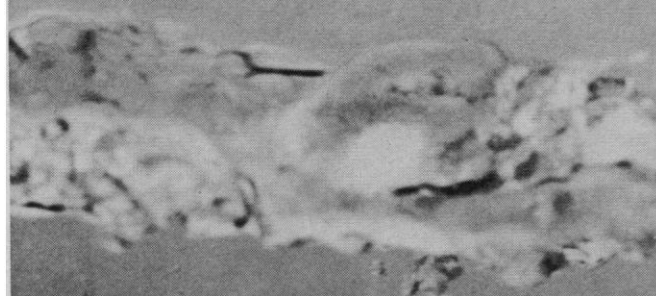


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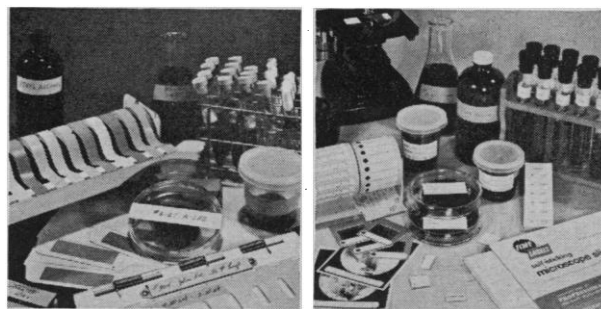
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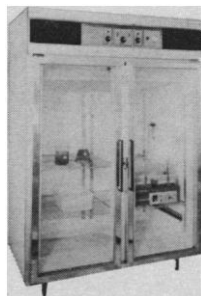
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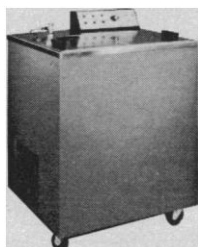
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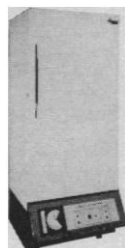
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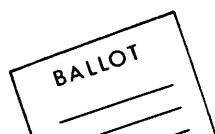
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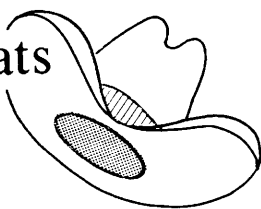


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Typical analysis:
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Fructose-1-phosphate
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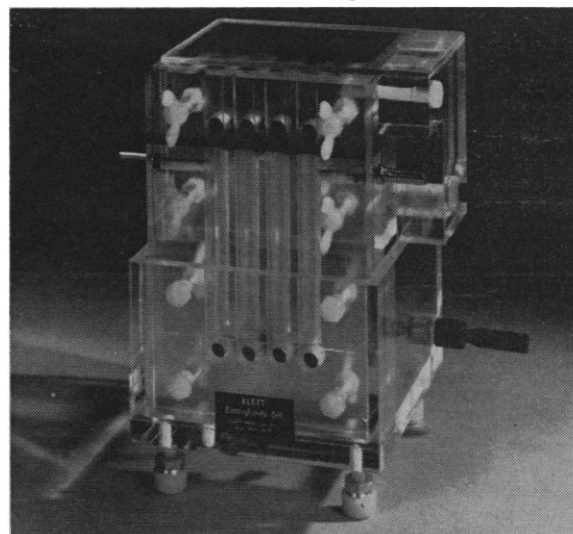
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POSITIONS WANTED

Administrator/Assistant Chairman/Physiologist, Ph.D. Assistant chairman large urban university, 5 years. Experience in curriculum development, grant proposals, interuniversity programs. Teaching/research experience. Desires administration/teaching. Box 72, SCIENCE. X

Animal Scientist, Ph.D., British, 39, seeks permanent position in the United States. Specialist in swine and poultry nutrition. Experience in U.S. and U.K. universities, research coordination, and administration (government). Interests agriculture, food production, waste disposal, writing. Attending FASEB meeting. Box 76, SCIENCE. X

