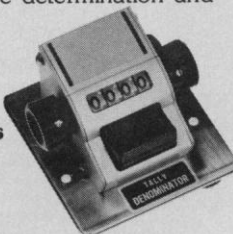
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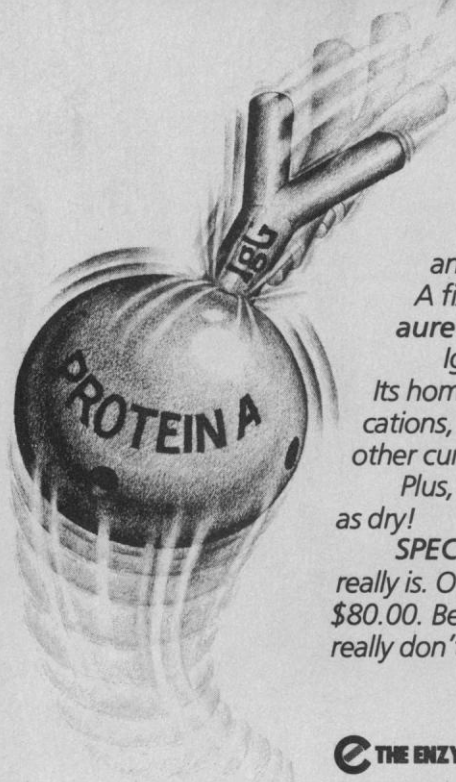
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BIOLOGY. Human physiologist-anatomist. Tenure-track position at assistant professor level. Ph.D. and demonstrated excellence as a teacher required. Course responsibilities include human anatomy and physiology and pathophysiology in a nursing program at a branch campus, Venango Campus in Oil City, Pa. Position commences 23 August 1982. Send curriculum vitae, transcripts, and three letters of recommendation by 1 March 1982 to: **Dr. Wanda Jatkiewicz, Biology Department, Clarion State College, Clarion, Pa. 16214.** *An Affirmative Action/Equal Opportunity Employer.*

BIOLOGY DEPARTMENT FACULTY RHODE ISLAND COLLEGE

We invite applications for a full-time, tenure-track position commencing fall semester 1982 in the Department of Biology. Includes teaching courses in areas of cell biology, physiology, and introductory biology and related duties and responsibilities. Requires a Ph.D. degree in appropriate discipline; evidence of professional accomplishment in teaching and research. Appointment at the rank of assistant professor. Starting salary to \$20,000, depending upon education and experience. Liberal fringe benefits. Submit letter of application with college placement office credentials and three current letters of reference to: **Office of Personnel Services, Rhode Island College, 600 Mt. Pleasant Avenue, Providence, Rhode Island 02908, attention: Chair, Biology Department.** Application deadline: 15 February 1982.

An Affirmative Action/Equal Opportunity Employer

BIOLOGY. Full-time faculty position to begin September 1982 in the Biology Department of a Catholic liberal arts college dedicated to promoting the philosophy of Christian humanism. M.S. in biology is required; the Ph.D. is preferred. Teaching responsibilities will include microbiology, pathogenic bacteriology, immunology, and botany. Candidate must be committed to undergraduate education and possess sufficient background and flexibility to provide elective courses. Salary and rank dependent upon experience and background. Send résumé, transcripts, and three letters of recommendation by 15 February 1982 to: **Dr. Franc E. Del Fosse, Acting Chair, Department of Biology, Allentown College of St. Francis de Sales, Center Valley, Pa. 18034.**

A CELL BIOLOGIST is required in the Molecular Pharmacology Department for a project concerned with chemically induced neoplastic transformation and mutation in mammalian cells in culture. Experience of tissue-culture methodology and other cell biological procedures would be advantageous. Knowledge of German is not necessary. The salary is approximately DM 4000,00(BAT IIa). The appointment is to begin as soon as possible. Applications to: **Professor Dr. Oesch, Department of Pharmacology, University of Mainz, Obere Zahlbacher Strasse 67, 6500 Mainz, West Germany.**

POSITIONS OPEN

BIOCHEMIST

The Gillette Research Institute, a division of The Gillette Company, is conducting a search for a biochemist to conduct research in melanin biosynthesis. Ph.D. required. Postdoctoral research experience and tissue culture experience desirable.

The Gillette Company is a leading worldwide manufacturer of consumer products, including shaving products, writing instruments, and personal care products. Gillette Research Institute's Rockville location is conveniently located close to the nation's capital, Washington, D.C. Applicants should submit résumés to: **Personnel Office, Gillette Research Institute, 1413 Research Boulevard, Rockville, Maryland 20850.**

An Equal Opportunity Employer



**The
Gillette
Company**

BIOLOGY. Tenure-track assistant professor position beginning September 1982. Instruct undergraduate courses in biology with particular emphasis on microbiology-virology for biology and pharmacy majors. Coordinate a multisection course for nonscience majors. Desired qualifications include Ph.D. in biology with concentration in medical microbiology. The College stresses effective teaching. Starting range for assistant professor: \$15,000 to \$18,000. Send application to: **Dean of Arts and Sciences, Western New England College, 1215 Wilbraham Road, Springfield, Mass. 01119.** Closing date: 15 February 1982. *An Equal Opportunity/Affirmative Action Employer.*

CLINICAL IMMUNOLOGIST. Assistant or associate professor, tenure-track. Ph.D. required. To teach immunology and serology to undergraduate medical technology students as well as course in specialty area at graduate level. Knowledge of immunohematology desirable. Research effort will interface with new clinical specialty oriented graduate program in medical technology. Deadline for applications: 1 April 1982. Send résumé and names of three references to:

S. A. Sonsteln
Chairperson, Department of Health Sciences
University of Wisconsin-Milwaukee
P.O. Box 413
Milwaukee, Wisc. 53201

The University of Texas at Dallas DEAN, School of Human Development

The University of Texas at Dallas invites nominations and applications for the position of DEAN of the School of Human Development. The school is composed of upper-division undergraduate and M.S. programs in the areas of psychology, special education, and communication disorders. The Ph.D. degree is offered by the Program in Communication Disorders, which draws extensively from the resources of The Callier Center.

The dean is the chief budgetary officer of the school, and is expected to provide leadership in the development of academic programs, and in facilitating and expanding research. The Ph.D. degree and university teaching experience are required, but the fundamental qualifications are excellence in scholarly research, an outstanding record in administration, and a demonstrated ability to think creatively about interdisciplinary research and education in human development.

In order to insure full consideration, applicants should submit by 1 March 1982, a letter of interest, a résumé (indication of sex and ethnicity for Affirmative Action statistical purposes is requested but not required), and names of references to:

Academic Search Number 519
School of Human Development
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.

POSITIONS OPEN

BIOTECHNOLOGIST

The School of Applied Biology invites applications for a tenure-track position at the junior or senior level for September 1982. Applicant should be a microbiologist/molecular biologist with demonstrated research productivity in biotechnology. Must be able to establish an independent research program and to teach undergraduate and graduate applied biology. Must have a Ph.D. and 2 years of postdoctoral experience. Send curriculum vitae, significant publications, and three letters of reference to: **Dr. Thomas G. Tornabene, Georgia Institute of Technology, School of Biology, Atlanta, Ga. 30332.** Closing date: 31 March 1982. *An Equal Opportunity/Affirmative Action Employer.*

BOTANY FACULTY POSITIONS

Anticipated tenure-track positions beginning August 1982. The areas of **PLANT ECOLOGY** and **PLANT CELL BIOLOGY** are of particular interest, but strong candidates in other botanical areas are encouraged to apply. Successful candidates will be required to pursue an active and productive research program, including seeking of extramural funding. Training of graduate students and participating in teaching activities which emphasize interdisciplinary approaches and interdepartmental coordination are expected. Applications received before 28 February 1982 will be given preference. Curriculum vitae, description of research goals, and three letters of recommendation should be sent to: **Position Search Committee, Department of Botany, Louisiana State University, Baton Rouge, Louisiana 70803-1705.** *An Equal Opportunity/Affirmative Action Employer*

CHAIRPERSON DEPARTMENT OF ANATOMY School of Medicine, University of Virginia

The University of Virginia invites applications for the position of chairperson of anatomy. Applicants should have strong records of productive research as well as experience in medical education. Preference will be given to candidates whose research interests are in cellular-molecular biology, and whose teaching experience qualifies them to direct the educational activities of the Department of Anatomy. The department is responsible for instruction of medical students in gross anatomy, histology, neuroanatomy, and developmental biology and for graduate instruction in program leading to the Ph.D. degree in anatomy, cellular and molecular biology, and neuroscience. Candidates must have the M.D., Ph.D., or equivalent degree.

Qualified candidates may submit their curriculum vitae and bibliography to:

R. G. Langdon, M.D., Ph.D.
Chairman of the Search Committee
Department of Biochemistry
University of Virginia School of Medicine
Charlottesville, Virginia 22908

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

CHAIRPERSON Department of Biology State University of New York (SUNY) College at Geneseo

The Department of Biology is seeking a chairperson whose academic specialization complements the disciplinary areas of the present faculty for fall 1982 appointment.

Qualifications: candidates are required to have an earned doctorate in the biological sciences and sufficient academic experience to qualify for a senior academic appointment. Preference will be given to individuals with teaching and research experience in cell biology, developmental biology, genetics, or microbiology. Candidates should also have demonstrated excellence in teaching and research and should have potential for academic administration.

Term of appointment: 3 years as chairperson, renewable; tenure in academic rank is negotiable.

Effective date of appointment: 1 September 1982. Applications, including curriculum vitae, undergraduate and graduate academic transcripts, a statement of research interests and research plans, and a minimum of three letters of reference should be sent to: **Dr. Virginia Kemp, Coordinator of Search Committee, Erwin 205, SUNY Geneseo, Geneseo, N.Y. 14454; telephone: 716-245-5536.** Applicants are responsible for requesting referees to submit letters of reference.

Closing date for completed applications: 15 February 1982.

Affirmative Action/Equal Opportunity Employer

POSITIONS OPEN

POSITION IN BIOSTATISTICS AND/OR EPIDEMIOLOGY

**Whitaker College of Health Sciences
Technology, and Management, MIT**

The Massachusetts Institute of Technology (MIT) announces an opening for a junior or senior faculty position in the new Whitaker College of Health Sciences, Technology, and Management. Applicants might have training in statistics, biology, genetics, demography, toxicology, economics, or public health. The focus of their current research should be on such areas as: methodological problems in design and interpretation of epidemiological studies; quantitative analysis of public policy problems in health care; and theoretical models of disease process and other related areas. It is anticipated that the successful candidate will also receive a joint appointment in another academic department at MIT.

