

Theodore von Kármán (forward seat) and Anthony Fokker, 1921. From *Bringing Aerodynamics to America*; courtesy of the Archives, California Institute of Technology.

layer"), through his theory of induced drag in 1910, work that radically altered the wing design of airplanes in the '20's. This chapter and the succeeding one, in which Hanle analyzes von Kármán's celebrated paper on the stability of vortex patterns that form behind stationary bodies in flowing fluids ("Kármán vortex street"), point up just how much the mathematization of American aeronautics owed to the flowering of fluid mechanics in Germany.

By his own account, politics, not science, brought von Kármán to America. He disliked not only the growing German militarism but the increasing number of anti-Semitic incidents in Aachen. Drawing upon several unpublished letters in the von Kármán papers, Hanle concludes that von Kármán's personal encounter with anti-Semitism in 1922 left him ripe for Millikan's offer in 1929.

The episode involved von Kármán's physicist friend and scientific collaborator Max Born and the mathematician Richard Courant. They had proposed von Kármán as Prandtl's successor, following rumors that Prandtl might leave Göttingen for Munich. Their suggestion came to nothing, because neither man was willing, in Born's words, "to fight it out for you against the enemies of Israel." The correspondence is arresting not simply because it paints a realistic picture of German academic politics in the pre-Hitler period but because at the personal level von Kármán's distinguished colleagues seem like very ordinary human beings.

What Hanle has to say could have been said in fewer words in a scholarly journal. Some of his chapters, particular-

ly those dealing with American aeronautics before and after von Kármán, repeat information readily available in John Rae's *Climb to Greatness* and in von Kármán's semiautobiography, *The Wind and Beyond*.

JUDITH R. GOODSTEIN

*Division of the Humanities and
Social Sciences, California Institute of
Technology, Pasadena 91125*

Books Received

Adverse Effects of Foods. E. F. Patrice Jelliffe and Derrick B. Jelliffe, Eds. Plenum, New York, 1982. xvi, 614 pp. \$65.

The Aesthetic Dimension of Science. 1980 Nobel Conference. St. Peter, Minn., Oct. 1980. Deane W. Curtin, Ed. Philosophical Library, New York, 1982. xx, 146 pp. \$12.50.

Agricultural Research Policy. Vernon W. Ruttan. University of Minnesota Press, Minneapolis, 1982. xiv, 370 pp. Cloth, \$32.50; paper, \$13.95.

An Album of Fluid Motion. Assembled by Milton Van Dyke. Parabolic Press, Stanford, Calif., 1982. 176 pp. Cloth, \$20; paper, \$10.

Analysis of Coniferous Forest Ecosystems in the Western United States. Robert L. Edmonds, Ed. Hutchinson Ross, Stroudsburg, Pa., 1982. xx, 420 pp., illus. \$44. US/IBP Synthesis Series, 14.

Analysis of Organic Micropollutants in Water. Proceedings of a symposium, Killarney, Ireland, Nov. 1981. A. Bjørseth and G. Angeletti, Eds. Reidel, Boston, 1982 (distributor, Kluwer Boston, Hingham, Mass.). xii, 366 pp., illus. \$49.50.

Biological Mediators of Behavior and Disease: Neoplasia. Proceedings of a symposium, Bethesda, Md., May 1981. Sandra M. Levy, Ed. Elsevier, New York, 1982. xx, 260 pp., illus. \$48.

Biological Membranes. Vol. 4. Dennis Chapman, Ed. Academic Press, New York, 1982. xvi, 526 pp., illus. \$74.50.

Children's Logical and Mathematical Cognition. Progress in Cognitive Development Research. Charles J. Brainerd, Ed. Springer-Verlag, New York, 1982. xviii, 216 pp., illus. \$22. Springer Series in Cognitive Development.

Christianity and the Age of the Earth. Davis A. Young. Zondervan, Grand Rapids, Mich., 1982. 188 pp., illus. Paper. \$19.95.

Climatic Geomorphology. Julius Büdel. Translated from the German edition (Berlin, 1977) by Lenore Fischer and Detlef Busche. Princeton University Press, Princeton, N.J., 1982. xx, 444 pp., illus. Cloth, \$50; paper, \$18.50.

The Collected Letters of Colin MacLaurin. Stella Mills, Ed. Shiva, Nantwich, Cheshire, England, 1982 (U.S. distributor, Birkhäuser, Boston). xx, 496 pp. \$35.

Differentiation in vitro. Papers from a symposium, Edinburgh, Sept. 1980. M. M. Yeoman and D. E. S. Truman, Eds. Cambridge University Press, New York, 1982. x, 286 pp., illus. \$59.50. British Society for Cell Biology Symposium 4.

Digital Computers in Analytical Chemistry, Part 1, 1950-1969. J. B. Justice, Jr., and T. L. Isenhour, Eds. Hutchinson Ross, Stroudsburg, Pa., 1982 (distributor, Academic Press, New York). xvi, 368 pp., illus. \$56. Benchmark Papers in Analytical Chemistry/3.

Effects of Low Temperatures on Biological Membranes. Papers from a meeting, London, Sept. 1980. G. J. Morris and A. Clarke, Eds. Academic Press, New York, 1981. xxii, 432 pp., illus. \$45.50.

Electron Transport and Photophosphorylation. J. Barber, Ed. Elsevier, New York, 1982. xvi, 288 pp., illus. \$89.75. Topics in Photosynthesis, vol. 4.

Electronic Document Delivery. The ARTEMIS Concept for Document Digitalisation and Teletransmission. Adrian Norman and Arthur D. Little. Knowledge Industry Publications, White Plains, N.Y., 1982. xiv, 226 pp., illus. \$45.

A Grammar of English on Mathematical Principles. Zellig Harris. Wiley-Interscience, New York, 1982. xviii, 430 pp. \$43.50.

Handbook of Heats of Mixing. James J. Christensen, Richard W. Hanks, and Reed M. Izatt. Wiley-Interscience, New York, 1982. xiv, 1586 pp. \$130.

Handbook of Pressure-Sensitive Adhesive Technology. Donatas Satas. Van Nostrand Reinhold, New York, 1982. xviii, 620 pp., illus. \$35.

Handbook of the Birds of India and Pakistan. Together with Those of Bangladesh, Nepal, Bhutan and Ceylon. Vol. 3, Stone Curlews to Owls. Salim Ali and S. Dillon Ripley. Oxford University Press, New York, ed. 2, 1981. xvi, 328 pp., illus., + plates. \$33.

Handbook on Atmospheric Diffusion. Steven R. Hanna, Gary A. Briggs, and Rayford P. Hosker, Jr. U.S. Department of Energy Technical Information Center, Oak Ridge, Tenn., 1982 (available as DE82002045 from the National Technical Information Service, Springfield, Va.). vi, 102 pp., illus. Paper, \$10.75. DOE/TIC-11223.

An Introduction to Theory and Applications of Quantum Mechanics. Amnon Yarov. Wiley, New York, 1982. xvi, 300 pp., illus. \$24.95.

The Last Dinosaurs. A New Look at the Extinction of the Dinosaurs. L. R. Croft. Elmwood Books, Chorley, Lancashire, England, 1982. 80 pp., illus. Cloth, £4.95; paper, £2.25.

Literary Machine. The Report on, and of, Project Xanadu. Ted Nelson. Published by the author, Box 128, Swarthmore, Pa., ed. 3, 1981. Various pages, illus. Paper, \$15.

The Literature Matrix of Chemistry. Herman Skolnik. Wiley-Interscience, New York, 1982. xiv, 298 pp. \$30.

Manual and Atlas of the Penicillia. Carlos Ramirez. Elsevier, New York, 1982. xvi, 874 pp. \$162.75.

Margaret Mead. A Voice for the Century. Robert Cassidy. Universe Books, New York, 1982. 176 pp. \$12.50.

Marijuana as Medicine. Roger A. Roffman. Madrona, Seattle, 1982. xxii, 156 pp. Cloth, \$11.95; paper, \$5.95.

Nuclear Magnetic Resonance and Its Applications to Living Systems. David G. Gadian. Clarendon (Oxford University Press), New York, 1982. x, 198 pp., illus. \$29.95.

Nuclear Magnetism. Order and Disorder. A. Abraham and M. Goldman. Clarendon (Oxford University Press), New York, 1982. xx, 626 pp., illus. \$69. The International Series of Monographs on Physics.

The Nude Mouse in Experimental and Clinical Research. Vol. 2. Jørgen Fogh and Beppino C. Giovanella, Eds. Academic Press, New York, 1982. xx, 588 pp., illus. \$58.

Patty's Industrial Hygiene and Toxicology. Vol. 2C, Toxicology with Cumulative Index for Volume 2. George D. Clayton and Florence E. Clayton, Eds. Wiley-Interscience, New York, ed. 3, 1982. xxii + pp. 3817-5112. \$100.

Peptide Antibiotics. Biosynthesis and Functions. Enzymatic Formation of Bioactive Peptides and Related Compounds. Papers from a symposium, Berlin, 1980. Horst Kleinkauf and Hans von Döhren, Eds. Walter de Gruyter, New York, 1982. xii, 480 pp., illus. \$95.

Peroxidases 1970-1980. A Survey of Their Biochemical and Physiological Roles in Higher Plants. Thomas Gaspar, Claude Penel, Trevor Thorpe, and Hubert Greppin. Université de Genève Centre de Botanique, Geneva, 1982. x, 324 pp., illus. Paper, 45 SwFr.