Biochemist, Ph.D. 1968. Experience: protein and virus structure, biochemical virology, immunology. Techniques: protein purification, radioisotope labeling, analytical centrifugation, ORD. Box 77, SCIENCE. X

Biochemist, Ph.D. experienced in enzymology, protein fractionation, and peptide hormone metabolism. Desires research position in Washington, D.C., area. Box 78, SCIENCE. X

Biologist/Biophysicist, Ph.D. Four and a half years of postdoctoral research in photobiology, photosynthetic bacteria, and algae. Experienced in isolation of photochemical reaction centers, mathematical modeling of photosynthetic systems, and computer programming. Desires teaching and/or research position. Available September 1973 or earlier. Box 79, SCIENCE. X

Botanist, Ph.D., 1970, 4 years of teaching experience in general botany, general biology, and plant taxonomy. Publications. Desires teaching and/or research position in rural college/university. Box 80, SCIENCE. X

Cellular Biologist/Physiologist/Electron Microscopist, Ph.D. NIH postdoctoral fellow. Some teaching experience. Current research: development, evaluation, and application of organ perfusion systems for metabolic studies. Additional research in biological effects of ultrasound, melanin biosynthesis, and lipoproteins. Extensive experience in electron microscopy and biochemical techniques. Desires academic position. Box 81, SCIENCE. X

Chemical Crystallographer, Ph.D., 1969. Synthetic organic/physical chemistry background. Much experience in single-crystal and powder work, technical writing, editing, Fortran programming. For résumé write Box 82, SCIENCE. X

Consultation in Veterinary and Comparative Histopathology: board-certified veterinary pathologists will examine stained sections of animal tissues for toxicologic, research, or diagnostic studies. Box 61, SCIENCE. 3/2

POSITIONS WANTED

Dynamic Teacher desires position at institute with strong undergraduate commitment. Interdisciplinary interests; evolutionary biology, zoology; teaching experience at secondary and college levels. Ph.D. (June 1973); Ed.D. (Sept. 1973). Box 83, SCIENCE. X

Ecologist wishes to be recycled. Trained in mammal populations, behavior, community structure. Seeks socially relevant position involving research, teaching, environmental assessment, consulting, or administration. Human population ecology particularly interesting. Box 84, SCIENCE. X

Environmental Biologist, Ph.D. 1967; desires challenging position in the field of environmental management and protection, academic or non-academic employment. Box 85, SCIENCE. X

Limnologist, Ph.D., 4 years of teaching experience in ecology, limnology. Research in diatom and invertebrate community dynamics. Prefers mid-west. Box 86, SCIENCE. X

Material Scientist, Ph.D., 30, returning from Europe desires fall teaching/research position. Interdisciplinary background in metals and non-metals includes both industrial and postdoctoral experience. Presently working with polymeric glasses and expecting more than six publications in next 18 months. Write Michael Mindel, 4 rue des Moulins, 67000 Strasbourg, France. X

Medical Education curriculum, implementation and evaluation design for undergraduate, graduate, and postgraduate programs for health professionals. Also experience in workshop design and group process. Have M.Ed. in medical education with 5 years of experience as above. Have Ph.D. in microbiology with 15 years of experience in medical school teaching and research; particularly immunology and mycology. Desires position in innovative program. Box 87, SCIENCE. X

Neurochemist, Bioorganic Chemist, Ph.D. Research experience in biogenic amines, cyclic AMP, adenylylase, neurochemical determinations. Strong background in bioanalytical techniques and organic chemistry. Desires teaching or research position. Box 88, SCIENCE. X

Neurochemist: Addictive drug effects on CNS and the neurochemical basis of psychoses. Publications. Seeks a research-oriented position. Box 89, SCIENCE. X

Neuropharmacologist, 34, Ph.D. Experience in electrophysiology and teaching. Visiting United States (New York) in April. Seeks interviews for positions open in fall of 1973. Box 90, SCIENCE. X