Applicants should provide curriculum vitae, a short statement of the proposed research program, and the names of at least three scientists willing to write letters of recommendation.

Send applications to: **Dr. Peter Temin, Chairman of Search Committee and Professor of Economics, Building E52, Room 274C, Massachusetts Institute of Technology, 77 Massachusetts Avenue, Cambridge, Mass. 02139.**

MIT is an Affirmative Action/Equal Opportunity Employer.

Chemistry

CULTURE MAINTENANCE SPECIALIST

Calbiochem-Behring, a La Jolla-based biochemical firm, is seeking a culture maintenance specialist to carry out a culture maintenance program for both R & D and production strains in an expanding microbiological R & D group.

Applicants must have a B.S./B.A. in bacteriology or microbiology with a minimum of 3 to 5 years of experience in culture maintenance or a M.S./M.A. and a minimum of 2 to 3 years of experience. Knowledge and practical ability in contemporary techniques of preservation, propagation, storage, and dissemination of one or more of the following types: bacteria, yeast, fungi, and streptomycetes, as well as skill in lyophilization and cryogenic preservation are required. Please submit résumé and salary history, in confidence, to:

Kathy Simpson
CALBIOCHEM-BEHRING CORP.
A Subsidiary of
American Hoechst Corp.
10933 North Torrey Pines Road
La Jolla, California 92037
Telephone: 714-453-7331

Affirmative Action Employer, M/F/H

DEVELOPMENTAL BIOLOGIST—The Zoology Department of Butler University invites applications for a tenure-track appointment at the assistant professor level beginning fall semester 1982. Teaching responsibilities may also include human anatomy and physiology, mammalian physiology, as well as participation in introductory courses. Development of a research program involving undergraduates is encouraged. Applicants should possess the Ph.D. degree. Send letter of application, curriculum vitae, transcripts of all college course work, and names of three references to: **Dr. Philip A. St. John, Head, Department of Zoology, Butler University, Indianapolis, Ind. 46208.** *An Equal Opportunity Employer.*

UNIVERSITY OF WISCONSIN-MADISON ENVIRONMENTAL SYSTEMS ANALYSIS

Full-time, academic-year, tenure-track assistant professorship in the Institute for Environmental Studies beginning September 1982. Responsibilities: a balanced program of teaching, research, and service with emphasis on the theory and application of systems approaches to environmental problems. Teaching will include a two-semester, undergraduate sequence in systems concepts and environmental systems methods, a seminar, and a graduate course in modeling environmental systems.

Submit a résumé with reprints and three letters of reference to: **Dr. G. C. Gerloff, Department of Botany, Birge Hall, University of Wisconsin-Madison, Wisc. 53706.**

Closing date is 22 February 1982, or until suitable candidates are identified. *The University of Wisconsin is an Equal Opportunity/Affirmative Action Employer.*

POSITIONS OPEN

DIRECTOR OF UNIVERSITY MUSEUM. The University of Colorado at Boulder, a comprehensive research institution, invites applications and nominations for the director of the university museum. The museum conducts regional, national, and international research and educational programs in the fields of natural history, including anthropology, and interacts with the related university academic departments. The university museum has a staff of 13 and a total general fund budget of approximately \$392,000. The director of the museum sits on the Council of Deans and reports to the vice chancellor for academic affairs. Candidates should have demonstrated ability in administration, leadership, familiarity with museum administration, and scholarship in natural history and anthropology. They must also be strongly committed to university and community service and education, and must be able to interact positively with university administration, related academic departments, professional organizations, and funding agencies. A Ph.D. is preferred. Applications, consisting of curriculum vitae, three names of references with addresses, and summary of administrative and research experience, should be sent to: **Dr. Kaye Howe, Chair, Museum Director Search Committee, Campus Box B-17, University of Colorado, Boulder, Colorado 80309.** Applications or nominations must be postmarked no later than 15 February 1982. Anticipated starting date: July 1982. *An Equal Opportunity/Affirmative Action Employer.*

The Department of Zoology, University of Wisconsin-Madison, invites applications for a position at the assistant, associate, or full professor level as **DIRECTOR OF THE ZOOLOGICAL MUSEUM** and member of the teaching faculty. The museum functions as a research resource with substantial collections emphasizing North American vertebrates (see The AAM Official Museum Directory). We seek a person who will, in addition to assuming museum-related responsibilities (including supervision of personnel), actively participate in our teaching program and conduct independent research in one or more of the following areas: evolution, systematics, zoogeography, and anatomy. Museum experience is required. Salary level commensurate with experience and qualifications. Send curriculum vitae, the names of four references, and a brief summary of research interests by 28 February 1982 to: **Dr. W. C. Burns, Chairperson, Museum Director Search Committee, Department of Zoology, Noland Hall, University of Wisconsin, Madison, Wisconsin 53706.** *An Equal Opportunity/Affirmative Action Employer.*

FACULTY POSITION

The Department of Microbiology, Cell Biology, Biochemistry and Biophysics of The Pennsylvania State University invites applications for a tenure-track position at the assistant or associate professor level. Candidates should be trained in bacteriology, have postdoctoral experience, and be capable of developing an independent research program in the molecular aspects of food microbiology and toxicology. The successful candidate will teach food microbiology. We provide excellent physical facilities, competitive salary and benefits, and a stimulating research environment. Applications should include curriculum vitae, copies of recent publications, a brief but detailed description of research goals, and the names of four individuals from whom we may request letters of recommendation. Applications will be accepted until 1 March 1982 or until the position is filled thereafter. Send to: **Dr. R. W. Bernlohr, Department of Microbiology, Cell Biology, Biochemistry and Biophysics, The Pennsylvania State University, 108B Althouse Laboratory, University Park, Pennsylvania 16802.**

An Affirmative Action/Equal Opportunity Employer

FACULTY POSITION IN PHARMACOLOGY. The Department of Pharmacology of East Carolina University (ECU) seeks applications for a tenure-track position at the level of assistant professor. Applicants must have a relevant Ph.D. or M.D. degree, postdoctoral training, and a commitment to a career in independent research, but preference will be given to those involved in research involving central or peripheral transmitters. Send curriculum vitae and three letters of reference to: **Dr. W. R. Wooles, Chairman, Department of Pharmacology, School of Medicine, East Carolina University, Greenville, North Carolina 27834.**

ECU is an Equal Opportunity Employer through Affirmative Action.

POSITIONS OPEN

FACULTY APPOINTMENTS IN MICROBIOLOGY AND IMMUNOLOGY UNIVERSITY OF CALIFORNIA SAN FRANCISCO

The Department of Microbiology and Immunology at the University of California School of Medicine, in San Francisco, is seeking highly qualified applicants for tenure-track faculty appointments in bacteriology, virology, immunology, and cell biology. Preference will be given to those candidates with expertise in the following areas: mechanisms of bacterial pathogenesis; cellular immunology; immunogenetics; molecular biology of large DNA animal viruses; molecular parasitology; and molecular genetics of prokaryotes or yeast. Applicants should send curriculum vitae, a statement of research plans, selected reprints, and three letters of reference to: **Search Committees, Department of Microbiology and Immunology, S 412, University of California Medical School, San Francisco, Calif. 94143.**

We are an Equal Opportunity/Affirmative Action Employer.

FACULTY POSITION. Epidemiologist-biostatistician to develop and teach courses to professional and graduate students in epidemiology, biostatistics, and data management. The successful candidate will be responsible for the development and direction of a new departmental data laboratory and advise scientists on the design and analysis of experimental and clinical protocols. Candidate will be expected to develop independent and collaborative research programs in own area of expertise. Applicants should hold a D.V.M., M.D., D.D.S., and/or Ph.D. degree with advanced training in epidemiology or biostatistics. Title and salary will be commensurate with ability and experience. Send curriculum vitae, personal bibliography, and references to:

Dr. Raymond H. Cyress, Chairman
Department of Preventive Medicine
New York State College of Veterinary Medicine
P.O. Box 786
Ithaca, New York 14850

Cornell University is an Equal Opportunity Employer.

FACULTY POSITIONS AVAILABLE University of Wisconsin-Madison School of Veterinary Medicine

Faculty positions are open in the new School of Veterinary Medicine at the University of Wisconsin-Madison in the Department of Pathobiological Sciences. Areas of particular interest include pathology, clinical pathology, microbiology, immunology, parasitology, and epidemiology/public health.

All new faculty will be involved in the development and operation of programs in instruction, research, and service for the School of Veterinary Medicine, which will accept its first class in fall 1983. The D.V.M. degree, and/or Ph.D., and/or specialty board diploma, where applicable, are desirable. Salary and rank will be commensurate with experience and qualifications. Applications should include curriculum vitae outlining academic training, professional experience, and publications. A statement of professional goals and names and addresses of three references should be included. Closing date is 15 May 1982 or until positions are filled.

Send applications to: **Linda Pfleger, Secretary, Search Committee, School of Veterinary Medicine, Room 316, 333 North Randall Avenue, Madison, Wisc. 53715. Telephone: 608-263-5878.**

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

FISHERY SCIENTIST—Applications are invited for a tenure-track, 9-month faculty position at the assistant professor level beginning in August 1982. The successful candidate must hold a Ph.D. in some area of fisheries science. Teaching responsibilities will include an undergraduate course in fisheries science, a graduate course in aquaculture, and advising of undergraduate and graduate students. The person filling the position is expected to develop and maintain a strong research program in fisheries management or aquaculture. Preference will be given to candidates who have professional experience in applied fisheries science. Salary will be commensurate with experience. Applicants should submit curriculum vitae, complete transcripts, statements of professional goals and interests, and three letters of reference by 22 February 1982 to: **Dr. S. C. Mozley, Zoology Department, P.O. Box 5577, North Carolina State University, Raleigh, N.C. 27650. North Carolina State University is an Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

FACULTY POSITION

Seeking Ph.D. with interest in biomechanics or cardiopulmonary rehabilitation for tenure-track position. Applicant should be an effective teacher and be able to direct physical therapy graduate students. Should participate in research and service mission of the university. Eligible for P.T. licensure in Wisconsin. Deadline for applications is 15 March 1982. Send résumé and references to: **Isabel J. Barnes, Ph.D., Interim Dean, School of Allied Health Professions, Room 1080, 1300 University Avenue, Madison, Wisc. 53706. Equal Opportunity/Affirmative Action Employer.**

FACULTY POSITION available immediately for molecular geneticist. Ph.D. or M.D. required. Academic level and salary open to meet qualifications of applicants. Résumé and three references to: **Dr. Barbara H. Bowman, Department of Anatomy, The University of Texas Health Science Center, 7703 Floyd Curl Drive, San Antonio, Texas 78284.**