Personal Computing. Home, Professional and Small Business Applications. Daniel R. McGlynn. (Continued on page 667)

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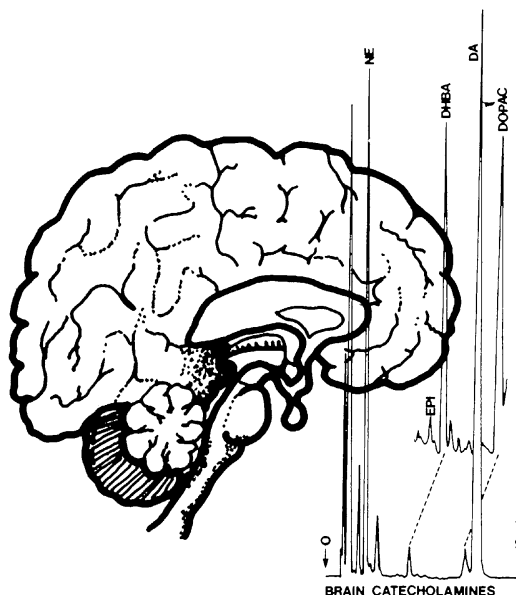
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Four Challenges for the Information Age (Ian M. Ross). #82AAAS/2. (1 tape, \$8.00)

Inspiring Scientific Literacy Through Public Participation (J. Tuzo Wilson). #82AAAS/6. (1 tape, \$8.00)

The Other Frontiers of Science (D. Allan Bromley). #82AAAS/7. (1 tape, \$8.00)

Science and the Cultural Warp (Donald S. Frederickson). #82AAAS/9. (1 tape, \$8.00)

Theories of Choice in the Making of Decisions (James G. March). #82AAAS/4. (1 tape, \$8.00)

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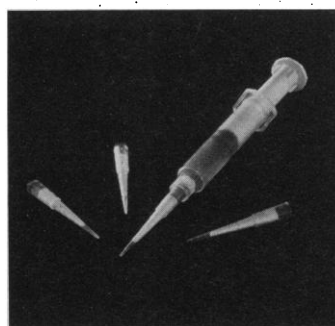
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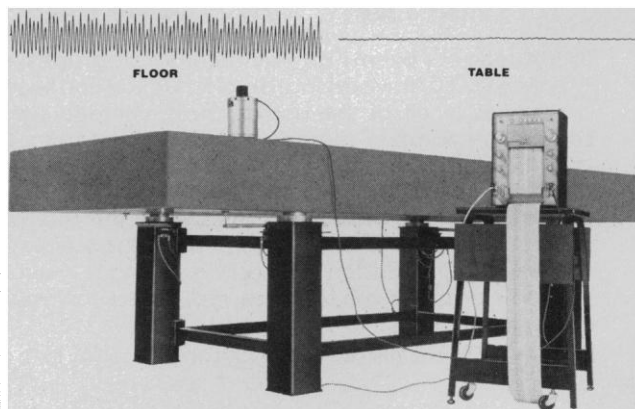
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BOOKS RECEIVED

(Continued from page 628)

Wiley-Interscience, New York, ed. 2, 1982. xiv, 336 pp., illus. Paper, \$14.95.

Personality, Roles, and Social Behavior. William Ickes and Eric S. Knowles, Eds. Springer-Verlag, New York, 1982. xviii, 362 pp. \$27.50. Springer Series in Social Psychology.

Physics and Applications of the Josephson Effect. Antonio Barone and Gianfranco Paternò. Wiley-Interscience, New York, 1982. xxii, 530 pp., illus. \$49.50.

Physics in Collision. High-Energy ee/ep/pp Interactions. Vol. 1. Proceedings of a conference, Blacksburg, Va., May 1981. W. Peter Trower and Gianpaolo Bellini, Eds. Plenum, New York, 1982. xii, 522 pp., illus. \$65.

The Physics of Microfabrication. Ivor Brodie and Julius J. Murray. Plenum, New York, 1982. xx, 504 pp., illus. \$49.50.

Pills, Pesticides and Profits. The International Trade in Toxic Substances. Ruth Norris, Ed. North River Press, Croton-on-Hudson, N.Y., 1982 (distributor, Caroline House Publishers, Aurora, Ill.). viii, 168 pp. \$10.95.

Planets of Rock and Ice. From Mercury to the Moons of Saturn. Clark R. Chapman. Scribner, New York, 1982. xviii, 222 pp. + plates. \$13.95.

Plastics Materials and Processes. Seymour S. Schwartz and Sidney H. Goodman. Van Nostrand Reinhold, New York, 1982. xiv, 966 pp., illus. \$89.50.

Pointlike Structures Inside and Outside Hadrons. Proceedings of a school, Erice, Italy, July 1979. Antonino Zichichi, Ed. Plenum, New York, 1982. viii, 740 pp., illus. \$85. The Subnuclear Series, 17.

Stable Isotope Hydrology. Deuterium and Oxygen-18 in the Water Cycle. J. R. Gat and R. Gonfiantini, Eds. International Atomic Energy Agency, Vienna, 1981 (U.S. distributor, Unipub, New York). xii, 340 pp., illus. Paper. Technical Reports Series No. 210.

Statistical and Methodological Issues in Psychology and Social Sciences Research. Gideon Keren, Ed. Erlbaum, Hillsdale, N.J., 1982. x, 390 pp., illus. \$39.95.

Structural Molecular Biology. Methods and Applications. Proceedings of an institute, Maratea, Italy, May 1981. David B. Davies, Wolfram Saenger, and Steven S. Danyluk, Eds. Plenum, New York, 1982. x, 530 pp., illus. \$65. NATO Advanced Study Institutes Series A, vol. 45.

The Structure of the Eye. Papers from a symposium, Guadalajara, Mexico, Aug. 1980. Joe G. Hollyfield and Enrique Acosta Vidrio, Eds. Elsevier, New York, 1982. xvi, 382 pp., illus. \$95.

Structured Programming with COMAL. Roy Atherton. Horwood, Chichester, England, and Halsted (Wiley), New York, 1982. 266 pp., illus. \$49.95. The Ellis Horwood Series in Computers and Their Applications, 17.

Successful Consulting for Engineers and Data Processing Professionals. Steven P. Tomczak. Wiley, New York, 1982. xiv, 338 pp. \$39.95. A Ronald Press Publication.

A Synopsis of Human Biochemistry with Medical Applications. W. C. McMurray. Harper and Row/Lippincott, Philadelphia, 1982. xiv, 320 pp., illus. Paper, \$15.75.

La Tecnología en el Mundo Andino. Runakunap Kawsayninkupaq Rurasqanakuna. Tomo 1, Subsistencia y Mensuración. Heather Lechtman and Ana María Soldi, Eds. Universidad Nacional Autónoma de México, Mexico City, 1981. 496 pp., illus., + plates. Paper, \$3.50. Instituto de Investigaciones Antropológicas Serie Antropológica, 36.

A Territorial Antelope. The Uganda Waterbuck. C. A. Spinage. Academic Press, New York, 1982. xvi, 334 pp., illus. \$49.50.

Teton Wildlife. Observations by a Naturalist. Paul A. Johnsgard. Colorado Associated University Press, Boulder, 1982. xii, 128 pp., illus. Cloth, \$17.50; paper, \$7.95.

Theory of Dislocations. John Price Hirth and Jens Lothe. Wiley-Interscience, New York, ed. 2, 1982. xiv, 858 pp., illus. \$72.95.

Thermodynamic Design Data for Heat Pump Systems. A Comprehensive Data Base and Design Manual. F. A. Holland, F. A. Watson, and S. Devotta. Pergamon, New York, 1982. viii, 348 pp. \$150.

Topics in Applied Multivariate Analysis. Papers from two seminars, 1980 and 1981. Douglas M. Hawkins, Ed. Cambridge University Press, New York, 1982. xii, 362 pp. \$24.95.

Traditional and Non-Traditional Foods. R. Ferrando. Food and Agriculture Organization of the United Nations, Rome, 1981 (U.S. distributor, Unipub, New York). xii, 156 pp., illus. Paper, \$16.25. FAO Food and Nutrition Series, No. 2.

Understanding the Environment. Kenneth E. F. Watt. Allyn and Bacon, Boston, 1982. xvi, 432 pp., illus. \$25.95.