Neurophysiology Ph.D. 1971. Two years of college teaching (organism biology). Desires teaching or teaching research. Dr. Robert Tarr, Department of Biology, Bard College, Annandale, N.Y. X

Pathologist, D.V.M., Ph.D., Board certification. Teaching, diagnostic, and research experience. Box 91, SCIENCE. X

Ph.D. in physiological psychology with postdoctoral research experience, specializing in electrophysiology, seeks position with opportunity for research. Box 92, SCIENCE. X

Ph.D. candidate (medical virology), enjoys motivating and communicating with students, seeks teaching position in microbiology. Lecture experience and broad science background. Available 1 June 1973. Box 93, SCIENCE. X

Ph.D. Physicist, Fellow Phys. Soc., with fine research accomplishments (experimental). Teaching experience at university level. At present with major industrial laboratory. Seeks position with 4-year college where he can participate in, upgrade, or set up a good physics or science-mathematics program. Some management experience. Box 67, SCIENCE. 3/2, 9, 16, 23, 30; 4/6

Physics Teacher, Ph.D. available in September 1973. Nearly 10 years of experience teaching introductory, undergraduate, and graduate physics. Several publications. Research and development experience. Interested in part- or full-time college physics teaching. Box 96, SCIENCE. X

Physiological Psychologists (Ph.D.'s 1969). Husband (32), wife (31) team desires to share teaching/research position(s) in an innovative department. Publications, postdoctoral research, teaching experience. Children. Box 97, SCIENCE. X

Physiologist, Invertebrate/Vertebrate, 31, Ph.D. 1970. Two year postdoc., currently Assistant Professor midwestern university. Interests: biochemical bases of adaptive response. 17 publications: JEZ, JIP, CBP, BB, AJP. Desires academic position with opportunity for research, teaching, and graduate students. Box 98, SCIENCE. X



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Plant Ecologist, Ph.D. plus 1 year teaching. 3 years of research experience, seeks university teaching/research work in city under 200,000 population. Special training: mathematics, computing, physics. Interests: ecological physiology, systems models, agricultural meteorology, vegetation. Box 94, SCIENCE. X

Plant Physiologist/Biologist, Ph.D. Seven years of experience; publications. Teaching interest, botany (general, physiological, ecological, developmental); general biology. Research interest in cryobiology. Seeks academic or industrial position. Available immediately or September 1973. Box 95, SCIENCE. X

Psychologist, 29, Ph.D. (1970). Three years of postdoctoral research: perception, memory, psycholinguistics, dyslexic children. Publications. Seeking educational research/development. Box 100, SCIENCE. X

Research Assistant, M.S. in biochemistry. Experienced in protein biochemistry. Academic training in pharmacology and neurology. Desires position in psycho- or neuropharmacology research. Box 101, SCIENCE. X

Sensory Psychologist, 30, with specialization in psychoacoustics and auditory physiology. Ph.D. postdoc, publications. Seeks research and/or teaching position in university, hospital, or industry for fall 1973. Box 102, SCIENCE. X

Virologist/Immunologist, D.V.M., Ph.D. (1972). Viral immunology, biometrical applications/infection and immunity, tissue culture. Postdoctoral teaching/research experience. Seeks position with university or industry, research emphasis. Box 103, SCIENCE. X

Woman Biochemist/Biophysicist, Ph.D. 1966, teaching, postdoctoral experience. Publications, research in structural analysis of biological systems—EM, optical diffraction, ORD, CD. Seeks academic, medical, or research institute position. Box 104, SCIENCE. X

POSITIONS OPEN

ASSISTANT PROFESSOR

Ph.D. or M.D., one or more years of postdoctoral research experience in transport, cellular, or somatosensory physiology. Applications (curriculum vitae, three references) to: **Chairman, Faculty Recruitment Committee, Department of Physiology and Biophysics, West Virginia University Medical Center, Morgantown, W.Va. 26506.**

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Individuals may obtain the current list of all available faculty and administrative academic positions at the University of Minnesota (a multi-campus institution) by contacting **Nancy Groves, Academic Administration, University of Minnesota, 213 Morrill Hall, Minneapolis, Minnesota, 55455 (612-373-2101).** Inquiries from foreign countries will be honored only when international postage reply coupons are enclosed. *Equal opportunity employer.* Inquiries from minorities and women are welcomed.