An Equal Opportunity/Affirmative Action Employer

FACULTY POSITION. Two-year sabbatical/leave replacement beginning September 1982 to teach general and organic chemistry. Approximate salary: \$19,000. Résumé, transcripts, and three recommendations by 15 March 1982 to: **C. Levin, Department of Chemistry, Smith College, Northampton, Mass. 01063. An Equal Opportunity Employer.**

FACULTY POSITIONS IN BIOMEDICAL ENGINEERING, BOSTON UNIVERSITY COLLEGE OF ENGINEERING, at the assistant/associate/full professor levels in expanding Department of Biomedical Engineering for September 1982 or January 1983. Applicants should have an earned doctorate, be committed to quality teaching at both undergraduate and graduate levels, and have the desire to develop strong research programs. Collaboration with the Boston University School of Medicine or other departments may be facilitated through a joint faculty appointment. Candidates with backgrounds in mechanical design, electronics, computer engineering, biomechanics and materials, or robotics are especially welcome. Opportunities for part-time (adjunct) faculty positions and for collaborative arrangements with nearby institutions involved in biomedical research and development are also available. There may also be an opportunity for a visiting appointment of 1 or 2 years duration to replace faculty on sabbatical leave. Candidates should send résumé, list of publications, names and addresses of at least three references, and a brief statement of teaching and research interests to: **Dr. Henry D'Angelo, Chairman, Engineering Search Committee, College of Engineering Search Committee, College of Engineering, 110 Cummings Street, Boston, Mass. 02215. Boston University is an Equal Opportunity/Affirmative Action Employer.**

Nominations and applications are sought for the position of **HEAD** of the Department of Atmospheric Science, University of Wyoming (UW). This department offers the M.S. and Ph.D. degrees in atmospheric science, is involved in both graduate and undergraduate teaching and conducts an extensive research program. There are eight full-time faculty and a staff of 27. The department operates two research aircraft, a mountaintop observatory and other important research facilities. The department head will be required to administer the teacher and research programs of the department, and to participate in graduate education and research activities. UW is the only 4-year institution in the state of Wyoming and the state is in an excellent position by virtue of growth in energy and related industries. The university administration, anticipating an increasing enrollment and with the support of the state legislature, is committed to promotion of this emerging university into one of the premier universities in the western United States. The Department of Atmospheric Science, with outstanding research facilities and a high quality group of faculty, staff, and students, expects to share in this growth. Applicants should possess a Ph.D. or equivalent in the atmospheric sciences or a related field. Demonstrated success in the conduct and administration of productive and extensive research programs is required. Applicants with experience in an academic environment, the administration of academic/scientific groups, and the operation of large field research programs will be given preference. Forward résumés to: **Search Committee, Department of Atmospheric Science, University Station Box 3038, Laramie, Wyoming 82071. The University of Wyoming is an Equal Opportunity/Affirmative Action Employer.** The closing date for application is 15 February 1982.

POSITIONS OPEN

FUNDAMENTAL TURBULENCE STUDY

Immediate opening in experimental program for a self-motivated senior investigator with ambition to develop research group. Computer programming required. Stimulating research environment in an organization with 25 years of successful R & D. Send résumé to, or call: **H. F. Calcote, AeroChem Research Laboratories, Inc., P.O. Box 12, Princeton, N.J. 08540; telephone: 609-921-7070. An Equal Opportunity Employer.**

GENETICIST/PLANT BREEDER

The Department of Botany and Plant Sciences, University of California, Riverside, announces a position at the assistant professor level, with both an Experiment Station and an academic title, available 1 July 1982. The position is a tenure-track, 11-month appointment in the College of Natural and Agricultural Sciences and in the Agricultural Experiment Station. A Ph.D. is required; postdoctoral experience is preferred, but all qualified candidates will be considered. A quantitative and/or physiological genetics background is desirable, with emphasis in the genetics of tree, agricultural or horticultural crops preferred, but candidates with other backgrounds are encouraged to apply. The successful candidate will be expected to develop a vigorous, independent research program. Appointee must assume responsibility for an ongoing breeding program in citrus, including the development of rootstocks. A secondary program in breeding or genetics also is expected. Opportunities exist for interaction with research workers in pathology, virology, entomology, nematology, plant physiology, biochemistry, soil and environmental sciences, and statistics. Teaching responsibilities will include courses in genetics and plant breeding. Must be willing to serve as major professor for M.S. and Ph.D. students.

Send curriculum vitae and official transcripts, and arrange to have at least three letters of recommendation sent to: **Dr. Giles Waines, Chairman, Geneticist/Plant Breeder Search Committee, Department of Botany and Plant Sciences, University of California, Riverside, California 92521.** Application deadline is 15 March 1982, or later if a suitable applicant has not been selected.

ICHTHYOLOGIST

The Museum of Zoology and the Division of Biological Sciences of The University of Michigan invite applications for a joint appointment as an **assistant curator of fishes and assistant professor of biological sciences**, beginning as early as 1 July 1982. The appointee must have a Ph.D. and a demonstrated commitment to systematic and evolutionary research and teaching. The successful candidate should have the background necessary for research and curatorial work in a predominantly freshwater fish collection. Names of three references, curriculum vitae, statement of career objectives, and copies of publications should be sent to: **Chairman, Search Committee, Museum of Zoology, the University of Michigan, Ann Arbor, Michigan 48109, by 1 March 1982. The University of Michigan is a nondiscriminatory. Affirmative Action Employer.**

IMMUNOLOGIST/MICROBIOLOGIST/BIO-CHEMIST with Ph.D. and 2 years or more industrial experience developing clinical chemistry diagnostics or immunodiagnoses. Should be familiar with GMP, regulatory (QA/QC) and/or manufacturing systems and procedures. Position responsibilities include: purify and characterize monoclonal antibodies; develop and manufacture reagent kits; establish QC procedures and specifications, and develop manufacturing protocols.

Start-up company with strong technical team, excellent benefits, competitive salary. Interested persons should send résumé, in confidence, to: **Ingrid Rasch, Personnel Manager, Genetic Systems Corporation, 3005 First Avenue, Seattle, Wash. 98121. Equal Opportunity Employer.**

MACROMOLECULE CRYSTALLOGRAPHER

For GRIP molecular graphics research. Must have Ph.D.; experience in crystallographic computations and/or computer graphics. Responsible for liaison with using biochemists and participation in development of next-generation molecular graphics system. Full-time research faculty appointment. Send curriculum vitae, bibliography, and names, addresses, and telephone numbers of references to: **Computer Science, New West Hall 035A, University of North Carolina, Chapel Hill, N.C. 27514. Affirmative Action/Equal Opportunity Employer.**

CONJUGATED MONOCLONAL ANTIBODIES FROM BECTON DICKINSON

Tissue section: Macrophages (**HLA-DR⁺**) and neoplastic T cells (**Leu-1⁺**) in the dermis of a patient with mycosis fungoides.

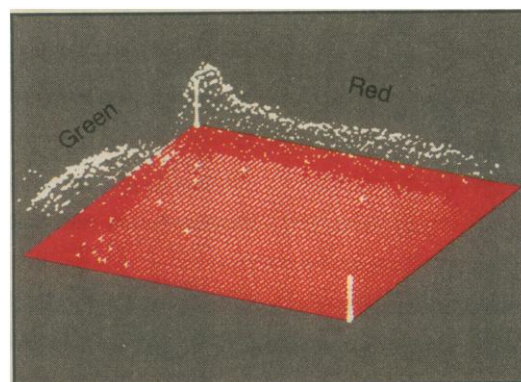
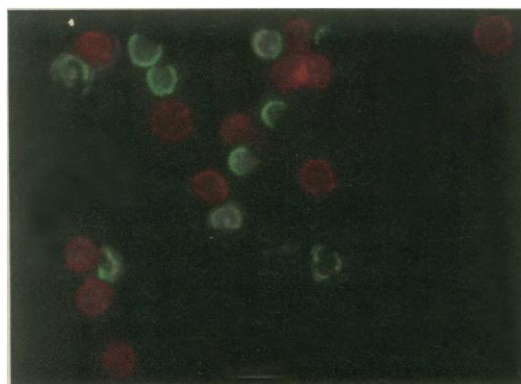
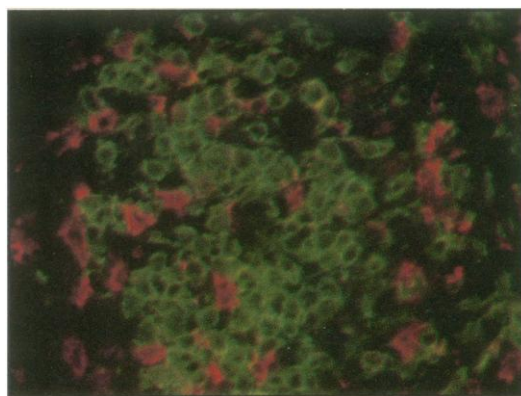
Courtesy of Gary Wood, M.D., Roger Warnke, M.D., and Stanford University, Department of Pathology.

Cell suspension: T cytotoxic/suppressor cells (**Leu-2a⁺**) and T helper/inducer cells (**Leu-3a⁺**) in normal peripheral blood.

Courtesy of John Kearney, Ph.D., University of Alabama, Department of Microbiology.

Cell suspension with FACS™ analysis: A nonoverlapping isometric profile showing normal peripheral blood cells treated with **Anti-Leu-2a** and **Anti-Leu-3a**.

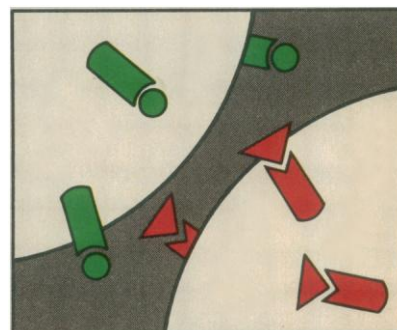
Courtesy of Donald Paty, M.D., University of British Columbia, Department of Medicine.



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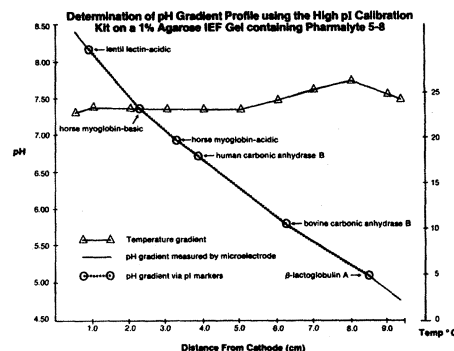


For literature circle reader service number 94
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PRODUCT AND ORDERING GUIDE

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Please refer to the information below for your ordering convenience.