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ASSISTANT PROFESSOR FOR RESEARCH—Position involving immunocytochemistry of opioid peptide neuroregulators. Individual must be experienced in developing specific antibodies to peptides and to mapping the substances in mammalian brain. Light and electron microscopic skills are essential. Also involves extensive background in development of specific RIA procedures for measurement of concentrations of new peptides in brain and CSF. Should be familiar with and experienced in the biochemistry and pharmacology of neuropeptide systems and able to characterize and identify previously unrecognized neuropeptides. Requires awareness of the clinical implications of current knowledge regarding neuropeptides and experience interfacing with a mental health clinical research center. Must have writing skills demonstrated in effective and first-rate publications and in successful funding proposals, and ability to present ideas clearly in written and verbal presentations. Ability to work effectively with pre- and postdoctoral persons is important, as is the ability to deal with collaborative programs. Position requires an advanced degree (M.D. or Ph.D.) as well as postdoctoral experience. Salary: \$32,000 to \$36,000. Send résumé and four references to: **Mary C. Clark, P.O. Box 5816, Stanford, Calif. 94305. Equal Opportunity Employer.**

BOTANIST. Assistant professor to teach undergraduate and graduate courses and to establish a vigorous research program in one of the following areas of physiology: development, symbiosis, photosynthesis, or plant-herbivore interactions. Postdoctoral experience preferred. Position starts fall semester 1983. Apply by 1 October 1982 and have three letters of recommendation sent to: **Chairman of the Search Committee, Department of General Biology, Vanderbilt University, Nashville, Tenn. 37235. Vanderbilt University is an Affirmative Action/Equal Opportunity Employer.**

CELL BIOLOGIST—New York publishers seeks executive editor for prestigious basic research journal. Ph.D. required, plus recent administrative experience and a strong interest in editorial work. Oversee solicitation, review, and processing of original articles. Send résumé and salary requirement to: **Box 218, SCIENCE.**

An Equal Opportunity Employer

CHAIR, DEPARTMENT OF ANATOMY UNIVERSITY OF CALIFORNIA, IRVINE

The California College of Medicine of the University of California at Irvine invites applications and nominations for the chairmanship of the Department of Anatomy. The chair must be capable of exerting strong intellectual leadership in a department with a strong research emphasis in neuroscience. Demonstrated scholarly eminence and capabilities in administration, planning, and teaching are required. Applications and nominations should be submitted by 1 September 1982 to: **Professor Larry Stein, Chair of the Anatomy Search Committee, Department of Pharmacology, California College of Medicine, University of California, Irvine, Calif. 92717. The University of California is an Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

ASSOCIATE PROFESSOR. Applications are invited for a position at the level of associate professor. Candidates possessing an M.D. or Ph.D. degree with 5 years or more of academic experience or its equivalent and who have a strong commitment to research are sought. Applicants with research interests in neuropharmacology, toxicology, or molecular biology are preferred, but applications from outstanding candidates in any area of pharmacology are welcome. Responsibilities include participation in the departmental teaching and training of medical and graduate students. Inquiries, which should include curriculum vitae, a synopsis of current research interests, a list of publications, reprints of selected publications, and the names of six references, should be addressed to: **Chairman, Faculty Search Committee, Department of Pharmacological Sciences, School of Medicine, Health Sciences Center, State University of New York (SUNY) at Stony Brook, Stony Brook, N.Y. 11794. SUNY at Stony Brook is an Equal Opportunity/Affirmative Action Employer. AK number 404.**

BIOCHEMISTRY RESEARCH POSITION

To participate in research at VA Medical Center, North Chicago, on the role of protein phosphorylation in the mechanism of cholera toxin action. Applicant should have a Ph.D. in biochemistry or pharmacology and should be knowledgeable about current research in cyclic nucleotide regulation, protein kinase enzymes, and membrane proteins; should be able to operate equipment such as spectrophotometer, ultracentrifuge, liquid scintillation counter, and scanning microdensitometer; and should be familiar with radioisotope usage, gel electrophoresis, chromatographic and autoradiographic techniques. Forty hours per week. Excellent working conditions. Salary in the range of \$15,000 to \$21,000, depending on applicant's qualifications. Applicants must be U.S. citizens. Send curriculum vitae and names and addresses of three references to: **Dr. Harvey S. Kantor, Chief, Infectious Disease Section, VA Medical Center, North Chicago, Ill. 60064. An Equal Opportunity Employer.**

CHAIRMAN, DEPARTMENT OF RADIOLOGY

Henry Ford Hospital, a 1000-bed hospital and group practice affiliated with the University of Michigan, is seeking a chairman for the Department of Radiology. Attractions include full-time staff of 371 M.D.'s with 32 in radiology, large OPD and inpatient practice, four busy ambulatory satellites, third- and fourth-year medical clerkships, high-quality house staff program, large institutional research effort, and new radiological facilities and equipment ready in late fall 1982. Interested candidates are invited to send complete curriculum vitae to: **Thomas Killip, M.D., Chairman Search Committee, Henry Ford Hospital, 2799 West Grand Boulevard, Detroit, Michigan 48202.**

DIRECTOR, ANIMAL INSTITUTE

A full-time director is being sought for research animal facilities at the Albert Einstein College of Medicine in New York. Responsibilities include administrative procedures regarding maintenance of standards of animal care and coordination of training and supervision of animal technicians. Experience with operation of a laboratory animal facility is essential. Preference given to ACLAM-certified or -eligible veterinarian. Opportunities for professional growth and achievement are excellent. Send résumé and names of three references to: **Roy W. Bellhorn, Search Committee Chairman, c/o Dean's Office, Room 312, ALBERT EINSTEIN COLLEGE OF MEDICINE, 1300 Morris Park Avenue, Bronx, New York 10461. An Equal Opportunity Employer.**

HUMAN PHYSIOLOGY LECTURER. A 2½-year lectureship appointment to teach upper/lower division human physiology courses and lower division anatomy classes. Ph.D. preferred in physiology or related field; and teaching experience at the college level required. Appointment is from 17 January 1983 thru 30 May 1985, to be renewed annually, dependent upon satisfactory performance. Salary: \$17,964 to \$21,600 or \$22,620 to \$27,252. Send letter of application, résumé, copy of transcripts (only of highest degree earned), and three letters of recommendation (at least one of which should comment on teaching effectiveness) to: **Dr. John Baird, Acting Chairman, Department of Biology, California State University, Long Beach, Long Beach, Calif. 90840. Final filing date: 15 September 1982. An Affirmative Action/Title IX/Equal Opportunity Employer.**

POSITIONS OPEN

CHAIRMAN DEPARTMENT OF MICROBIOLOGY AND IMMUNOLOGY MEDICAL COLLEGE OF VIRGINIA VIRGINIA COMMONWEALTH UNIVERSITY

Virginia Commonwealth University (VCU) invites applications from individuals with a strong record of productive research and administrative potential and commitment to education in the health sciences. The successful applicant would be expected to play a leading role in expanding the graduate program and furthering interdisciplinary research.

The Department of Microbiology and Immunology consists of 22 faculty members and 45 graduate students and has strong ties to the other departments in the School of Basic Sciences with teaching responsibilities in graduate programs and health professions.

Candidates should submit letters of interest, their curriculum vitae, and other pertinent information to:

**Dr. M. Martinez-Carrion
Chairman, Microbiology Search Committee
Department of Biochemistry
Box 614, MCV Station
Virginia Commonwealth University
Richmond, Va. 23298**

Applications accepted until 1 October 1982 or until a suitable candidate is identified. *VCU is an Affirmative Action/Equal Opportunity Employer.*

The University of Illinois, College of Medicine at Peoria, is searching for a **CHAIRMAN of the Department of Basic Science**. This currently is an active multidisciplinary basic science research unit extensively involved in undergraduate medical education. The successful candidate should have a Ph.D. and/or M.D. degree with a record of sustained scholarly activity and interest in undergraduate medical education and be qualified for appointment as a professor in the University of Illinois. The position will be open until filled. Send first letter and curriculum vitae to: **Patrick W. Elwood, M.D., Chairman, Search Committee for Basic Science, 530 N.E. Glen Oak Avenue, Peoria, Illinois 61637. The University of Illinois is an Affirmative Action/Equal Opportunity Employer.**

DEAN COLLEGE OF PHARMACY THE UNIVERSITY OF IOWA Available 1 January 1983

Applications and nominations are now invited for the position of dean of the College of Pharmacy of The University of Iowa. Applicants should have appropriate academic credentials and must have demonstrated excellence in scholarship and teaching. Administrative experience is desirable. The appointment will be at the rank of tenured full professor. Salary, starting date, and other aspects pertaining to this position are negotiable.

Applicants should provide complete curriculum vitae, including names of references. Nominations, inquiries, and applications will be received until the position is filled and should be addressed to:

**Professor Douglas Flanagan, Chair
Dean Search Committee
College of Pharmacy
The University of Iowa
Iowa City, Iowa 52242**

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

Ph.D. IMMUNOLOGIST

Position in transplantation available. For more information, **telephone: 313-927-7081.**

MOLECULAR BIOLOGIST. Tenure-track position at assistant professor level to begin about 1 July 1983. This position is one of several in a newly created Department of Biology. Postdoctoral experience and demonstrated potential for excellence in research required. Send résumé, including a one-page statement of specific research plans, reprints, and the names and addresses of at least three references, to: **Molecular Biology Search Committee, Department of Biology, Wilson Hall (046A), University of North Carolina, Chapel Hill, N.C. 27514, by 1 December 1982. The University of North Carolina is an Affirmative Action/Equal Opportunity Employer.**

POSITIONS OPEN

CHEMIST, ORGANIC (RESEARCH ASSOCIATE, ORGANIC CHEMISTRY)

Require Ph.D., background in both organic synthesis and photochemistry. Use intramolecular 1,3-dipolar cycloaddition reactions of diazo compounds azides related 1,3-dipoles for synthesis of natural products; use IR, UV, NMR, ¹³C-NMR mass spectroscopy and small-scale equipment; use columns, thick plate, and so forth, chromatography; \$12,500 per year. Contact: **Troy Job Service, attention: George Dick, 1801 Sixth Avenue, Troy, N.Y. 12180; refer to job order number 4808392, D.O.T. code 022.061.010.**

DIRECTOR OF DIAGNOSTIC VIROLOGY

Immediate opening for a **clinical virologist, Ph.D. or M.D.**, to direct a busy, active Diagnostic Virology Service Laboratory with parallel activities on the academic faculty of the Department of Immunology/Microbiology of Rush Medical College. Responsibilities in the Clinical Diagnostic Virology Laboratory include supervision, interpretation, and development of viral serological, cultural, immunofluorescent, and rapid diagnostic techniques, and the development of viral susceptibility assays. Academic responsibilities include developing and/or contributing to basic and clinical research in the pathogenesis of viral disease, along with instruction of house officers, medical, graduate, and undergraduate students. The applicant should have significant experience in the service components of the Clinical Virology Laboratory and be eligible for certification or certified by the American Board for Medical Microbiology. Submit résumé and references by 31 October 1982 to:

Dr. W. Landau
Rush-Presbyterian-St. Luke's Medical Center
1753 West Congress Parkway
Chicago, Ill. 60612

Rush is an Equal Opportunity/Affirmative Action Employer.