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Department of Zoology, University of Maryland at College Park, needs to strengthen its teaching and research programs in physiology. Applicants should be qualified to teach both a graduate course emphasizing the biochemical approach to cellular physiology and an undergraduate course in vertebrate organ physiology. Excellent faculty research facilities available. Salary and rank negotiable. Submit curriculum vitae before 1 March 1973 to **Dr. John O. Corliss, Chairman.**

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UNIVERSITY OF TORONTO. Applications are invited for the position of **ASSISTANT PROFESSOR OF ZOOLOGY** in the field of freshwater animal ecology. Applicants should be oriented toward field experiments and have combined interests in community analyses, whole system variables and quantitative modeling. The position will be tenable at the Erindale College Campus from 1 July 1973.

Salary by negotiation (minimum \$11,500).

Applications with curriculum vitae should be sent to the **Chairman of the Selection Committee, Professor B. I. Roots, University of Toronto, Erindale College, Clarkson, Ontario, Canada.** Candidates should arrange for three letters of reference to be sent to the same address. Closing date **17 March 1973.**

DEPARTMENT OF BIOLOGY, AMERICAN UNIVERSITY OF BEIRUT, is recruiting teaching-research faculty for Fall 1973 in the following areas: biological oceanography, general ecology, fisheries biology, chemical and physical oceanography, and marine microbiology. More than one opening is anticipated at Assistant or Associate Professor rank. Ph.D. required, postdoctoral experience preferred. Travel, relocation, and liberal fringe benefits included. Applications with letters of reference should be addressed to **Dr. Philip Basson, Chairman, Department of Biology, American University of Beirut, Beirut, Lebanon,** with application copies to Personnel Services, American University of Beirut, 305 East 45 Street, New York 10017.

FACULTY OPENINGS DEPARTMENT OF BIOLOGY UNIVERSITY OF PITTSBURGH

Applications are invited for faculty positions to be filled in several areas of specialization. Successful applicants will be expected to assume responsibilities in undergraduate and graduate teaching and to develop an active research program. Salary and rank will be commensurate with experience and qualifications. Consideration will be given to the following areas of specialization: **INVERTEBRATE BIOLOGIST**—with interests in the ecology or physiology of freshwater invertebrates. **DEVELOPMENTAL BIOLOGIST**—with research interests at the molecular level. **GENETICIST**—interested in the genetics of protists or in behavioral genetics. **FINE STRUCTURE BIOLOGIST. NEUROBIOLOGIST. PLANT PHYSIOLOGIST.**

Applications, including a curriculum vitae, selected reprints of published papers, three letters of reference, and a statement of current research interests, should be sent to **Richard T. Hartman, Chairman, Department of Biology, University of Pittsburgh, Pittsburgh, Pa. 15213.**

The University of Pittsburgh has an Affirmative Action Program. Women and Minority Persons Are Encouraged to Apply.

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Applicants please submit (i) résumé and (ii) a 500-word statement describing the applicant's proposed research activities and objectives. Applications will not be reviewed until these materials have been received. Deadline for all applications is 20 April 1973. Sex, race, religion, or ethnic origins of applicant are immaterial.

Address replies to: **Peter K. Levison, Ph.D., Division of Research & Development, General Office, Illinois Department of Mental Health, 160 N. LaSalle Street, Room 1500, Chicago, Illinois 60601.**

DEVELOPMENTAL BIOLOGIST

The University of Minnesota, Morris (an undergraduate Liberal Arts college with less than 2000 students) is seeking a developmental biologist with a broad background. The person asked to join us will be expected to participate in the General Biology course, as well as teach Developmental Biology and a course in another area of that person's interests. Research facilities are good. Appointment will be as Assistant Professor and salary is open. The position will be available in September of 1973 and interested persons are asked to write to **Professor Jay Y. Roshal, Search Committee, Division of Science and Mathematics, University of Minnesota, Morris—Morris, Minnesota, 56267.** The University of Minnesota is an equal opportunity employer. Applications from women and members of minority groups are invited.