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		Pack Size	Code No.
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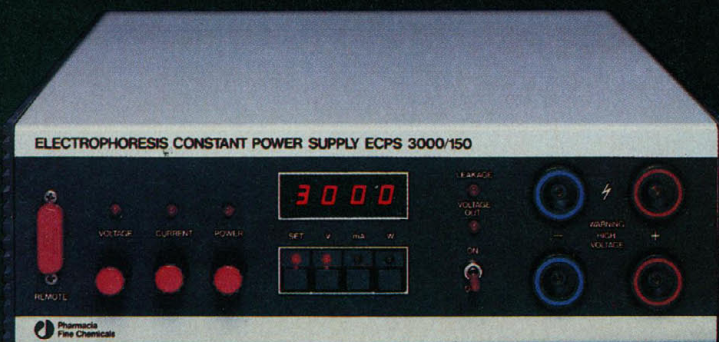
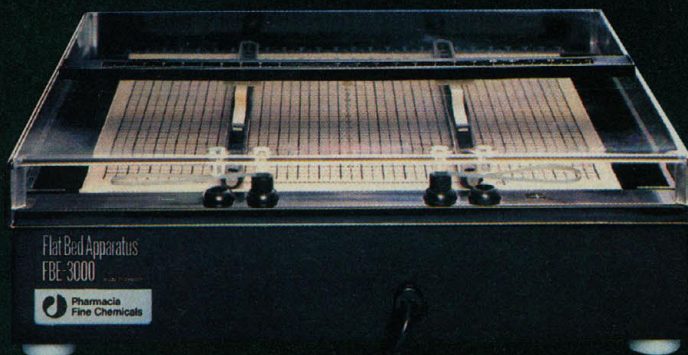
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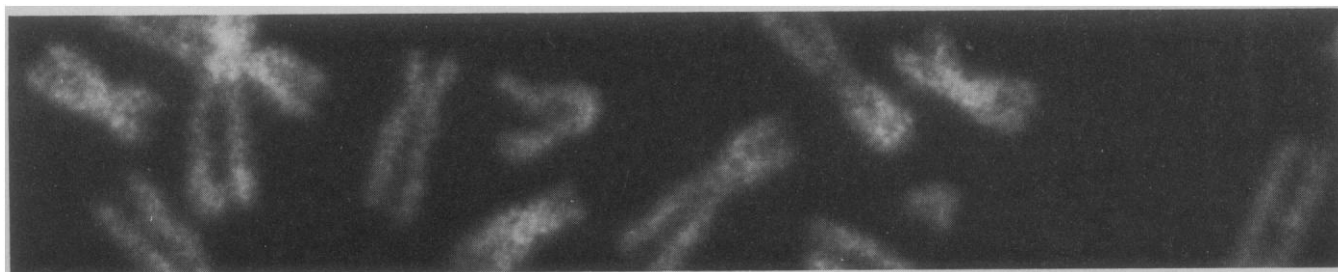


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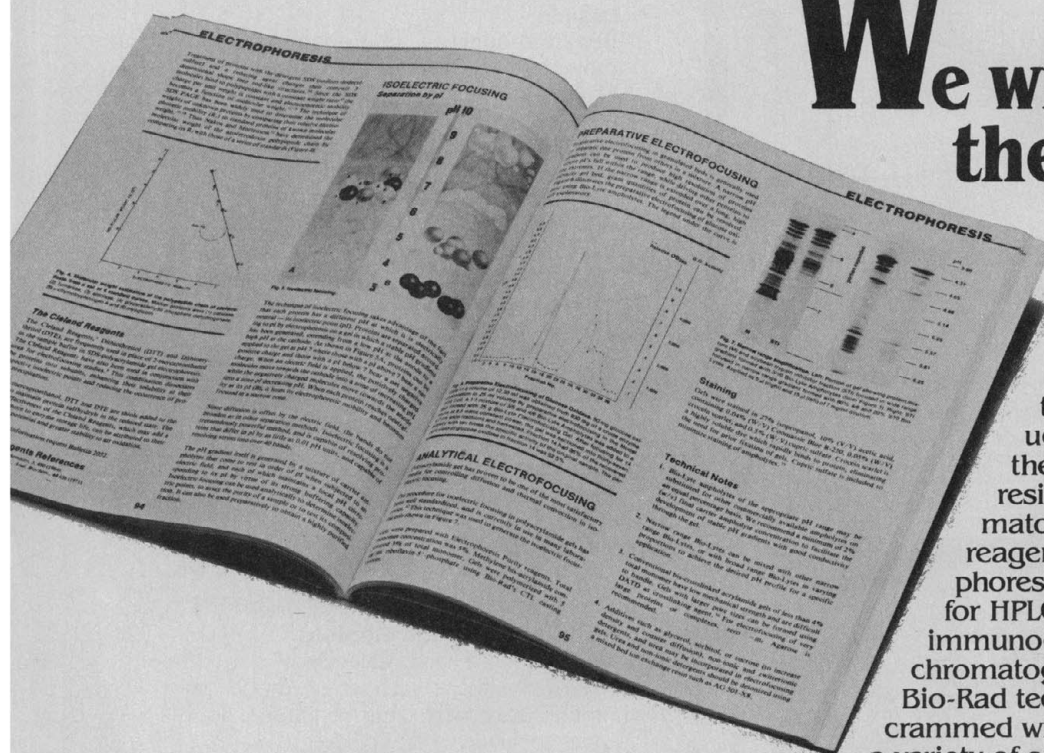
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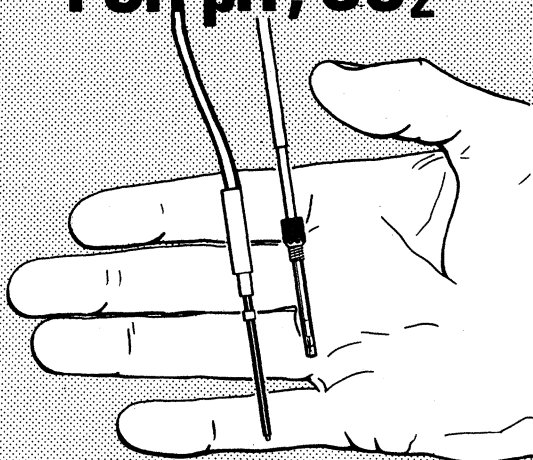
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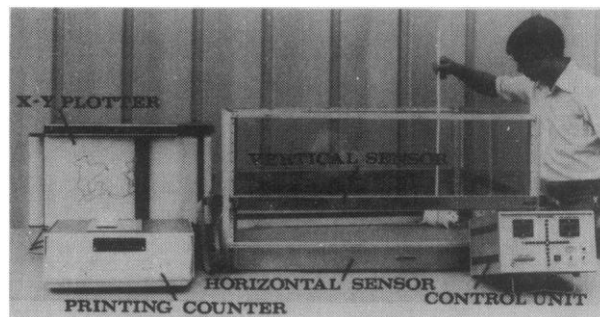
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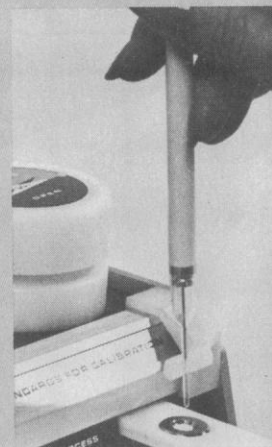
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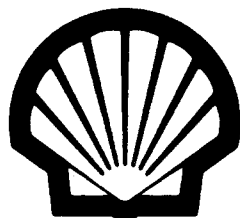
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Applications are requested for a tenure-track position (11-month appointment) in the Department of Botany and Plant Sciences, College of Natural and Agricultural Sciences, University of California, Riverside, with research responsibility in the Agricultural Experiment Station. A Ph.D. is required; postdoctoral experience is preferred, but all qualified candidates will be considered. The successful candidate, with a Ph.D. or postdoctoral training in the physiology of plant development and/or plant biochemistry, will be expected to develop a vigorous, independent research program with major emphasis on fruit development, maturation, and senescence. Teaching responsibilities will include courses in both undergraduate and graduate levels and supervision of graduate students.

Send curriculum vitae and official transcripts, and arrange to have at least three letters of recommendation sent to: Dr. John W. Einset, Chairman, Plant Physiologist Search Committee, Department of Botany and Plant Sciences, University of California, Riverside, Calif. 92521. Application deadline is 15 March 1982 or later, if a suitable applicant has not been selected.

An Affirmative Action/Equal Opportunity Employer

POSTDOCTORAL FELLOW. Applications are invited for the position of postdoctoral fellow within the Research Laboratories of the New South Wales (NSW) State Cancer Council's Special Unit. The unit, located on the grounds of the Prince of Wales Hospital, Randwick, is committed to the treatment of cancer patients and to a program of basic research. We are embarking on a study of gene expression and require the services of a **molecular biologist** to assist with this work. Candidates must hold a Ph.D. in biochemistry/microbiology or cell biology. Previous experience with cloning techniques and the detection of translation products is essential. The post, available immediately, carries an annual stipend of A\$21,725. Appointment in the first instance will be for 2 years. Applications with curriculum vitae and the names of three referees should be sent to: Dr. A. R. Nash, NSW State Cancer Council's Special Unit for Investigation and Treatment, Prince of Wales Hospital, Randwick, NSW 2031, Australia. Closing date: 12 February 1982.



PATENT ATTORNEYS

Take charge of your career in one of the country's foremost technology companies

If you are a patent attorney with career expectations, you owe it to yourself to consider two fine openings Shell Oil Company has right now.

The Patents and Licensing Division is extremely busy these days as Shell expands its development activities in a wide variety of fields.

Need two outstanding individuals for challenging positions

We need to add two more individuals to our staff. State bar membership is preferred, although candidates who have recently completed their legal education and are willing to become members of the local bar will be given serious consideration.

One of the challenging opportunities, located in our Houston headquarters, is in the field of polymer intellectual property. We hope to find someone for this job with a minimum of two years' patent experience, a J.D. or LL.B., and also having a degree in chemistry or chemical engineering. An advanced degree or equivalent technical experience in areas outside

the patent and licensing fields would be helpful.

The second opportunity is in the field of biotechnical and agricultural intellectual property. The truly special individual we hope to find will have a J.D. or LL.B and an advanced degree in biochemistry, genetics, molecular biology or a similar discipline. Technical experience would be helpful as would patent and licensing experience, but consideration will be given to otherwise qualified applicants without prior patent experience. The position will be initially located in Houston but ultimately in Northern California.

Great opportunity for good money, fine benefits, career enhancement

Shell is looking for some special individuals for these positions and we will reward them very well with excellent opportunities for career enhancement, and an outstanding compensation and benefits package.