FACULTY POSITIONS IN IMMUNOLOGY/MICROBIOLOGY

The Department of Immunology/Microbiology of Rush Medical College invites applications for three faculty positions available to be filled immediately. Interested individuals should have demonstrated research interest and competence in one or more of the areas of molecular genetics, microbial surface chemistry, molecular virology, viral immunobiology, microbial pathogenesis, and cellular immunology. Ample opportunities to contribute to graduate and medical school teaching, including the direction of graduate students, are available. Salary and academic rank are dependent upon experience and qualifications. Please send résumé with description of research interest by 31 October 1982 to:

Henry Gewurz, M.D., Chairman
Department of Immunology/Microbiology
Rush Medical College
1753 West Congress Parkway
Chicago, Ill. 60612

Rush is an Equal Opportunity/Affirmative Action Employer.

FACULTY POSITION IN CLINICAL IMMUNOLOGY LABORATORY

Immediate opening for a **Ph.D. or M.D. immunologist** in a Clinical Immunology Service Laboratory as a **UNIT DIRECTOR** with parallel academic activities in the Department of Immunology/Microbiology at Rush Medical College. Direct service duties in the Clinical Immunology Laboratory include interpretation of histocompatibility testing for transplantation, cellular immunology testing of leukemic and immunodeficient patients, and specific protein analysis (immunoelectrophoresis). This comprehensive Clinical Immunology Laboratory also performs extensive testing for complement, autoantibodies, and tumor-associated antigens. Academic responsibilities include teaching medical, graduate, and undergraduate students, and performing basic research involving acute phase proteins and complement or clinical research in allergy, immunodeficiency, and vasculitis. The applicant must have demonstrated interest in the service components of the Clinical Immunology Laboratory. Submit résumé and reference by 31 October 1982 to:

Dr. K. James
Rush-Presbyterian-St. Luke's Medical Center
1753 West Congress Parkway
Chicago, Ill. 60612

Rush is an Equal Opportunity/Affirmative Action Employer.

POSITIONS OPEN

DIRECTOR OF ADMINISTRATION AND FISCAL AFFAIRS UNIVERSITY OF ALABAMA (UAB) SCHOOL OF MEDICINE

Reporting directly to the dean, the incumbent in this position functions as director of the administrative and financial activities of the University of Alabama School of Medicine, the main campus of which is at the UAB Medical Center, Birmingham, Alabama. The position is responsible for the planning and preparation of budgets, decisions regarding management of restricted and unrestricted funds, personnel actions, space allocations, and other administrative and financial activities, including coordination and management of medical school units at various locations in Alabama. These include the branch campuses in Tuscaloosa and Huntsville, and the UAB-affiliated residency programs elsewhere in the state. Applicants should be mature and experienced in the above areas of work, preferably in health/medicine-related fields. Compensation is based on professional experience and accomplishments, and is competitive. *UAB is an Equal Opportunity/Affirmative Action Employer.*

Applications and inquiries should be sent to:

James A. Pittman, Jr., M.D., Dean
University of Alabama School of Medicine
University of Alabama in Birmingham
University Station
Birmingham, Alabama 35294

FACULTY POSITIONS—MOLECULAR GENETICS. The Department of Microbiology, University of Texas Health Science Center at San Antonio (UTHSCSA), seeks to hire several tenure-track faculty members (junior-to-senior appointments) with interests in the regulation of gene expression at the molecular level. Quality of research accomplishments will be the prime determinant in selecting individuals. Potential candidates with strong records of research achievement in the molecular biology—genetics of any biological system (prokaryotic, eukaryotic, or viral) are encouraged to apply. Successful candidates are expected to develop/maintain innovative research programs and to participate in departmental teaching activities. This is an exceptional opportunity to join an expanding department committed to excellence in research and teaching and located in a desirable academic geographic setting. Applicants should mail curriculum vitae and a statement of current and future research goals and arrange to send three letters of reference by 15 November 1982 to: **Dr. Joel B. Baseman, Chairman, Department of Microbiology, University of Texas Health Science Center at San Antonio, 7703 Floyd Curl Drive, San Antonio, Texas 78284. UTHSCSA is an Equal Opportunity/Affirmative Action Employer.**

The National Aeronautics and Space Administration, Langley Research Center, located in Hampton, Virginia, invites applications for the position of **HEAD, THEORETICAL STUDIES BRANCH, ATMOSPHERIC SCIENCE DIVISION** (salary range: \$39,689 to \$57,500). The successful applicant will be responsible for performing individual research; for originating, defining, and supervising the scientific research of a group of atmospheric researchers; and for coordinating their work into coherent efforts on a number of advanced research projects. The focus of the research is to provide fundamental knowledge of the chemical, physical, and dynamical processes that control the atmosphere and climate so as to better interpret the impact of man on his environment. The research encompasses a significant analytical modeling effort, which includes one-, two-, and three-dimensional photochemical, dynamical models of the atmosphere, and an expanding empirical modeling effort, which relies on statistical and spherical harmonic models to analyze ground-based, airborne, and satellite measurements of the atmosphere. Candidates must have an in-depth knowledge of atmospheric science as indicated by a Ph.D. or equivalent experience, and a successful record of research and research leadership. The incumbent must have the ability to manage and direct scientific and technical research programs of major importance as well as the ability to effectively present the program plan, results of research, defend resource requirements, and represent the center in the area of atmospheric science. Standard Form 171. Personal Qualifications Statement, should be sent to: **National Aeronautics and Space Administration, Langley Research Center, Personnel Division, c/o John J. Cox, Mail Stop 174, Hampton, Virginia 23665.** U.S. citizenship required. Applications must be received by 3 September 1982. Forms may be obtained from your local Office of Personnel Management or any federal agency. *An Equal Opportunity Employer.*

Electro-Pharmacologist Ph.D. Level

Continued expansion at the Warner-Lambert/Parke-Davis Pharmaceutical Research Division has generated an immediate opening in the Neuroscience Section within the Department of Pharmacology. Position responsibilities will include participation in a drug discovery program directed toward the development of novel cognition activating agents with emphasis on age-related disorders.

The successful candidate will have:

- A Ph.D. or equivalent and up to 3 years post-doctoral experience with a strong background in animal CNS electrophysiology. Experience with human electrophysiological techniques is also desirable.
- Expertise in quantitative EEG and other electrophysiological techniques in intact animals with emphasis on neuropharmacologic manipulations.
- Excellent communication skills.

Our research facilities, adjacent to the University of Michigan campus in Ann Arbor, Michigan, are among the finest and best equipped in the world and are devoted exclusively to the discovery and development of the new drugs. We offer excellent compensation, benefits and work environment. Send resume with references and salary requirements, in confidence, to: **Ms. D. Love, Dept. #015-82, Human Resources Supervisor, WARNER-LAMBERT/PARKE-DAVIS, PHARMACEUTICAL RESEARCH DIVISION, 2800 Plymouth Road, Ann Arbor, Michigan 48105. An Equal Opportunity Employer M/F/H.**

WARNER LAMBERT

MEMBRANE BIOCHEMIST STAFF SCIENTIST 2 (\$1,703-\$3,940/month)

A new position is now available on the scientific staff of the Donner Laboratory, Biology and Medicine Division, Lawrence Berkeley Laboratory, for a membrane-protein biochemist to participate in structural and functional studies of proton-transport systems and other membrane proteins. Responsibilities will include the isolation, purification and biochemical characterization of proteins under investigation, and to investigate ways in which to reconstitute the isolated proteins in a functionally active form suitable for high resolution electron microscopy and electron crystallography. A Ph.D. in biochemistry or a related discipline, together with at least two years of postdoctoral experience, is desired. Experience with isolation, detergent solubilization and subsequent purification of membrane proteins is expected, together with a good facility in the use of routine biochemical methods used in the analytical characterization of proteins. Preference will be given to candidates who have worked previously with the F_0 subunit of membrane ATPase or related proton-transport systems. Send curriculum vitae and names and addresses of three references to: **Dr. Robert Glasser, c/o Mr. Ronald Lower, Personnel Office, Lawrence Berkeley Laboratory, One Cyclotron Road, Berkeley, CA 94720. PLEASE SPECIFY JOB #A0469.** An affirmative action equal opportunity employer m/f/h.