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The group will be located at the Max-Planck-Institute for Plant Genetics in Rosenhof near D 6802 Ladenburg/Heidelberg. Such a group will initially consist of a research scientist with five technical assistants. The laboratory facilities, climate chamber, greenhouse and workshop of the Institute are partially at the disposal of this group. A committee of experts consisting of geneticists, plant breeders and plant biochemists controls and chooses together with the project leader the research topics. The ultimate goal would be the application of this work to plant breeding. This project is limited to a five year period. Payment according up to group Ia of the Bundes-Angestellentarvertrag (BAT). Candidates should possess knowledge and practical experience with plant cell and tissue culture.

Applicants should address to the chairman of the committee:

**Professor G. Melchers, Max-Planck-Institut für Biologie
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POSITIONS OPEN

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Applications, including curriculum vitae, names of five references, and a list of publications, should be sent to **Richard S. Caldecott, College of Biological Sciences, University of Minnesota, St. Paul 55101. An Equal Opportunity Employer.**

GENETICIST

Genetics Department, University of California, Davis, seeks a Geneticist at assistant professor rank; Ph.D. required. Send curriculum vitae, reprints, and so forth, to **Search Committee, Department of Genetics, University of California, Davis, California 95616. The University is an Equal Opportunity Employer.**

INSTRUCTOR/ASSISTANT PROFESSOR

Position available in the Department of Internal Medicine, University of Michigan Medical Center. Candidate must be a physician, board qualified in clinical oncology, with demonstrated research ability, or interest, in clinical oncology, preferably pharmacology of antitumor agents. Will function as an internist and clinical oncologist and will also have teaching responsibilities in the Medical School. Code #900N. Send résumé to **Box 105, SCIENCE, A Nondiscriminatory Affirmative Action Employer.**

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Postdoctoral Research Associate to assist in program dealing with effect of spinal cord trauma on myelin. Will be involved in (i) characterizing spinal cord myelin constituents, (ii) studying the disruption of the lipid-protein matrix following trauma, and (iii) defining the role of lysozymes in this disruption. Position now available. Include résumé and references to **Dr. Seymour Joffe, University of Miami School of Medicine, Miami, Fla. 33152.**

SIMON FRASER UNIVERSITY PHYSICAL BIOCHEMIST

Applications are invited for appointment as the rank of Full Professor, to teach and carry out research in Physical Biochemistry. Applications from Canadians wishing to return to Canada will be particularly welcome.

Curriculum vitae and the names of three referees to:

**Dr. T. N. Bell (Chairman)
Chemistry Department
Simon Fraser University
Vancouver, B.C., Canada**

from whom further particulars may be obtained.

PHYSIOLOGIST

Assistant or Associate Professor of Physiology to start as early as 1 September 1973. No area of specialization is specified although special interest in respiratory or cardiovascular physiology may be preferred. The successful candidate will be expected to participate in undergraduate and graduate teaching and to continue a high-quality research program. Applicants should send curriculum vitae and names of three referees to: **Dr. D. G. Sinclair, Department of Physiology, Queen's University, Kingston, Ontario, Canada.**

Ph.D. PHYSIOLOGICAL ECOLOGIST

To teach Animal Ecology and one semester of a general zoology course; appointment at Assistant Professor level effective 1 September 1973. Send curriculum vitae and names and addresses of three references to: **Kenneth W. Allen, Chairman, Zoology Department, University of Maine at Orono, Orono, Maine 04473.**