Interested? Send your résumé to N. J. Moore, The Shell Companies, P.O. Box 2463, Houston, Texas 77001.

The Shell Companies

Shell Oil Co., Shell Chemical Co.,
Shell Development Co., Shell Pipe Line Corp.
An Equal Opportunity Employer M/F

POSITIONS OPEN

PHARMACOLOGY FACULTY POSITIONS (tenure track) are available for individuals with training in clinical pharmacology or neuropharmacology-neurochemistry. Salary and rank commensurate with qualifications and experience. Candidates with Ph.D. and/or medical degree, with postdoctoral training, and with track record in research should submit résumé and references to: **H. Lal, Professor and Chairman, Department of Pharmacology, Texas College of Osteopathic Medicine, Ft. Worth, Texas 76107. Equal Opportunity/Affirmative Action Employer, located in the Dallas/Ft. Worth Metroplex.**

PHYSICAL OCEANOGRAPHER

BIGELOW LABORATORY FOR OCEAN SCIENCES seeks research scientist to develop a program on interaction between advection and turbulent diffusion, and biological production in the water column. Applicants with strong background in experimentation with current meters, drogues, and other tracers as well as in data analysis and interpretation will be given priority. Ph.D. required. This position is funded by an NSF-sponsored program for 2 years. Subsequent funding dependent on investigator's efforts. Send curriculum vitae, three recommendations, and letter of interest by 1 March 1982 to: **Robert Kidd, West Boothbay Harbor, Maine 04575. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL FELLOW (zero to 3 years after Ph.D.). Position available at the Thrombosis Research Center of the Temple University School of Medicine. Protein biochemical and/or immunochemical background preferred. Securely funded project studying protein cofactors in blood coagulation. Salary dependent on experience. Respond in writing with curriculum vitae and three letters of recommendation to: **Robert W. Colman, M.D., Director, Thrombosis Research Center, Temple University School of Medicine, 3400 North Broad Street, Philadelphia, Pa. 19140. Equal Opportunity/Affirmative Action Employer**

POSTDOCTORAL FELLOW to work on electrophysiology of endocrine cells. Experience with microelectrode recording or patch-clamping desirable. NIH stipend. Apply to: **Dr. A. R. Martin, Department of Physiology, C240, University of Colorado School of Medicine, Denver, Colo. 80262. The University of Colorado is an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION in EXPERIMENTAL MEDIUM-ENERGY NUCLEAR PHYSICS. To help establish and participate in programs at LAMPF and IUCF in nuclear reactions and basic interactions. Appointment to begin July 1982; funds may permit a longer appointment beginning as early as April 1982. Send curriculum vitae and three letters of recommendation to: **Professor J. R. Comforth, Department of Physics, Arizona State University, Tempe, Ariz. 85287. Closing date: 28 February 1982. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION. The pulmonary research group of St. Luke's-Roosevelt-Columbia University College of Physicians and Surgeons in collaboration with the pediatric pulmonary division of Albert Einstein College of Medicine offers 2 years of postdoctoral research experience. We are currently investigating cellular responses to acute lung injury; the disciplines involved include cell and tissue culture, lipid and protein biochemistry, enzymology, surface physics and electron microscopy. Some experience in protein purification, separation, and analysis of lipids and/or cell culture techniques would be desirable. Send curriculum vitae to:

**Stephen F. Ryan, M.D.
Department of Pathology
St. Luke's-Roosevelt Hospital Center
Amsterdam Avenue and 114th Street
New York, N.Y. 10025**

POSTDOCTORAL/RESEARCH ASSOCIATE POSITION available for Ph.D. to work on **SPINAL REGULATION OF MOVEMENT.** Particular research areas include neurophysiology of spinal interneurons, and functional roles of fusimotor innervation of muscle spindles. Background in neurophysiology, neuroanatomy, or bioengineering would be appropriate. Salary commensurate with experience. Send curriculum vitae, statement of research interests, and names of three references to: **Dr. W. Z. Rymer, Associate Professor of Physiology, Northwestern University Medical School, 303 East Chicago Avenue, Chicago, Ill. 60611. Equal Opportunity Employer.**

POSITIONS OPEN

POSTDOCTORAL POSITION for research on the biochemistry of membrane-cytoskeletal interaction, available immediately. Background in biochemistry or cell biology required. The laboratory is currently purifying and characterizing membrane components which affect actin assembly. Please send curriculum vitae and the names and telephone numbers of two references to: **Susan S. Brown, Department of Anatomy and Cell Biology, University of Michigan, Ann Arbor, Mich. 48109.**

POSTDOCTORAL POSITION. Enzymologist needed to study the kinetics of nitrogenase reactivity toward N_2 and alternative substrates and its interaction with physiological electron donors. Successful applicant will be part of an interdisciplinary N_2 fixation team. Send curriculum vitae and three letters of recommendation to: **Dr. B. K. Burgess, C. F. Kettering Research Laboratory, 150 East South College Street, Yellow Springs, Ohio 45387. We are an Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION (2 to 3 years; salary negotiable) beginning 1 July 1982 in laboratory studying viral and immune mechanisms of host injury: (i) viral-receptor interactions with CNS and immune system; (ii) cell surface antigens on nervous system tissue using monoclonal antibody and viral probes; and (iii) immunoregulatory studies related to CNS injury. Laboratory is part of neuroscience and neurovirology programs. Send curriculum vitae and three references to: **Howard L. Weiner, M.D., Associate Professor of Neurology, Harvard Medical School, Enders Research Building, Children's Hospital Medical Center, 300 Longwood Avenue, Boston, Mass. 02115.**

TWO POSTDOCTORAL POSITIONS available in molecular endocrinology to study the hormonal regulation of growth and differentiation of fetal lung cells and the hormonal regulation of the initiation of parturition. Preference will be given to applicants with strong background in protein purification, lipid biochemistry, hormone binding, tissue culture, and electron microscopy. Send curriculum vitae, a statement of research interests, and three letters of reference to: **Dr. George Giannopoulos, Department of Obstetrics and Gynecology, Harvard Medical School, 250 Longwood Avenue, Boston, Mass. 02115. An Equal Opportunity/Affirmative Action Employer**

UNIVERSITY OF WISCONSIN CARCINOGENESIS

POSTDOCTORAL POSITIONS are available to study the cell biology and carcinogenesis of human and rodent mammary cells. Interested applicants please forward curriculum vitae, recent reprints, and names of three references to: **Dr. Michael N. Gould, Department of Human Oncology, University of Wisconsin, 600 Highland Avenue—K4/332, Madison, Wisc. 53792. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION available immediately to study mechanisms of action of antiarrhythmic drugs using voltage/patch clamp techniques in cardiocytes. Address inquiries and curriculum vitae to: **Dr. Luc Hondeghem, Department of Pharmacology, University of California, San Francisco, Calif. 94143. Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION available July 1982 to join group using chronically catheterized, conscious rats to study interrelationships of renin-angiotensin, prostaglandins, and vasopressin in control of renal hemodynamics and salt and water balance. Experience in hormone assay desirable but not essential. Send curriculum vitae and names of three references to: **Dr. Brian R. Edwards, Department of Physiology, Dartmouth Medical School, Hanover, N.H. 03755. An Affirmative Action/Equal Opportunity Employer.**

RESIDENT DIRECTOR, Malheur Field Station. All aspects of on-site administration. Located in high desert country on national wildlife refuge near Burns, Oregon. College-level summer session, research facilities, visitor lodging, and meal service to 250 capacity. Ph.D. in ecology or related field preferred; master's required. Administration and teaching experience desired. Spouse may apply for **MANAGER** position with responsibility for dining facility, secretarial/bookkeeping services; possible assistance with housekeeping and cooking duties. Both appointments: 12-month. Salaries depending on experience. Housing provided. Complete résumés with references by 15 February 1982 to: **R. T. Carter, Biology Department, Pacific University, Forest Grove, Oregon 97116. An Affirmative Action/Equal Opportunity Employer.**

POSITIONS OPEN

University of Erlangen-Nürnberg, West Germany, Department of Virology. Position for a **POSTDOCTORAL RESEARCH ASSOCIATE** available immediately to participate for 3 years in a research project on molecular biology of oncogenic DNA viruses. Background in nucleic acid biochemistry is desirable. Send curriculum vitae, list of publications, and letters of recommendation to: **Dr. Herbert Pfister, Institut für Klinische Virologie, Loschgestrasse 7, D-8520 Erlangen, West Germany.**

POSTDOCTORAL RESEARCH ASSOCIATE. To study regulation of protein synthesis in brain (mRNA isolation and cell-free translation) and cloning of heat shock genes activated in brain by hyperthermia. Background in protein and nucleic acid biochemistry and in recombinant DNA technology desirable. Send résumé and three letters of reference to: **Dr. Ian R. Brown, Division of Life Sciences, Scarborough College, University of Toronto, West Hill, Ontario, Canada M1C 1A4.**

Columbia University College of Physicians and Surgeons Department of Anatomy and Cell Biology

The Department of Anatomy and Cell Biology invites applications for a tenured **PROFESSORSHIP** in the field of cell biology. Our goal is to add an outstanding individual who has already developed an active research program, has demonstrated the ability to attract and train good graduate students and postdoctoral fellows, and who can teach effectively. Applicants who are working on problems involving biophysical methods and the study of nonmuscle motile systems or the cytoskeleton will be preferred. Send curriculum vitae, statement of research goals, and names of referees to: **Dr. Michael D. Gershon, Chairman, Department of Anatomy and Cell Biology, Columbia University, College of Physicians and Surgeons, 630 West 168 Street, New York, N.Y. 10032. An Affirmative Action/Equal Opportunity Employer.**

RENAL PHYSIOLOGIST (Ph.D.)—A Ph.D. renal physiologist research position is available in a newly developing Nephrology Division of a university-affiliated hospital located in a highly desirable area. The position is hospital-based and not grant-dependent. Salary is negotiable. Send curriculum vitae to: **Vincent DiScala, M.D., Professor of Medicine, Director, Division of Nephrology, Nassau Hospital, 259 First Street, Mineola, Long Island, New York 11501.**

POSITION AVAILABLE for a

RESEARCH ASSISTANT in a molecular biology laboratory studying eukaryotic gene structure and expression. B.S. degree in biology or chemistry and background in biochemistry, biological sciences, microbiology, and molecular biology required. Preference given to applicants with experience in some of the following areas: gel electrophoresis techniques, nucleic acids procedures, DNA sequencing, microbiological procedures, tissue culture, general chemistry procedures, and familiarity with general laboratory equipment.