POSITIONS OPEN

THE SMITHSONIAN INSTITUTION seeks a **DIRECTOR** for the **NATIONAL AIR AND SPACE MUSEUM**, Washington, D.C. The museum is charged to memorialize the development of aviation, space flight, and space science; to collect, preserve, and exhibit aeronautical and space artifacts; to keep documentary materials; and to conduct research in aviation and space history. Qualifications: scholarly distinction in aviation or space history and/or technology; professional experience in a museum, research, or similar environment; and intellectual leadership and administrative ability. Selectee receives a federal-excepted appointment. Salary range: \$54,755 to \$75,177 (currently limited by statute to \$57,500). Send a Personal Qualifications Statement SF-171, curriculum vitae, and bibliography by 1 October 1982 to: **Personnel Office, Smithsonian Institution, Washington, D.C. 20560, attention: MPA-EX-03-82. An Equal Opportunity Employer.**

Section of Physiological Chemistry FACULTY POSITION IN BIOCHEMISTRY

A position for a tenure-track **biochemist** at the assistant professor level is open. Candidates must have a Ph.D. or M.D. and a minimum of 2 years of postdoctoral training.

Preference will be given to individuals working in areas related to molecular mechanisms of metabolic regulation in eukaryotic cells, especially phospholipid turnover, intracellular mediators of hormone action, or membrane-bound enzymes.

Candidates must be able to establish an independent research program with external funding and to participate in the teaching of lipid and carbohydrate metabolism to medical, graduate, and undergraduate students. Please send curriculum vitae, copies of the three most significant publications, bibliography, a brief description of research interests and career objectives, and three letters of recommendation by 1 December 1982 to: **Dr. John N. Fain, c/o Gerlinde Celona, Secretary, Search Committee, Section of Physiological Chemistry, Division of Biology and Medicine, Brown University, Providence, R.I. 02912.**

Brown University is a nondiscrimination, Affirmative Action Employer and welcomes applications from all qualified individuals, in particular, from women and members of minority groups.

MICROBIOLOGIST—ASSISTANT OR ASSOCIATE PROFESSOR. Applications are invited for a tenure-track faculty position available beginning September 1982. This position will involve research on the methanogenic bacteria with emphasis on characterization of the enzymes (and their regulation) involved in methane biosynthesis. The person will be expected to direct a research group composed of graduate students and postdoctoral research associates. This search will terminate 1 September 1982. Send curriculum vitae, three letters of recommendation, and a statement of research interests to: **Dr. Paul H. Smith, Department of Microbiology and Cell Science, Room 1047 McCarty Hall, University of Florida, Gainesville, Fla. 32611.**

PLANT PHYSIOLOGIST, VISITING ASSISTANT PROFESSOR. Possible 1-year sabbatical replacement beginning 20 September 1982. Teaching responsibilities will be introductory plant physiology and general botany or biology. Ph.D. is required. Possibility of partial support from research contract if specialty meshes with tissue culture and amino acid metabolism interests. Letter of application and curriculum vitae with names and addresses of at least three professional references should be received before 27 August 1982 by: **Dr. R. W. Holton, Head, Department of Botany, University of Tennessee, Knoxville, Tenn. 37996-1100. Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL FELLOW RESEARCH ASSOCIATE

Cell biology/biochemistry background, to study structure and function of wild-type or mutant excitable membranes, molecular events in sensory transduction and adaptation. Unicell system, multidisciplinary environment. Available immediately. Send curriculum vitae and three letters of reference to: **Dr. Ching Kung, Laboratory of Molecular Biology, University of Wisconsin, Madison, Wis. 53706.**

POSITIONS OPEN

POSTDOCTORAL OPENING starting about December 1982. Research: the glyoxylate cycle and nematode and seedling development. Send curriculum vitae and names of three references to: **B. A. McFadden, Biochemistry Program, Washington State University, Pullman, Wash. 99164-4630. Washington State University is an Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL FELLOW—Postdoctoral position in Clinical Research Section of Division of Emergency Medicine at major East Coast medical center. Recent Ph.D. in physiology or pharmacology with good knowledge of biostatistical procedures required. Send curriculum vitae with references to: **Box 219, SCIENCE.**

Equal Opportunity Employer, M/F

POSTDOCTORAL POSITION IN MEMBRANE BIOCHEMISTRY: Research on molecular aspects of complement-mediated membrane damage. Available 1 September 1982. Send curriculum vitae and names of three references to: **Personnel/Manpower, Dr. Valerie Hu, Department of Biochemistry, Uniformed Services University of the Health Sciences, 4301 Jones Bridge Road, Bethesda, Maryland 20814.**

POSTDOCTORAL POSITION available September 1982 in laboratory studying effects of cancer therapeutic agents on various immune defense systems, their development and regulation. Background in cellular immunology and/or pharmacology is essential. Techniques used include tissue culture, in vivo and in vitro primary sensitization, radiolabeled target cell assays, functional and physical cell separation, and utilization of monoclonal antibodies. Please send statement of research interest, curriculum vitae, and names and addresses of three references to: **Dr. E. Mihich, Director of Grace Cancer Drug Center and Department of Experimental Therapeutics, Roswell Park Memorial Institute, 666 Elm Street, Buffalo, New York 14263. An Equal Opportunity Employer, M/F.**

POSTDOCTORAL POSITIONS IN DNA REPAIR. Positions available for recent Ph.D.'s in cell biology, biochemistry, or molecular biology to examine the cell cycle regulation of DNA repair in human cells. Send application with curriculum vitae and names of two references to: **Dr. Michael A. Sirover, Fels Research Institute, Temple University School of Medicine, Philadelphia, Pa. 19140. Equal Opportunity Employer.**

POSTDOCTORAL POSITION available October 1982. Research involves investigation of the biochemistry and ultrastructure of blood cell cytoskeletons, particularly those of erythrocytes. Candidates should have some experience working with cell membranes and membrane proteins. Preference will be given to applicants with experience in electron microscopic techniques such as shadowing or freeze fracture. Interested applicants should send curriculum vitae and the names of three references to: **Dr. Carl M. Cohen, Department of Research, Division of Hematology/Oncology, St. Elizabeth's Hospital, 736 Cambridge Street, Boston, Mass. 02135. An Equal Opportunity/Affirmative Action Employer.**

POSTDOCTORAL POSITION available immediately for a recent Ph.D. in biochemistry to study mechanisms of intestinal membrane transport. Experience in membrane in biochemistry and enzymology desirable. Send curriculum vitae and names of three references to:

**Dr. K. Ramaswamy
Gastroenterology Division
University of South Carolina
School of Medicine
VA Enclave
Columbia, S.C. 29208**

Affirmative Action/Equal Opportunity Employer

POSTDOCTORAL POSITION available from September 1982 for basic research in the field of lysosomal membrane function. Emphasis is on the interactions between hormones, secondary messengers, membrane proteins, and phospholipids in normal and pathological lysosomal processes. A basic background in biochemistry/cell biology is required with some experience in enzymology and phospholipid metabolism desirable. Salary is according to NIH guidelines. Submit a résumé of research interests, curriculum vitae, and names, addresses, and telephone numbers of three references to: **Dr. William W. Wells, Department of Biochemistry, Michigan State University, East Lansing, Michigan 48824. An Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

POSTDOCTORAL FELLOW

Advanced postdoctoral position in Division of Nutrition and Metabolism. Ph.D. sought with documented potential in biomedical research to join established research team studying lipoprotein metabolism in primates. Associated with Brown University, Program in Medicine. Salary commensurate with experience. *An Equal Opportunity Employer.* Please forward résumé or any inquiries to: **Employment Coordinator, The Miriam Hospital, 164 Summit Avenue, Providence, R.I. 02906.**

POSTDOCTORAL POSITION available immediately for research on antitumor drug effects on human cancer cells. Specific studies will be conducted on the mechanism of cisplatin-associated cross-linking of DNA, synergistic activity with nucleosides, and development of flow cytometric techniques for measuring nucleic acid cross-linking. Previous experience in tissue culture methods, molecular biology techniques and/or flow cytometry technology is highly desirable. Starting salary for this 2-year position is \$16,000 plus generous benefits. Send curriculum vitae, a description of research interests and career goals, and names and addresses of three references to: **Dr. Benjamin Drewinko, Department of Laboratory Medicine, M. D. Anderson Hospital and Tumor Institute, Houston, Texas 77030.**

POSTDOCTORAL POSITION available immediately. Research on activity and mechanisms of antitumor drugs on human tumors xenografted into nude rats. Techniques involve animal breeding, cell kinetics methods (autoradiography and flow cytometry), pharmacokinetics, and colony-formation assays of bone marrow and tumor cells. Previous experience with animal experimentation, especially nude mice, is highly desirable. Starting salary for this 2-year position is \$16,000 plus generous fringe benefits. Send curriculum vitae, a description of research interests and career goals, and names and addresses of three references to: **Dr. Benjamin Drewinko, Department of Laboratory Medicine, M. D. Anderson Hospital and Tumor Institute, 6723 Bertner, Houston, Texas 77030.**

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

POSTDOCTORAL POSITION available immediately for studies on the structure of glycoconjugates from human leukocytes and leukemia cells. Experience in the purification and analysis of complex carbohydrate desired. Salary: \$15,000 to \$17,000 per year. Send curriculum vitae and names of three references to: **Dr. Bruce A. Machler, 1282-M Cancer Research Institute, University of California, San Francisco, Calif. 94143. Applicants are encouraged to apply by 15 September 1982.**

POSTDOCTORAL POSITION available at Seattle VA Medical Center for studies on neuropeptide chemistry and physiology. Areas include effects of alcohol on endorphin neurons in the CNS, vasopressin and LHRH neurochemistry, and pharmacology. Two-year, part-time position (approximately 20 hours per week) available 1 October 1982. Ph.D. in physiology-endocrinology, pharmacology, or neuroscience required. Salary: approximately \$15,000 per year, plus benefits. *Equal Opportunity Employer; Hispanics, other minorities, and women encouraged to apply.* Send curriculum vitae and names of three references to: **Dr. Daniel Dorsa, GRECC/182B, VA Medical Center, 4435 Beacon Avenue South, Seattle, Wash. 98108.**

POSTDOCTORAL POSITION available 1 October to study mode of action of *Bacillus Thuringiensis* var. *israelensis* toxicity to mosquitoes and chemical structure of its protein crystal. Applicants should be recent graduates with strong background in insect physiology/biochemistry or protein chemistry or microbial physiology; \$14,000. Send résumé and names of three references by 15 September to: **Dr. Kenneth W. Nickerson, School of Life Sciences, University of Nebraska-Lincoln, Lincoln, Nebraska 68588-0118. Affirmative Action/Equal Opportunity Employer.**

Post Doctoral Scientist

Cardiovascular/Renal Pharmacologist

SmithKline Beckman, a leader in pharmaceutical research is seeking a Post Doctoral Scientist to join an interdisciplinary research program in an environment designed to foster creative, innovative research and to promote personal and professional growth.