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PROTEIN STRUCTURE-CRYSTALLOGRAPHY ASSISTANT PROFESSOR. Applications are sought for an anticipated position requiring teaching (undergraduate and graduate) and research, effective September 1973. Should have research interest in protein structure and function, including x-ray crystallographic techniques. Postdoctoral experience necessary. University has Affirmative Action policy in effect. Send vitae and recommendations to **Dr. R. Bentley, Chairman, Department of Biochemistry, Faculty of Arts and Sciences, Crabtree Hall, University of Pittsburgh, Pittsburgh, Pa. 15213.**

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As Head of the Materials Department he will be responsible for planning, directing, and reviewing the work of the Department. As Associate Technical Director he has the responsibility for planning and formulating broad technical programs and missions in materials science and technology, negotiating new program assignments, and providing consultation in the fields to industry and other government agencies.

We are looking for applicants who have a Doctorate in Metallurgy or Materials Science or a related engineering field and who possess stature and recognition in the fields listed above.

This position carries a salary range from \$31,000 through \$36,000 per annum (dependent upon the qualifications of the person selected).

The Center is located at Carderock, Maryland (12 miles northwest of downtown Washington, D.C.) and at Annapolis, Maryland (on the north shore of the Severn River, opposite the U.S. Naval Academy). The sites are approximately 50 miles apart.

Career Civil Service benefits apply.

Please submit resume and/or SF-171 (Application for Federal Employment) to:

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MONASH UNIVERSITY (Melbourne, Australia) DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY RESEARCH FELLOW (POSTDOCTORAL)

Applicants should be graduates in Science or Medicine with doctorates. The position is for an initial period of 2 years, commencing as soon as possible in 1973, to investigate the production and function of prostaglandins in the human with special reference to fertility.

Salary: \$5920 to \$7914 per annum (Australian).

Further information and application procedures are available from the Academic Registrar, Monash University, Wellington Road, Clayton, Victoria 3168.

Closing date: 28 February 1973.

The University reserves the right to make no appointment or to appoint by invitation.

RESEARCH SCIENTIST

Excellent position available in well-known eastern medical institution for individual experienced in purification and characterization of blood serum proteins. Must be capable of assuming supervisory responsibility for routine protein production. Qualified applicants should have a Doctor's Degree in Biochemistry or equivalent experience. Minimum of 5 years' work in protein chemistry, ion exchange and gel filtration chromatography, zone electrophoresis, characterization and purity analysis of proteins is required. A competitive salary and liberal fringe benefits are offered. Send résumé of qualifications and salary requirements to **Box 71, SCIENCE**.

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SCIENCE WRITER

Science is looking for young scientists with writing ability to prepare material for the Research News section. The position requires good judgment as to what is significant, the ability to seek and gather information from others, and related journalistic skills, some of which may be acquired on the job. The position offers the chance to broaden one's experience and to gain a unique perspective on research with some of the best scientists in the country as tutors. Individuals who do not wish to follow traditional academic career patterns may find in this opportunity an alternative to postdoctoral research appointments.

We are particularly interested in applicants with training in one of two areas: electrical engineering, solid state physics, materials sciences, and social and behavioral sciences. We expect a successful applicant to have interests that cover the full range of disciplines within that broad area. The position is full-time and will require relocation to the Washington, D.C., area. Training to the Ph.D. and some journalistic experience are preferable. Address applications, including résumé and statement of interests, to **William Engelman, 1515 Massachusetts Avenue, NW, Washington, D.C. 20005. Equal Opportunity Employer.**

Scientific information service seeks alert and imaginative person for new senior administrative position. Responsibility will require broad knowledge of life sciences as well as interest in management and administration. Ph.D. preferred. Eastern seaboard. *Equal opportunity employer.* Send résumé to

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SENIOR TECHNICIAN-IMMUNOCHEMISTRY