Five-day, 37½-hour workweek. Liberal fringe benefits. Applicants must send college transcripts, résumé, and names of three references to: **Personnel Office, Trudeau Institute, Inc., Box 59, Saranac Lake, N.Y. 12983.**

RESEARCH ASSISTANT PROFESSOR position available (three or more years of postdoctoral experience) at the Thrombosis Research Center of the Temple University School of Medicine. Position on nontenure track. Protein biochemical and/or immunochemical background preferred. Securely funded project studying protein cofactors in blood coagulation. Salary dependent on experience and qualifications. Please send complete curriculum vitae and three letters of recommendation to: **Robert W. Colman, M.D., Director, Thrombosis Research Center, Temple University School of Medicine, 3400 North Broad Street, Philadelphia, Pa. 19140. Equal Opportunity/Affirmative Action Employer.**

RESEARCH ASSOCIATE opportunity in calcium/bone endocrinology and metabolism, for Ph.D. biochemistry/physiology/endocrinology or highly-motivated M.D., to begin 1 July 1982. Highly active group in Ca homeostasis, PTH/calcitonin secretion/metabolism, metabolic bone disorders, vitamin D metabolism, animal physiology. Experience in RIA, peptide chemistry/HPLC, animal handling useful. **H. Heath, M.D., Mayo Clinic and Foundation, Rochester, Minn. 55905. An Affirmative Action/Equal Opportunity Institution.**

RESEARCH BIOLOGISTS

Our speciality is ophthalmic research. We are expanding our research effort and are seeking individuals with expertise in the areas of cardiovascular, autonomic and neuropharmacology. Candidates are required to have a Ph. D. degree or equivalent with 2 years or more post-doctoral experience or equivalent and an established research record, as demonstrated by a significant bibliography of publications. Previous experience in eye research may be helpful but is not required. A working knowledge of both written and spoken French and English is desirable.

The successful candidates will be responsible for the running of a laboratory and their duties will include originating and conducting novel research programmes.

Career prospects are good and salaries will appeal to candidates of a high calibre. Our ultra-modern recently completed research facility is located in an attractive region of France and provides a pleasant working environment.

Please send C.V. together with list of publications and/or other scientific accomplishments to :

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Direction du Personnel
MERCK SHARP & DOHME - CHIBRET
RESEARCH LABORATORIES

Division of Merck & Co. Inc.
Usine de Mirabel - Route de Marsat
63203 RIOM CEDEX - FRANCE.

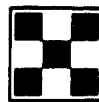
MICROBIAL TECHNOLOGY PROFESSIONALS

Ralston Purina Company's Corporate Research and Development Department has several opportunities for microbiology professionals who have specialized research experience and expertise. We are expanding our microbial technology research effort and have an immediate need to fill three new positions. If you are ready for creative challenges in a progressive environment, we want you to read on.

MICROBIOLOGIST-FERMENTATION The successful candidates will have hands-on knowledge of fermentation equipment and microbial enzyme screening, as well as experience in biocatalysis or bioconversions of waste streams. You must possess either a BS or MS in Microbiology (as outlined by the A.S.M.) with emphasis in Biochemistry, Genetics, Cell Culture, or Food Science, two years research experience PLUS work experience in an industrial setting.

MICROBIOLOGY-FUNGAL PHYSIOLOGY The ideal candidate will have direct research and/or work experience in Mycology and possess either a BS or MS in General Microbiology, Food Microbiology or Food Science with a minor or emphasis in Microbiology.

We offer an excellent compensation and benefits package, including 100% tuition support for future formal training, and a dynamic research setting. If you desire a challenging and fulfilling assignment, please send your curriculum vitae, complete with transcripts and salary history, in confidence to:



Barbara Kinney Murphy
Corporate Employment Services
Ralston Purina Company
Department J-2
Checkerboard Square
St. Louis, MO 63188
An Equal Opportunity Employer

IMMUNOLOGIST

Ortho Pharmaceutical Corporation, a Johnson & Johnson company, is expanding research efforts within our Immunobiology Division.

Individuals interested in joining this progressive research team should possess a PhD in immunology and a minimum of 2 years post doctoral work in cellular immunology or a related field. Understanding of the cellular basis of the immune response is necessary. Responsibilities will include setting up a laboratory to perform bioassays on immunoregulating compound and managing a staff including 3 professionals.

Ortho is located in central New Jersey and offers a competitive salary and benefits package coupled with realistic opportunities for advancement.

Please forward curriculum vitae with salary history in confidence to R. T. Elliott, Group Manager Selection, Department R-1

ORTHO PHARMACEUTICAL CORPORATION

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MAX-PLANCK-INSTITUTE FOR IMMUNOBIOLOGY Freiburg i.Br., F.R.G.

The Max-Planck-Gesellschaft zur Förderung der Wissenschaften e.V. searches for a young scientist with several years of experience in membrane biochemistry or molecular biology as

HEAD OF A JUNIOR RESEARCH UNIT

to investigate a topic within the field of cancer related immunobiology with the techniques of membrane biochemistry or molecular biology. An immunologically relevant molecular system, i.e. histocompatibility antigens, immunoglobulins, tumor antigens, interleukins etc. should be the main focus. In addition, there is an opportunity to collaborate with the group of K. Eichmann in the analysis of T-cell-receptors, as well as with other groups of the Institute.

Besides the position of the head of the unit (equivalent to Associate Professor) positions for a junior scientist and two technicians will be available. In addition, stipends for postdocs and students can be applied for with the Max-Planck-Gesellschaft. Appropriate laboratory space as well as a budget for investments and supplies will be provided. The work should start at the earliest possible date, the appointment will be made for a period of 5 years.

Applications with C.V., list of publications, and a short description of the scientific work, both achieved and intended, should be sent to

Max-Planck-Gesellschaft zur Förderung
der Wissenschaften e.V.
Generalverwaltung
Postfach 647
D-8000 München 1

until March 12, 1982.

POSITIONS OPEN

POSTDOCTORAL ASSOCIATE available September 1982 for 1 year. NSF-supported study to simulate self-organization in ecosystems. Background in optimization theory, information theory, thermodynamics, and ecological theory all highly desirable. Submit résumé and names of three references by 5 March 1982 to: **Dr. Robert E. Ulanowicz, University of Maryland, Chesapeake Biological Laboratory, Box 38, Solomons, Maryland 20688.** An Equal Opportunity/Affirmative Action Employer.

POSTDOCTORAL POSITION

Appointment as **RESEARCH ASSOCIATE** in the Department of Biochemistry, Baylor College of Medicine. Position available immediately for Ph.D. in biochemistry or microbiology to study cation transport in bacterial membrane vesicles. Salary starting at \$16,000 for 1 year, renewable second year. Send curriculum vitae and names of two references to: **Dr. Eugene M. Barnes, Department of Biochemistry, Baylor College of Medicine, Houston, Texas 77030.** Equal Opportunity/Affirmative Action Employer.

RESEARCH ASSOCIATE. Ph.D. in biochemistry with emphasis in the use of radioisotopes in intermediary metabolism. Five years of experience or exposure to double-label isotope studies using glucose clamps on large animals, including ruminants, required. Capable of directing and developing contract and grant programs in glucose metabolism and related carbohydrate disorders. Salary: \$20,000 to \$24,000 per year. Closing date: 1 March 1982. **Dr. R. W. Phillips, Department of Physiology, Colorado State University, Ft. Collins, Colo. 80523.** Colorado State University is an Equal Opportunity/Affirmative Action Employer. Equal Opportunity Office: 314 Student Services Building.

RESEARCH PHYSIOLOGIST/ASSISTANT ADJUNCT PROFESSOR

Applications invited for nontenured academic position for cross-disciplinary research in inhalation and pulmonary toxicology, with emphasis in mammalian exercise physiology. Successful candidate will have a minimum of 2 years of postdoctoral research experience, with demonstrated record of achievement in research subject area, including evidence of ability to collaborate with other laboratory professionals as well as to conduct independent research. Experience with laboratory computer data acquisition and control system is desirable. Teaching duties will be assigned under the assistant adjunct professor title, with principal commitment to undergraduate and graduate seminars and research supervision in the area of the candidate's specialty. Send curriculum vitae and names of three referees to:

T. Timothy Crocker, M.D., Chair
Department of Community and
Environmental Medicine
College of Medicine
University of California, Irvine
Irvine, California 92717

An Affirmative Action/Equal Opportunity Employer

SENIOR SCIENTIST

ANGENICS, INC. is a young, rapidly growing biotechnology-based company located in new facilities in Cambridge, Mass. We are presently expanding our R & D programs and are seeking an individual capable of supervising an Applied Research Group.

The successful candidate will possess a Ph.D. in the biological or chemical sciences and have demonstrated expertise in immunochemical, microbiological, and protein purification techniques. A working knowledge of synthetic organic chemistry and a minimum of 3 years of postdoctoral experience are also required.

This position offers a competitive starting salary and benefits and a unique opportunity to grow professionally as a reward for performance. Please submit a detailed résumé, including salary history, in strictest confidence, to:

ANGENICS, INC.
100 Inman Street
Cambridge, Mass. 02139
An Equal Opportunity Employer

POSITIONS OPEN

RESEARCH ASSOCIATE and/or POSTDOCTORAL ASSOCIATE positions open 1 July 1982 for molecular biologists (Ph.D. in immunology or biochemistry) to study the human MHC. Recombinant DNA technology experience desired. Send curriculum vitae and three letters of reference before 15 February 1982 for the research associate (requires minimum of 2 years of postdoctoral experience) to: **Dr. McCullough, Box 198 Mayo, University of Minnesota, Minneapolis, Minn. 55455;** for the postdoctoral associate to: **Dr. Orr, Box 724 Mayo, University of Minnesota, Minneapolis, Minn. 55455.** The University of Minnesota is an Affirmative Action Employer and specifically invites and encourages applications from women and minorities.

The Alcohol Research Program has an immediate opening for either a **RESEARCH ASSOCIATE** or **POSTDOCTORAL FELLOW** to work in the area of the pathology of hepatic cytoskeletal components. Qualifications should include a recent Ph.D. (or equivalent) in the biological sciences with experience or interest in protein biochemistry, enzymology, or isolation and characterization of subcellular components. The salary range for this position is \$15,000 to \$20,000 per annum, plus generous fringe benefits. The Jerry L. Pettis Memorial VA Hospital is located in southern California (60 miles east of Los Angeles). Interested individuals should contact (by 28 February 1982): **Dr. Harold M. Tinberg, Alcohol Research Program (151), Jerry L. Pettis Memorial Veterans Administration Hospital, 11201 Benton Street, Loma Linda, California 92357.** Telephone: 714-825-7084, extensions 2839, 2264.