We consider post doctoral studies to be of major importance in an individual's career and encourage publication of findings in leading journals and a full interaction with the scientific community.

Our post doctoral appointments are of 1 years duration and with mutual agreement renewable for a 2nd year. The successful candidate will undertake an independent program in cardiovascular and renal pharmacology devoting primary effort to the study of dynamic agonists. This includes the development and evaluation of *in vivo* and *in vitro* models for characterization of vascular dopamine receptors.

Candidates are required to have:

- a PhD in Pharmacology or physiology with 0 to 2 years post doctoral experience
- experience in using isolated tissue techniques and animal surgery

Preference will be given to those having a background in autonomic pharmacology and publications in major scientific journals.

We offer excellent compensation and benefits and an attractive relocation policy. For confidential consideration, send your C.V. and names of 3 references to: Mr. Walter B. Flagg, SMITHKLINE BECKMAN CORPORATION, P.O. Box 7929, 1536 Spring Garden Street, Philadelphia, PA 19101. We are an equal opportunity employer, M/F/H/V

SK&F
a SmithKline company

SQUIBB



RESEARCH INVESTIGATOR Pharmacology

E.R. Squibb & Sons, Inc., an established leader in the pharmaceutical industry, is seeking an individual to conduct research in the Hypertension Section of our Pharmacology Department.

The qualified applicant will have a PhD Degree or equivalent in Pharmacology or Physiology with two to three years post doctoral experience. Background should include experience in vascular smooth muscle function. Supervisory experience is a plus. The individual will be responsible for establishing independent research programs leading to the development of new antihypertensive drugs.

This challenging research position, located at the Squibb Institute for Medical Research in Princeton, NJ, offers an excellent salary and benefits package.

Qualified applicants should submit resume including salary requirements in complete confidence to: E.R. SQUIBB & SONS, INC., Employment Office, Department JP, P.O. Box 4000, Princeton, NJ 08540. Principals Only Apply. Equal Opportunity Employer, M/F/H/V.

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

City of Johannesburg Chair of Mathematics

Applications are invited from suitably qualified persons, regardless of sex, race, colour or national origin, for appointment to the above post. The successful applicant will normally be expected to be Head of the Department of Mathematics, in the first instance for a period of three years. The Headship may be continued for further three year periods or be rotated among the professors of the department. As a Professor of Mathematics, and as Head of the Department, the incumbent will be expected to provide leadership in teaching and research. The salary attached to the post will be within the range R23 109 to R30 255 per annum. While holding the Headship of the Department, a non-pensionable salary supplementation of R2 000 per annum will be payable.

Intending applicants should obtain the information sheet relating to the post from the Director: **Personnel Office, University of Witwatersrand, Jan Smuts Avenue, Johannesburg 2001, R.S.A.** with whom all applications should be lodged by 30 September 1982.



1922-1982

POSITIONS OPEN

THE MONELL CHEMICAL SENSES CENTER has openings for a **NEUROCHEMIST, NUTRITIONAL BIOCHEMIST, and GASTROINTESTINAL PHYSIOLOGIST**. Candidates must be willing to work in a multidisciplinary environment on problems in chemical senses and nutrition. Positions are also available for a **NEUROBIOLOGIST and PSYCHOPHYSICIST** for research on basic sensory processes in taste and smell. Level of appointment and salary commensurate with qualifications. Send curriculum vitae and names of three references to: **The Director, Monell Chemical Senses Center, 3500 Market Street, Philadelphia, Pa. 19104. Equal Opportunity Employer.**

Long Point Bird Observatory (LPBO) seeks an **ORNITHOLOGIST** for the position of **executive director**, to be responsible for all aspects of its program including administration, fund-raising, and research. Salary: C\$15,000 to C\$20,000, depending on qualifications. In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents. Send résumé and names of three references by 15 September 1982 to: **David Love, Chairman, Board of Directors, LPBO, P.O. Box 160, Port Rowan, Ontario, Canada N0E 1M0.**

POSTDOCTORAL POSITION available immediately for research in immunology to study mechanisms of autoimmunity and immune complex disease in animal models. Please send curriculum vitae and three letters of recommendation to: **Dr. Ronald J. Harbeck, Division of Clinical Laboratory Investigation, National Jewish Hospital and Research Center, Denver, Colorado 80206. An Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION available September 1982 to study induction and control of sporulation in the *Azolla-Anabaena* symbioses. Background in plant physiology or developmental botany-physiology along with some experience in cytological and ultrastructural studies is preferred. Position is for at least 1 year. Send letter, curriculum vitae, and names of three references to: **Dr. G. A. Peters, C. F. Kettering Research Laboratory, 150 East South College Street, Yellow Springs, Ohio 45387. An Affirmative Action/Equal Opportunity Employer.**

POSTDOCTORAL POSITION

Postdoctoral research position available immediately. The research emphasizes the quantitative analysis of regulated protein synthesis (primarily in *S. cerevisiae*) by means of 2D gels, using a computer-coupled scanner. A background in biochemistry, cell biology, or genetics is advisable. Some prior computer experience is highly desirable. Please send curriculum vitae and letters of reference by 15 September to: **Dr. Xuong Nguyen-Huu, Department of Physics B-019, or Dr. E. P. Geiduschek, Department of Biology B-022, University of California, San Diego, La Jolla, Calif. 92093.**

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

POSTDOCTORAL RESEARCH POSITION. A position is available in chemical carcinogenesis to study the molecular biology of carcinogen-DNA interactions. These studies are designed to investigate the role of carcinogens in the alteration of gene expression. Some organic chemistry or experience in oligonucleotide synthesis would be helpful. Other backgrounds applicable are biophysics, biochemistry, or molecular biology. Apply by sending curriculum vitae and three letters of recommendation to: **Dr. Thomas Meehan, Michigan Molecular Institute, 1910 West St. Andrews Road, Midland, Mich. 48640. An Equal Opportunity Employer.**

VISITING PSYCHOLOGY PROFESSOR

One-year position; may reapply. Ph.D. in psychology. Position begins mid-September 1982. Salary: \$20,000 plus, for 9 months; one full-time person or two half-time. Must have recognized area of expertise and ability to provide stimulation for students and faculty. Prefer demonstrated teaching effectiveness. Courses depend upon expertise but will probably include introduction to psychology. Send curriculum vitae and three letters of reference to: **Psychology Search Committee, Personnel Office-1016, Weber State College, Ogden, Utah 84408. Interviewing at APA. Weber State College is an Equal Opportunity/Affirmative Action Employer, M/F.**

POSITIONS OPEN

POSTDOCTORAL POSITION IN CARDIOVASCULAR PHYSIOLOGICAL BIOCHEMISTRY. Training in pathophysiology of myocardial ischemia, control of energy metabolism, substrate transport, adenine nucleotide metabolism, interactions with sympathetic nervous system, isolated cell and heart preparations, and in vivo models. Contact: **James O. Davis, M.D., Chairman, Department of Physiology, University of Missouri School of Medicine, Columbia, Missouri 65212. The University of Missouri is an Equal Opportunity/Affirmative Action Employer.**

POSTGRADUATE RESEARCH POSITION in biochemical and morphological approaches to hormone-cell interactions related to development and aging in the nervous system. Design and carry out experiments involving the use of tissue culture, biochemical techniques, enzyme assays, and microscopy. Candidate will be responsible for developing hybridoma and RIA techniques. M.S. in biological science with background in biochemistry, neuroanatomy, and 1 year of laboratory experience, including RIA and hybridoma techniques. Starting salary: \$1200 to \$1500 per month, depending on qualifications. Clip advertisement and reply by sending résumé no later than 13 September 1982 to: **Number 3056, P.O. Box 865, Sacramento, Calif. 95804.**

PROFESSOR AND HEAD DEPARTMENT OF PHARMACOLOGY AND THERAPEUTICS

Applications are invited for the position of professor and head of the Department of Pharmacology and Therapeutics at the Faculty of Medicine, University of Manitoba.

Candidates should have a substantial record and academic achievement in pharmacology and extensive experience in teaching and research. The department is responsible for programs of education at the undergraduate and graduate levels in medicine and offers programs leading to the M.Sc. and Ph.D. degrees. The department also cooperates with other clinical departments in the teaching of clinical pharmacology. *Both men and women are encouraged to apply.* In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents of Canada.