M.S. in Biochemistry with substantial research experience (4 to 5 years) in preparative and quantitative immunological techniques, immunofluorescence, immunoelectrophoresis, and so forth. A challenging position for a person with initiative in an independent research institute. Salary \$10,000 to \$12,000 depending primarily upon experience and proven skills. Send curriculum vitae and names of two professional references who may be contacted to **Dr. D. L. Hay, Forsyth Dental Center, 140 Fenway, Boston, Mass. 02115.**

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Position available immediately in the Department of Surgery, University of Michigan Medical Center. Candidate must be highly experienced pediatric general surgeon who will head a new Section of Pediatric Surgery. Must possess the administrative and scientific background to develop this section. Must also be qualified to develop a pediatric surgical residency program. Please send résumé to **Box 108, SCIENCE. A Non-discriminatory Affirmative Action Employer.**

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POSTDOCTORAL FELLOWSHIP IN ANATOMY

Position available about 1 July 1973. Work involves measurement of effects of hormones and ions on formation, mineralization and resorption in rat bone. Annual stipend is about \$9000. Apply to

**D. Baylink, M.D.
Veterans Administration Hospital
4435 Beacon Avenue South
Seattle, Washington 98108**

POSTDOCTORAL APPOINTMENT IN CELLULAR AGING

Excellent opportunity for support of training and research in Biological Gerontology in first-rate medical school. Stipend according to years of postdoctoral experience, plus dependency allowances. U.S. citizenship or permanent residence required; 1 June 1973 appointment. Send résumé to: **Box 109, SCIENCE.**

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Excellent opportunities are available for graduate students to pursue a Ph.D. in contemporary areas of Biological Sciences. Stipends are available up to \$3500 for 9 months, up to \$800 additional for the summer. For details write to: **Dr. C. P. Sword, Chairman, Life Sciences Department, Indiana State University, Terre Haute, Indiana 47809.**

UNIVERSITY OF CALGARY, Graduate Teaching and Research Assistantships are available for students proceeding to the Ph.D. or M.Sc. degrees in all branches of **CHEMISTRY AND BIOCHEMISTRY**. The assistantships are valued from \$3600 to \$4600 per annum and carry remission of fees and a travel allowance. For further information write to: **Department of Chemistry, Chairman of Graduate Studies, University of Calgary, Calgary, Alberta, T2N 1N4, Canada.**

COURSES

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DUKE UNIVERSITY MARINE LABORATORY

Summer Courses—Graduate/Advanced Undergraduate. 18 June: Ecology, Comparative Biochemistry, Invertebrate Embryology, Microbiology, Physiological Ecology, Geological Oceanography, Chemical Oceanography. 23 July: Membrane Physiology, Invertebrate Zoology, Biological Oceanography, Phycology, Endocrinology, Comparative Behavior. Write: **Director, Duke University Marine Laboratory, Beaufort, North Carolina 28516.**

THE FOURTH SUMMER COURSE IN TISSUE CULTURE, 3 TO 27 JULY 1973 UNIVERSITY OF SASKATCHEWAN DEPARTMENT OF ANATOMY AND EXTENSION DIVISION