RESEARCH ASSOCIATE, BIOCHEMISTRY. Conduct research on the role of hormones in cancer. Research will involve working with radioisotopes, small laboratory animals (rodents), human tissue specimens, electron microscopy, and biochemistry. Conduct lectures and participate in teaching program for pharmacy, graduate, dental, and medical students. Ph.D. or equivalent in biochemistry, 2 years of experience or 2 years of experience as researcher in endocrine physiology and hormone receptors. Experience in radioisotope work, lipid biochemistry, and hormone (prolactin) receptors preferred. Forty hours per week; 8 a.m. to 5 p.m.; \$17,000 per annum. Send résumé to: **Virginia Employment Commission, 318 East Cary Street, Richmond, Virginia 23219, attention: B. Gilley.** Refer to: Job Order Number 2026482.

UNIVERSITY OF MELBOURNE RESEARCH FELLOW GRADE 1 (EXTENDIBLE TENURE) DEPARTMENT OF VETERINARY PRECLINICAL SCIENCES FACULTY OF VETERINARY SCIENCE

The Sheep Biology Unit within the Department of Veterinary Preclinical Sciences encompasses groups working in fetal and neonatal immunology, developmental and differentiation antigens, and somatic cell genetics. The successful applicant will join the somatic cell genetics group which is developing techniques for the manipulation of embryonic cells and genes in sheep.

Salary within the range A\$17,083 to A\$19,570 per annum.

For further information about the position, write to the head of the department, **Professor R. N. P. Cahill.** Details of application procedure and conditions of appointment are available from the staff officer. Applications, referring to Position Number E 260 3000, should be addressed to: **Staff Officer, University of Melbourne, Parkville, Victoria 3052, Australia,** and close on 28 February 1982.

RESEARCH PHYSIOLOGIST

The Naval Medical Research Institute, Bethesda, Maryland, is seeking an individual with knowledge of modern methods of neurobiology to serve as leader of the Nerve Regeneration Program, which is engaged in basic and applied research on the reaction of nerve tissue to injury.

Position may be filled at GS-12 or -13 grade level, depending on qualifications. Must be a U.S. citizen. Send government application form (SF-171) to:

CCPONW, Building 1, T-12
Department of the Navy
8901 Wisconsin Avenue
Bethesda, Md. 20814
Attention: Susan D. Reider
Telephone: 202-295-1420
Equal Opportunity Employer

POSITIONS OPEN

PEPTIDE CHEMIST, preferably recent Ph.D. with experience in peptide purification, Sephadex, ion exchange, HPLC, also sequence determination. Send résumé and recommendations to: **Dr. Andrew V. Schally, Department of Medicine, Tulane University Medical School, 1430 Tulane Avenue, New Orleans, La. 70112.** An Affirmative Action/Equal Opportunity Employer.

TRAINING PROGRAMS

PRE- AND POSTDOCTORAL RESEARCH TRAINING IN PSYCHOBIOLOGY

The Institute of Animal Behavior, Graduate Psychology Program, Rutgers-The State University of New Jersey, invites applications for admission to its joint program of training in psychobiology with the Neuroscience Department of the University of Medicine and Dentistry of New Jersey. Four year NIMH predoctoral fellowships and 2-year NIMH postdoctoral fellowships are available beginning September 1982 and July 1982, respectively. Training available in animal behavior (sexual, maternal, aggressive), neuroscience (neurophysiology, neuroendocrinology, neuropharmacology), steroid receptor biochemistry, psychosomatic disorders, and evolutionary psychobiology (behavioral ecology, behavioral genetics, field studies).

Deadline for submitting predoctoral applications is 22 February, and for postdoctoral applications, 23 April. Predoctoral applications can be obtained from: **Admissions Office, attention: Graduate Desk, Rutgers-The State University, Student Services Building, Newark, New Jersey 07102.** Postdoctoral applicants write to: **Dr. Jay S. Rosenblatt, Institute of Animal Behavior, 101 Warren Street, Newark, New Jersey 07102,** and send curriculum vitae.

Equal Opportunity/Affirmative Action Employer

PREDOCTORAL TRAINING PROGRAM IN ANATOMY AND CELLULAR BIOLOGY

The Department of Anatomy and Cellular Biology, Tufts University Schools of Medicine, Dental Medicine and Veterinary Medicine, invites applications for its Ph.D. training program. Major research areas in the department include pulmonary cell biology and metabolism, reproductive biology and neuroendocrinology, neurobiology, comparative immunology and the effects of stress on immunosuppression, effects of stress and aging on the musculoskeletal system, and cell biology including secretory mechanisms, cell-to-cell interactions, cell motility, and developmental mechanisms. All students admitted to the program receive tuition waivers; stipends may also be available for qualified trainees. Applications should be completed by 15 April for entrance to the program in September 1982.

For application materials write:

Dr. Karen R. Hitchcock, Ph.D.
Professor and Chairman
Department of Anatomy and Cellular Biology
Tufts University School of Medicine
136 Harrison Avenue
Boston, Massachusetts 02111

FELLOWSHIPS

RESEARCH FELLOWSHIP in Cardiothoracic Surgical Research Laboratory. Ongoing studies in cardiovascular physiology, heart assist devices, and training in advanced cardiovascular research methodology. Contact: **J. Y. Kresh, Cardiothoracic Surgery Research, Jefferson Medical College, 1025 Walnut Street, Philadelphia, Pa. 19107.** Telephone: 215-928-6996.

FELLOWSHIPS IN MOLECULAR BIOLOGY AND GENETICS. The University of Rochester Cancer Center invites applications for postdoctoral positions offering training in recombinant DNA technology, DNA structure analysis, and control of gene expression. Programs in the center include the regulation of RNA and protein synthesis, molecular effects of anticancer agents and radiation, and hormonal effects on chromosomal replication and gene expression. Funding is provided by an NIH Training Grant. Applicants are requested to send their curriculum vitae and three letters of reference to: **Dr. Edgar Henshaw, Assistant Director of the University of Rochester Cancer Center, Box 704, 601 Elmwood Avenue, Rochester, N.Y. 14642.**

**KING FAISAL UNIVERSITY
COLLEGE OF MEDICINE
DAMMAM, SAUDI ARABIA
Faculty Positions Open
1982-1983**

King Faisal University College of Medicine, now in its eighth year, invites applications from qualified men and women for the 1982-1983 academic year in:

Chemistry	Pathology
Biology	Epidemiology
Physics	Microbiology
Biochemistry	Parasitology
Anatomy	Pharmacology
Physiology	Community Medicine

Doctorate or equivalent degree required. Language of instruction is English. Interviews to be held in London and Houston during spring 1982.

Salaries are highly competitive and negotiable; comparable to other Saudi universities. Benefits include free furnished housing, educational allowances, air tickets to and from Saudi Arabia once each year for a family of four, 60-day paid vacation, and liberal over-weight allowance. No Saudi income tax.

Send curriculum vitae with current telephone number and the names and addresses of three references to:

Dr. Tawfik Tamimi
Dean, College of Medicine
King Faisal University Office
Suite 540
2425 West Loop South
Houston, Texas 77027

OR
c/o Saudi Arabian Educational Office
29 Belgrave Square
London, S.W. 1X 8QB, England

**The Open University
CHAIR IN SYSTEMS
Technology Faculty**



Applications are invited for the Chair in Systems in the Technology Faculty of the Open University.

The range of general disciplines represented among the lecturing staff of the Systems Group is extremely wide. The Group has three main research units: Applied Systems Studies, Biosystems Research and Co-operatives Research.

Because of the multi-disciplinary nature of the department no particular disciplinary background is specified for candidates for the Chair. However, candidates should have an interest in the practical use of systems concepts and application to industrial and social problems.

The Chair is a permanent, tenured post, but the University is willing to consider applications from outstanding candidates for a fixed-term appointment.

Further particulars may be obtained from the Secretary, (CS/8), The Open University, Walton Hall, Milton Keynes, MK7 6AA, England, or telephone Milton Keynes (0908) 653710: there is a 24 hour answering service on 653868.

Closing date for applications: 31st March, 1982.

**UNIVERSITY OF PENNSYLVANIA
DEPARTMENT OF MEDICINE**

The Cardiovascular-Pulmonary Division seeks four assistant professors of medicine:

- 1) Board-qualified or -certified in pulmonary medicine with particular interest in clinical disorders of the control of breathing. Research to be conducted both on animals and on man in ventilatory control. Background of research experience in control of breathing essential.
- 2) Trained in internal medicine and either Board-qualified or -certified in pulmonary medicine or allergy, or both. At least 50 percent of time to be spent on research involving cellular immunology, the remainder to be divided between clinical practice and teaching.
- 3) Internist, Board-qualified or -certified in pulmonary medicine who has had research experience in protein biochemistry. The position requires half-time research, the remainder divided between clinical practice and house-staff teaching. Research to deal with protein turnover in the lungs.
- 4) Board-certified or -qualified in chest medicine with particular research interest in water exchange in the lungs. Previous experience in experimental research on animals, particularly in water exchange within the lungs essential. One-half time to be devoted to research, the remainder divided between clinical practice and teaching.

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Michael McNicholas
Cardiovascular-Pulmonary Division
Department of Medicine
Hospital of the University of Pennsylvania
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FELLOWSHIPS

The National Research Council of the National Academy of Sciences offers a small number of **RESIDENT FELLOWSHIPS** for work on science, technology, and public policy. Scientists and engineers who have received their professional degrees fewer than 10 years before the date of the application are eligible for these 1-year fellowships. The next deadline for completion of the application process (which requires about 1 month) is 1 March 1982.

Inquiries should be addressed to:

National Research Council Fellowship Program
Executive Office
National Academy of Sciences
2101 Constitution Avenue, NW
Washington, D.C. 20418

POSTDOCTORAL FELLOWSHIPS

Postdoctoral fellowships to begin 1 July 1982 are available in the Division of Metabolism and Nutrition, Department of Medicine, Columbia University.

Interdisciplinary training in basic research and/or clinical investigation is available in the following: lipid and lipoprotein metabolism, hyperlipidemia, platelet and coagulation biochemistry and disease, biomathematics and computer modeling, regional myocardial blood flow and coronary circulation, electrophysiology and arrhythmias, and vitamin A and retinol-binding protein metabolism.