Applications and nominations should be accompanied by curriculum vitae and submitted to:

**Dr. T. W. Fyles, Chairman,
Pharmacology Search Committee,
753 McDermot Avenue,
Winnipeg, Manitoba, Canada R3E 0W3**

NATIONAL SCIENCE FOUNDATION DIVISION OF MATERIALS RESEARCH

The Division of Materials Research is seeking qualified applicants for the position of **PROGRAM DIRECTOR** for the Low Temperature Physics Program of the Condensed Matter Sciences Section, Division of Materials Research. The position is exempted from the competitive civil service and is equivalent to the GS-14/15 level, \$39,689 to \$60,689 (limited by statute to \$57,500) per annum. This position is available on a 1- to 2-year rotational appointment.

Applicants should have a Ph.D. or equivalent in experience and training in low temperature physics plus a minimum of 8 years of successful scientific research experience. A broad general knowledge of the field and some administrative experience are also required. Those interested should send current résumés to: **Division of Personnel Management, Room 212, 1800 G Street, NW, attention: Personnel Management Branch, Washington, D.C. 20550.** For further information, telephone: **E. Paul Broglio, 202-357-7840. The National Science Foundation is an Equal Opportunity Employer.**

This position will remain open until filled.

RESEARCH ASSISTANT PROFESSOR

A university-supported research position is available in the Center for Demographic and Population Genetics/Medical Genetics Center. Candidate must have experience in recombinant DNA techniques and an interest in applying those techniques to the study of problems of population genetics, evolution, and medical genetics. Closing date: 31 August 1982. A letter of application, curriculum vitae, and names and addresses of three references should be sent to: **Dr. William J. Schull, Director, Center for Demographic and Population Genetics, Graduate School of Biomedical Sciences, P.O. Box 20334, Houston, Texas 77025. The University of Texas is an Equal Opportunity/Affirmative Action Employer.**

POSITIONS OPEN

POSTDOCTORAL RESEARCH ASSOCIATE position available for electron microscopist/molecular biologist for studies with high resolution scanning transmission electron microscope (Crewe type). Available immediately. Send curriculum vitae and names of three references to: **Professor Michael Beer, Department of Biophysics, Johns Hopkins University, Baltimore, Md. 21218.**

THREE POSTDOCTORAL RESEARCH POSITIONS are expected to become available shortly. (i) **Electroneurophysiologist** to study microwave signals modulated by nerve activity and their correlation with electrical signals. Electronics experience desirable. (ii) **Cardiac physiologist** to work on the detection and analysis of cardiac activity using microwaves. (iii) **Surface chemist** with experience in organic synthesis to study gas adsorption on organic solids. Experience with data acquisition, processing, and analysis would be helpful for all three positions. Applications with three letters of reference should be sent to: **Dr. Gabor Kemeny, 128 Chemistry Building, Michigan State University, East Lansing, Mich. 48824. Michigan State University is an Affirmative Action/Equal Opportunity Institution.**

PROFESSOR AND CHAIRMAN DEPARTMENT OF BIOCHEMISTRY

The University of Tennessee Center for the Health Sciences (UTCHS) seeks to recruit an outstanding scientist to chair its Department of Biochemistry. The individual we seek should have a distinguished record of accomplishment in scientific research, and should have demonstrated an interest and talent in administration and teaching. The incumbent will have the opportunity to recruit a substantial number of new faculty. UTCHS is a large, comprehensive medical center having active research programs in many areas of biomedical sciences, and is affiliated with other research programs at St. Jude Children's Research Hospital and the Veterans Administration Hospital. The department has the responsibility for teaching in the Colleges of Medicine, Dentistry, Pharmacy, Nursing, and the Graduate School. The incoming chairman will be expected to foster and develop the research potential of the department, as well as to continue his/her own research program. Qualified candidates are invited to submit their curriculum vitae to: **Dr. Murray Heimberg, Department of Pharmacology, The University of Tennessee Center for the Health Sciences, 874 Union Avenue, Memphis, Tenn. 38163. UTCHS is an Equal Opportunity/Affirmative Action Employer. Applications from minorities and women are encouraged.**

RESEARCH ASSOCIATE 1-PHYSICAL, chemistry; M.S. in organic chemistry or an equivalent combination of education and experience is required. Experience in macro- and micro-scale synthesis, spectroscopy, Fourier transform nuclear magnetic resonance spectrometer operations, kinetics, cycloaddition processes and photoelectron spectroscopy application is required; prepares complex polycyclic molecules; analyzes data; performs photochemistry; interprets mass spectra; assists in analyzing results, coordinating research, and preparing reports for publication. Salary: \$14,880 to \$21,860. Please contact: **Betty Williams, The Ohio Bureau of Employment Services, 3434 Cleveland Avenue, Columbus, Ohio 43224.**

RESOURCE ECONOMIST RESOURCE POLICY ANALYST

The National Council on Gene Resource, a non-profit research and educational program, has immediate openings for a resource economist and a resource policy analyst to work with a dedicated, interdisciplinary staff in developing plans for managing the genetic heritage of agricultural commodities and natural resources of economic importance. The economics applicant should have an advanced degree and expertise in renewable resource or agricultural economics, including supply and demand theory, cost-benefit analysis, and quantitative analysis. The policy applicant should have an advanced degree in policy, familiarity with public policy, resource policy, government programs, and economics.

Applicants for both positions should also have experience in report writing, administration, project development, and evaluation. Submit curriculum vitae and example of written work to:

**Dr. David Kafton, Executive Director
National Council on Gene Resources
2855 Telegraph Avenue, Suite 216
Berkeley, California 94705**

NATIONAL CENTER FOR ELECTRON MICROSCOPY FELLOW

Two openings of one-year duration each will commence October 1, 1982 for the position of Fellow at the National Center for Electron Microscopy (NCEM). One position is internal, for work between NCEM staff and scientists in the Materials and Molecular Research Division. The other position is external, for work between NCEM staff and "outside" users. Center Fellows will have full use of NCEM facilities for performing research requiring sophisticated microscopy. Candidates should have demonstrated expertise in transmission electron microscopy and a PhD. degree in a relevant field. Please send two resumes including salary history to: **Employment Office, Lawrence Berkeley Laboratory, One Cyclotron Road, Berkeley, CA 94720. PLEASE SPECIFY JOB #A/0485.** An equal opportunity employer m/f/h.

Teratologist

The Warner-Lambert/Parke-Davis Pharmaceutical Research Division, a worldwide leader in drug discovery, has an immediate opening for a teratologist in its Pathology and Experimental Toxicology Department.

The successful candidate will assist in the design, execution and analysis of experimental animal reproductive studies with new drug candidates. Applicants should possess a Ph.D. degree or equivalent in biological sciences with a minimum of one year experience in reproductive toxicology. Additional experience in embryology, anatomy and embryo culture techniques and maintenance of animal colonies is desirable.

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

Join the exciting Research and Development team at Warner-Lambert, and enjoy outstanding compensation and environment. Send your resume and salary requirements in confidence to: Ms. M. Wolin, Human Resources Representative, Dept. #016-82, WARNER-LAMBERT/PARKE-DAVIS, PHARMACEUTICAL RESEARCH DIVISION, 2800 Plymouth Road, Ann Arbor, Michigan 48105. An Equal Opportunity Employer M/F/H.

**WARNER
LAMBERT**

RESEARCH SCIENTISTS

The Lawrence Berkeley Laboratory, Energy and Environment Division, is in present need of two Research Scientists for our Building Energy Data Group. **STAFF SCIENTIST 3**—Will plan and manage research activities for a technical staff of 12–15 people. Project activities will include: Building Energy Use Compilation and Analysis, Conservation Data Base and Technical Potentials, and primary energy consumption data gathering. Requires demonstrated technical and research management skills and advanced degree. **STAFF SCIENTIST 2**—Requires graduate technical degree and building energy research experience to lead project teams in above areas. Familiarity with conservation technologies and strategies preferred. Interested parties should send two resumes to: **Dr. A. H. Rosenfeld, c/o Ronald Lowder, Employment Office, Lawrence Berkeley Laboratory, One Cyclotron Road, Berkeley, CA 94720. PLEASE SPECIFY JOB #A0280 (3) or #A0466 (2).** An Equal Opportunity Employer M/F/H.

SUPERVISOR

Clinical Pathology Laboratory

Wyeth Laboratories Inc., a national pharmaceutical firm and a division of American Home Products Corporation, is seeking a qualified professional who possesses a PhD and general experience in clinical chemistry and hematology. Previous supervisory experience is preferred. Responsibilities will include supervision of medical technologists, service and research work within the clinical laboratories. Technical experience should include the use of a variety of laboratory instrumentation. The appointment will be in the Pathology Section of Wyeth Laboratories located at Great Valley, Pennsylvania.

Wyeth offers an excellent starting salary and a comprehensive benefits program. To investigate this opportunity please forward your detailed curriculum vitae including salary requirements and references to:

MR. M. H. KESSLER



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PAOLI, PA 19301
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CSIRO

RESEARCH FELLOW

A\$21,810 to A\$32,070

DIVISION OF CLOUD PHYSICS

EPPIING, NSW, AUSTRALIA

CSIRO has a broad charter for research into primary and secondary industry areas. The organization has approximately 7500 employees, 2700 of whom are research and professional scientists, located in divisions and sections throughout Australia.

FIELD: Atmospheric Convection.