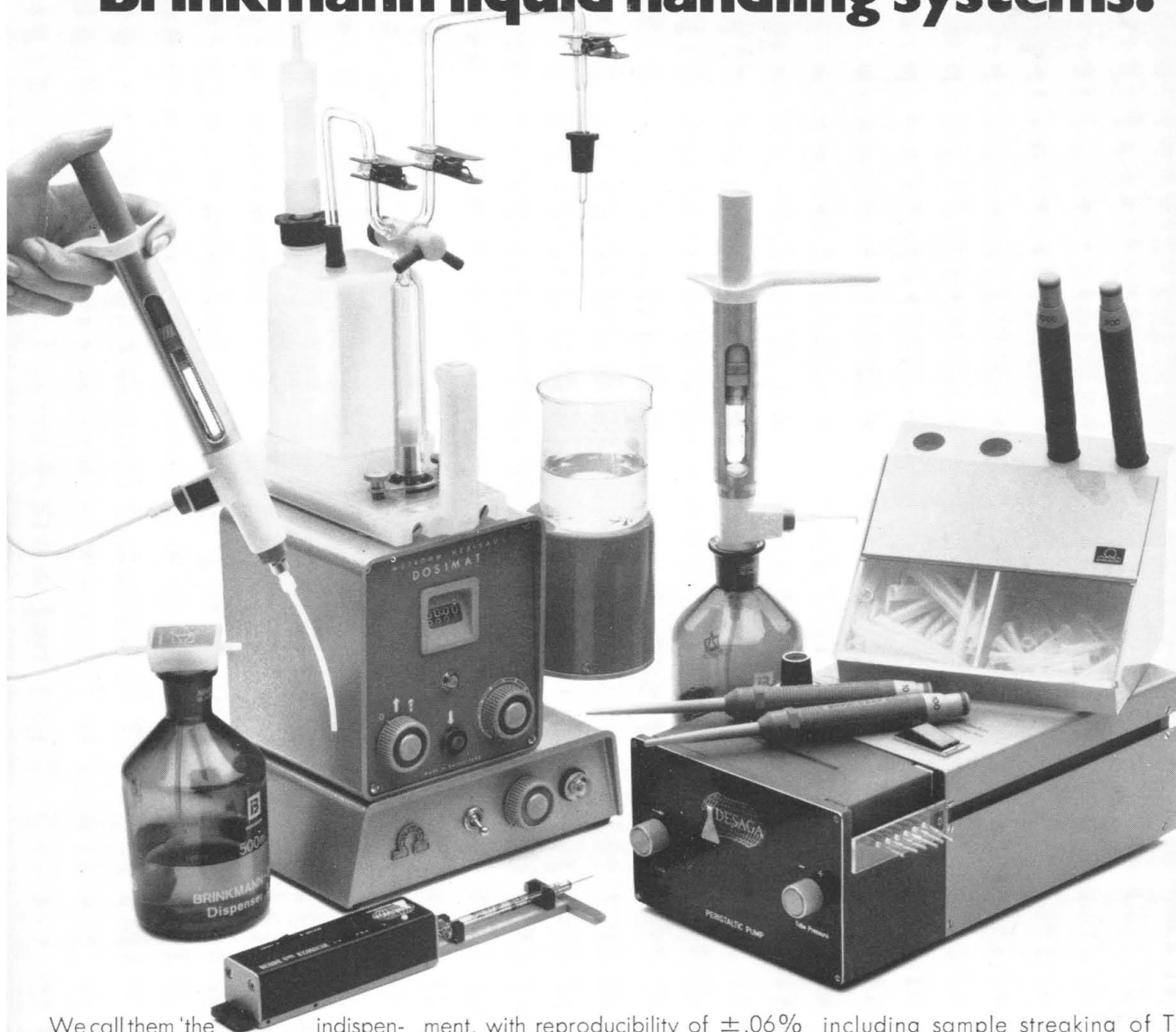
The course will introduce basic principles of mammalian and plant tissue cultures. It will include laboratory work, demonstrations, seminars, informal discussions and lectures. It is intended primarily for persons with doctors' or masters' degrees. For more information write or telephone, **Dr. S. Fedoroff, Department of Anatomy, University of Saskatchewan, Saskatoon, Sask., S7N 0W0, Canada. Telephone: 306-343-2661.**

WORKSHOP

MOLECULAR TECHNIQUES IN DEVELOPMENTAL BIOLOGY

Sixth Annual Summer Workshop to be held 2 July to 28 July 1973 at the San Diego (La Jolla) campus of the University of California. The workshop emphasizes laboratory instruction in molecular and biochemical techniques useful to animal and plant physiologists and developmental biologists. Enrollment restricted to 22 participants. Expenses are paid by the National Science Foundation. For further information and application forms write to **Dr. Stephen Howell, Department of Biology, University of California, San Diego, La Jolla, Calif. 92037. Deadline for applications: 1 April 1973.**

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