The requirements are an M.D. or Ph.D. or equivalent and U.S. citizenship or permanent residency. Annual salaries are standard NIH postdoctoral stipends plus supplement. Submit applications to:

DeWitt S. Goodman, M.D.
Division of Metabolism and Nutrition
Department of Medicine
Columbia University
630 West 168 Street
New York, New York 10032

GEORGE S. WISE POSTDOCTORAL FELLOWSHIPS

The George S. Wise Faculty of Life Sciences at Tel Aviv University offers postdoctoral fellowships commencing 1 October 1982 or 1 April 1983, in basic and applied biology. The faculty is engaged in such research areas as anatomy, taxonomy, and physiology of plants; anatomy, sociobiology, and physiology of animals; marine biology; cellular and molecular biology and genetics; lipid and protein research; bioenergetics; neurobiology; immunology; virology; cancer biology; biotechnology; and nature preservation. Applications should be sent to: **Dean, The George S. Wise Faculty of Life Sciences, Tel Aviv University, Tel Aviv, 69978, Israel.** They should indicate the area of interest of the applicant and contain complete curriculum vitae, list of publications, title of Ph.D. thesis and name of thesis supervisor, and names of three references. Deadlines for applications are 31 March and 31 October for fellowships commencing 1 October and 1 April, respectively.

THE WEIZMANN INSTITUTE OF SCIENCE REHOVOT, ISRAEL

Offers **POSTDOCTORAL FELLOWSHIPS** in the life sciences (biology, biochemistry, biophysics), chemistry (physical, organic, geological, and biological), mathematical sciences, physics, and science teaching.

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Application forms and additional information may be obtained from: **The FEINBERG GRADUATE SCHOOL of the Weizmann Institute of Science, Rehovot 76-100, Israel.**

The applications should reach the above address not later than 15 May 1982 for fellowships starting in September 1982 and not later than 15 November 1982 for fellowships starting in April 1983.

POSTDOCTORAL FELLOWSHIPS at Duke University Center for the Study of Aging and Human Development in adult development and/or aging. Research training is available in many biomedical, behavioral, and social science disciplines. To request application materials, reply with curriculum vitae and brief description of proposed research area. Completed applications should be received by 26 April 1982 for positions starting in June 1982 and positions for the 1982-1983 academic year. Contact: **Dr. Ilene C. Siegler, Box 3003, Duke University Medical Center, Durham, N.C. 27710. An Equal Opportunity/Affirmative Action Employer.**

FELLOWSHIPS

MOLECULAR CELL BIOLOGY

PREDOCTORAL FELLOWSHIPS. The Graduate Program in Molecular Cell Biology invites applications from highly qualified students interested in an interdisciplinary Ph.D. program. Major areas of emphasis include animal virology, bacterial and somatic cell genetics, cancer biology, cellular immunology and immunochemistry, connective tissue and protein biochemistry, infectious diseases and host defense, membrane biochemistry, nucleic acid synthesis, and research involving the cause and prevention of dental caries. All students admitted to the program receive stipends of \$6300 plus tuition and fees per year. After admission to candidacy, the stipend is increased to \$7000 per year. Contact: **Dr. Roy Curtiss III, Director of Molecular Cell Biology Graduate Program, Department of Microbiology, University of Alabama in Birmingham, Birmingham, Alabama 35294.**

POSTDOCTORAL FELLOWSHIPS IN PHYSIOLOGICAL PSYCHOLOGY at University of California, Los Angeles (UCLA). Training in basic research and experience with application of physiological methods to clinical and other applied problems will be provided. Faculty include Doctors A. Arnold, J. Beatty, L. Butcher, G. Ellison, J. Garcia, F. Krasne, J. Liebeskind, D. Novin, and E. Zaidel. Send transcripts, names of three references, curriculum vitae, and a statement of research interests to the individual faculty member with whom you would like to work or to: **Dr. Donald Novin, Program Director, Psychology Department, UCLA, Los Angeles, Calif. 90024.** Applications received by 31 March 1982 will be considered for funding prior to or beginning June 1982. *The University is an Equal Opportunity/Affirmative Action Employer and applications from qualified minority candidates are invited.*

BASIC SCIENCES DISTINGUISHED PREDOCTORAL FELLOWSHIPS

The School of Basic Sciences at the Medical College of Virginia, Virginia Commonwealth University, has outstanding Ph.D. programs in seven departments: Anatomy, Biochemistry, Biostatistics, Genetics, Microbiology, Pharmacology, and Physiology. The school has recently established a series of Distinguished Predoctoral Fellowships with a stipend of \$7500 a year which will be awarded to applicants with unusually high academic qualifications. Other teaching assistantships and fellowships carry a stipend from \$5040 to \$6900 based on academic qualifications and experience. All assistantships and fellowships carry full tuition and fees. Applications and further information may be obtained from: **The Dean, School of Basic Sciences, Box 110, MCV Station, Richmond, Va. 23298. Virginia Commonwealth University is an Equal Opportunity/Affirmative Action Employer.**

BRUCE CAIN MEMORIAL POSTDOCTORAL FELLOWSHIP

The Auckland Division of the Cancer Society of New Zealand, Inc., is offering a fellowship for postdoctoral research in a field of chemistry, cell biology, or tumor biology which is relevant to the interests of the Cancer Research Laboratory, located in the University of Auckland School of Medicine. Applicants should have, or have almost completed, a Ph.D. or equivalent qualification. The fellowship is available for 2 years with a possible extension for a third year. Salary will be NZ\$18,229 per annum and a return economy-class air fare will be paid. Consideration will be given to payment of other expenses, including an air fare for a spouse.

Applications will be accepted up to 1 March 1982.

Further information and application forms are available from: **The Chief Executive, Auckland Division Cancer Society of New Zealand, Inc., P.O. Box 1724, Auckland, New Zealand.**

TRAVEL SCHOLARSHIPS

TRAVEL SCHOLARSHIP will be awarded by the M.G.F. Fuortes Memorial Trust to neuroscientist to attend the course on **Single Channel Recording in Biological Membranes**, to be given by the International School of Biophysics, 20 to 29 May 1982, at the Ettore Majorana Centre for Scientific Culture, Erice, Sicily. For further information, interested applicants should write to: **Dr. H. G. Wagner, Building 36, Room 2C02, National Institutes of Health, Bethesda, Md. 20205. Telephone: 301-496-2414.**

PUBLIC MEETING

Study on Risk Assessment Procedures National Academy of Sciences (NAS)/ National Research Council (NRC)

An NRC committee on the institutional means of risk assessment will hold a **public meeting** on Wednesday morning, **10 February**, in the NAS auditorium, 2100 C Street, NW, Washington, D.C. The purpose of the meeting is to take public comments on (i) the feasibility and desirability of uniform federal guidelines for assessing cancer and other health risks and (ii) the merits and drawbacks of organizational separation between risk assessment and policy-making. Presentations may be scheduled until **2 February** by telephoning: **202-334-2244.**

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University of Virginia
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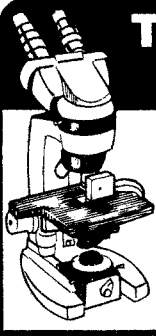
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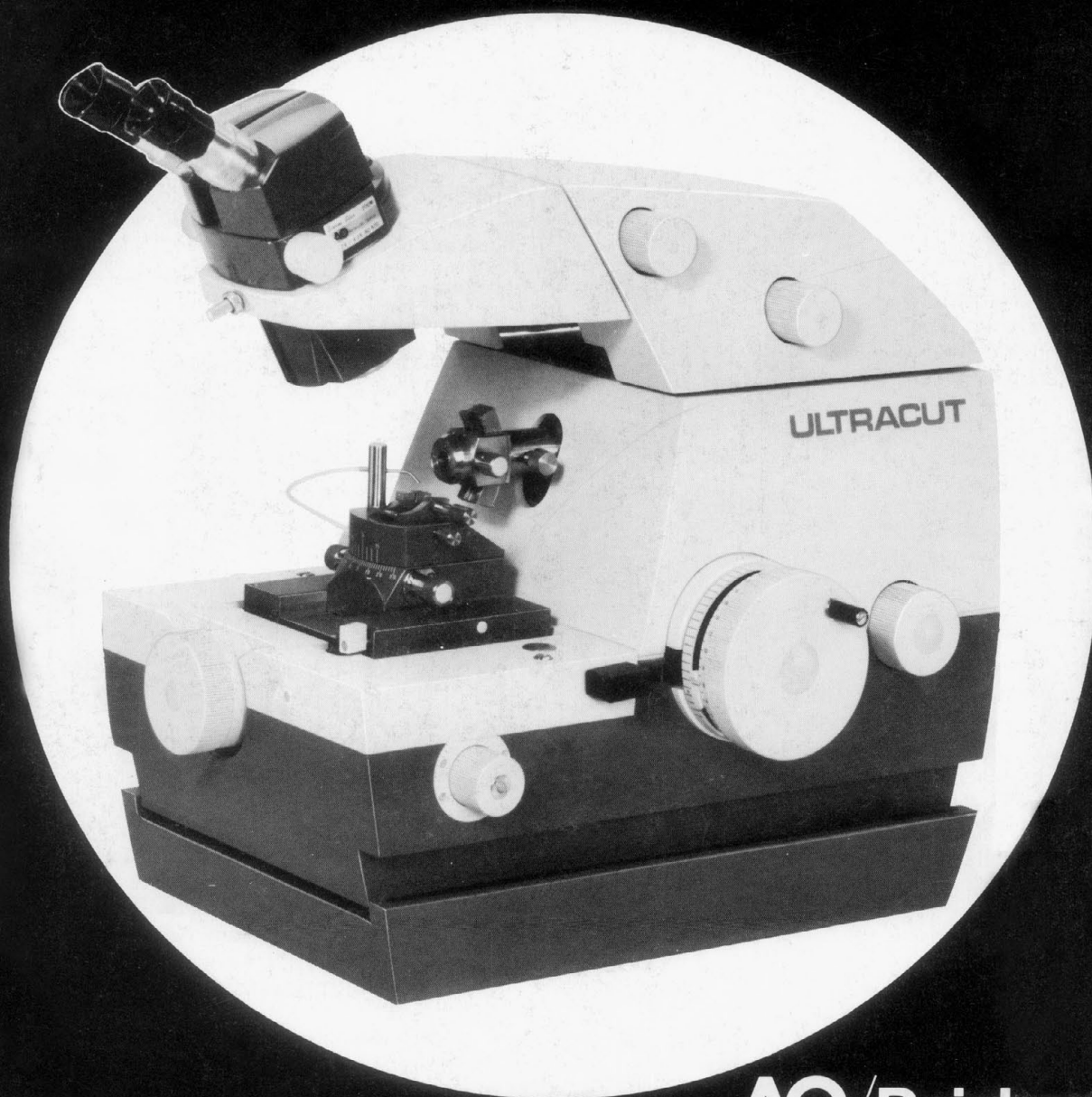
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