GENERAL: The division carries out research on the generation of cloud, the development of precipitation, and the dynamics of cloud systems. Detailed measurements of atmospheric properties are obtained from the CSIRO research aircraft, a Fokker Friendship F-27.

DUTIES: As a member of the research group, to undertake research on atmospheric convection, particularly over inhomogeneous terrain, through analysis of existing observational data and by collection and analysis of further data using the research aircraft.

QUALIFICATIONS: Ph.D. degree, or equivalent, in the field of atmospheric science and supported by clear evidence of research ability.

TENURE: A fixed term of 3 years. Superannuation benefits available.

APPLICATIONS: Stating full personal and professional details, the names of at least two referees, and quoting reference number A1827, should reach:

**The Acting Chief
CSIRO
Division of Cloud Physics
P.O. Box 134
Epping, NSW 2121, Australia**

By 10 September 1982.

POSITIONS OPEN

RESEARCH ASSOCIATE

Noninvasive corneal redox fluorometry to study relationship between corneal metabolism and active transport, cell migration, and wound healing and aging in perfused cornea, animal and human studies. Ph.D. in biochemistry, biophysics, or physiology required. Experience in instrumentation and computerized data acquisition desired. Send résumé to: **Susan Oak, Department of Ophthalmology, L-914, Boston University School of Medicine, 80 East Concord Street, Boston, Mass. 02118.**

Equal Opportunity Employer, M/F

RESEARCH IMAGING PHYSICIST. The Department of Radiology of the Hospital of the University of Pennsylvania is seeking a candidate for the position of research imaging physicist at the level of assistant or associate professor. The candidate must have demonstrated competence in radiological imaging physics including image reconstruction and image processing. The position will largely involve research work with CT and NMR, although some service work may be included. Send curriculum vitae and bibliography to: **Stanley Baum, M.D., Department of Radiology, Hospital of the University of Pennsylvania, 3400 Spruce Street, Philadelphia, Pa. 19104.** An Equal Opportunity/Affirmative Action Employer.

FACULTY POSITION RETINAL CELL BIOLOGIST

The Eye Research Institute of Retina Foundation invites applications from retinal cell biologists with expertise in retinal anatomy. Position available after January 1983. Preference given to applicants with established independent research programs who will interact with other investigators on faculty. Adjunct appointment within the Department of Ophthalmology, Harvard Medical School, is available. Academic rank and salary are commensurate with experience. Send curriculum vitae, bibliography, and names of three references to: **Dr. Ilene Gipson, Search Committee Chairperson, Eye Research Institute, 20 Staniford Street, Boston, Massachusetts 02114.** An Equal Opportunity Employer.

VICE CHANCELLOR FOR RESEARCH NORTH CAROLINA STATE UNIVERSITY

North Carolina State University invites nominations and applications for the position of Vice Chancellor for Research, effective 1 July 1983. Candidates should have experience in research administration, a distinguished research record, and be qualified for faculty tenure in a field appropriate to this university. Responsibilities and functions will require the following attributes: (i) an innovative thinker and articulate spokesman for research and its value for society, (ii) a creative force in research planning and development, particularly with the federal and industrial research establishments, (iii) firm commitment to the enhancement of quality of research, (iv) skill in working with other administrative leaders, (v) skill in the development of interdisciplinary, multidisciplinary, and multi-institutional programs of research, and (vi) effectiveness in evaluation of research accomplishments. North Carolina State University is a land-grant university and is one of 16 institutions of the University of North Carolina System. There are more than 21,000 students enrolled in the nine schools, including 2800 graduate students. Research expenditures during the 1981-1982 year was approximately \$60 million. Applications and/or nominations and the names of three references are requested by 1 October 1982, and should be sent to: **William H. Simpson, Secretary, Nominating Committee, Vice Chancellor for Research, North Carolina State University, P.O. Box 5067, Raleigh, N.C. 27650.** An Equal Opportunity/Affirmative Action Employer.

WILDLIFE RESOURCES/ECOLOGICAL SYSTEMS ANALYST. Assistant professor, beginning 1 January 1983, to teach courses in wildlife management planning/administration, ecosystem approach to natural resource management, and graduate seminars, and to develop a strong research program in area of interest, preferably wetland ecosystems. Ph.D. required. Salary competitive. Send applications, résumé, and three letters of recommendation by 20 September to: **Dr. James S. Kitts, 219 Hodson Hall, University of Minnesota, St. Paul, Minn. 55108.** Telephone: 612-373-1016. The University of Minnesota is an Equal Opportunity Educator and Employer and specifically invites and encourages applications from women and minorities.

POSITIONS OPEN

RESEARCH ASSOCIATE position available in October 1982 for an individual to examine the molecular bases for the biochemical and neurological abnormalities that are associated with disorders of heme metabolism. Applicant should be a Ph.D. with experience in protein chemistry and have 1 to 2 years of postdoctoral training. Salary range: \$20,000 to \$25,000. Send curriculum vitae, and two letters of reference to: **Dr. Joseph Bloomer, Professor of Medicine, University of Minnesota, 400 Church Street, SE, Minneapolis, Minn. 55455.**

RESEARCH PLANT GENETICIST. Career federal service. Incumbent will conduct research on wheat genetics directed toward development of improved disease and insect resistant parental lines adapted to the Hard Red Winter Wheat Region. Position located at Kansas State University campus, Manhattan, Kansas. GS-11/12/13—salary based on qualifications and experience. For applications: **J. Brooks, USDA-ARS-B41, 2000 West Pioneer Parkway, Peoria, Ill. 61615.** Telephone: 309-671-7813. Candidates must be U.S. citizens. An Equal Opportunity Employer.

GRADUATE STUDY

GRADUATE TRAINING IN PHYSIOLOGY

The Department of Physiology at the University of Missouri-Columbia invites applications from individuals interested in the Ph.D. degree in physiology. Predoctoral fellowships and teaching assistantships available. Primary areas of research interest among faculty include cardiovascular, renal, and neurophysiology. Very active research programs in hypertension, ion transport, myocardial metabolism, and coronary physiology. Department on main university campus. Close association with faculty and postdoctoral fellows. University town atmosphere. Direct inquiries to: **James O. Davis, Ph.D., M.D., Professor and Chairman, Department of Physiology, University of Missouri School of Medicine, Columbia, Missouri 65212.** The University of Missouri is an Equal Opportunity/Affirmative Action Employer.

FELLOWSHIPS

POSTDOCTORAL TRAINING IN DEVELOPMENT AND GENETICS OF NEURAL SYSTEMS

Fellowships are available for training in the following areas of research with the indicated training faculty: cell membranes (J. F. Ash), neurite growth (F. D. Collins), neuronal plasticity (K. A. Crutcher), clonal analysis (M. Jacobson), visual system (A. G. Leventhal), mammalian neurogenetics (R. J. Mullen), auditory system (T. N. Parks), and neuroanatomy (G. C. Schoenwolf). For more information, telephone: 801-581-6728, or write to: **M. Jacobson, Anatomy Department, University of Utah School of Medicine, Salt Lake City, Utah 84132.**

POSTDOCTORAL FELLOWSHIPS IN IMMUNOLOGY AND MICROBIOLOGY

The Department of Immunology/Microbiology of Rush Medical College invites applications from qualified individuals interested in postdoctoral training in immunology and microbiology for positions available to be filled immediately. Departmental interests center about mechanisms of inflammation, viral and bacterial pathogenesis and host defense, and the allergic response. Current research programs include studies of the biology and chemistry of the acute phase proteins and the complement system, and molecular and biological studies of viral-host and bacterial-host interactions. Special research and training opportunities in clinical immunology and microbiology, in a core hybridoma laboratory, and in the teaching programs of the Medical and Graduate Colleges of Rush University, also are available. Please direct inquiries and curriculum vitae by 31 October 1982 to:

Henry Gewurz, M.D.
Chairman

Department of Immunology/Microbiology
Rush Medical College
1753 West Congress Parkway
Chicago, Ill. 60612

Rush is an Equal Opportunity/Affirmative Action Employer.

FELLOWSHIPS

POSTDOCTORAL FELLOW

Postdoctoral fellowship will be available November 1982, to conduct research on the cell-mediated immune response of pigs to African Swine fever virus. A competitive salary with annually renewable appointment for at least two years is offered.

Applicant should hold the D.V.M. (or equivalent) degree or Ph.D. degree with relevant experience in veterinary virology and immunology. Letters of application should include curriculum vitae and a short summary of research experience and background, along with three letters of reference. Salary will be commensurate with training and experience of the successful applicant. Application deadline is 15 October 1982. Correspondence should be addressed to: **Dr. M. J. P. Lawman, Department of Preventive Medicine, College of Veterinary Medicine, University of Florida, Box J-136 JHMHC, Gainesville, Fla. 32610.** The University of Florida is an Equal Opportunity/Affirmative Action Employer.

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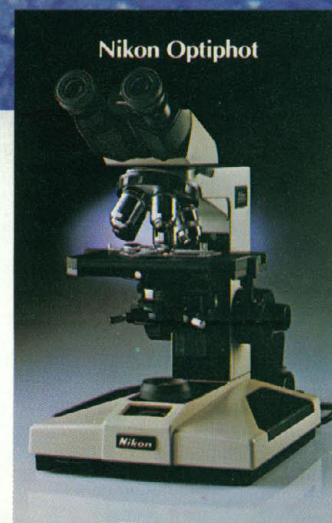
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