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Substrate concentrate for blots, histochemistry, and electron microscopy. Kirkegaard & Perry Laboratories now offers 3,3'-diaminobenzidine (DAB) as a one-component liquid concentrate. DAB substrate concentrate can be used in all immunohistochemical, Western blot and dot blot techniques for detection of peroxidase activity. It has also proved useful for ultrastructure research when reacted with osmium tetroxide. DAB substrate concentrate contains sufficient reagent for preparing up to 500 ml of working solution. This solution minimizes exposure to DAB. To prepare, simply dilute with buffer and hydrogen peroxide before use. It is stable for at least 1 year refrigerated, which eliminates the need for filtering. Kirkegaard & Perry Laboratories, 2 Cessa Ct., Gaithersburg, MD 20879-4145, USA. Telephone 301-948-7755 or 1-800-638-3167. Circle 51 on Reader Service Card.

Autoimmune antibody test systems. SciMedx announces an improved system for ANA testing designed to have a high specificity and better pattern recognition with more mitotic cells. This allows the detection of Centromere and Mitotic Spindle Apparatus (MSA) antibodies, which are routinely missed with tissue substrates.

HEp-2 Cell Culture Antibody Test Systems has of 10 x 6-well slides or 10 x 14-well slides containing HEp-2 cell substrate, which are stable for 12 months at 2-8°C. The 14-well slide includes one set of positive and negative control wells. Cross contamination between wells is prevented by a gray hydrophobic slide mask. The FITC labeled Anti-Human Globulin IgG Conjugate that is supplied with the kit has been adjusted for optimum use with the HEp-2 cell culture substrate and is free of nonspecific staining.

Controls for ANA homogeneous pattern and a universal negative are included in the kits and are stable at refrigerated temperatures. Positive controls for additional patterns are also available. All HEp-2 reagents are available separately. SciMedx, 400 Ford Rd., Denville, NJ 07834, USA. Telephone 201-625-8822. Circle 56 on Reader Service Card.

Biological culture safe-keeping services. The American Type Culture Collection (ATCC) offers four services for long-term preservation of valuable biological cultures and genetic materials. The Safe Deposit service provides freeze-dried and liquid nitrogen storage to safe-guard proprietary culture materials and working stocks of hybridomas, microbial recombinants/ vectors and etc. The Patent Depository stores patent pending and patented cultures of algae, bacteria, cell lines, fungi, genetic material, plant tissues, protozoa, seeds, viruses, and yeasts. The ATCC is a recognized International Depository Authority and is approved for patent deposits by most countries in the world. The ATCC General Culture Collection service and the Government-funded Collection service offer free culture storage for cultures that fulfill requirements of acceptability to either collection and there is no charge to the deposit for future access to their deposited culture.

Deposits to the Safe Deposit and Patent services require a fee. Each type of service provides the ATCC's state-of-the-art preservation technology, the result of 60+ years of experience. American Type Culture Collection, 12301 Parklawn Dr., Rockville, MD 20852-1776, USA. Telephone 301-881-2600. Circle 50 on Reader Service Card.

Agaroses accommodate a variety of experimental protocols. National Diagnostics offers products of varying characteristics that allow selection of the agarose best suited for experiments.

Agarose LEO offers a high gel strength with a low rate of electroendosmosis, measured by relative mobility (−Mv). This low −Mv results in gels that are electrically neutral, thus improving sample resolution. Due to its high gel strength, Agarose LEO is recommended for use when low agarose concentration and maximum pore size is required.

Agarose MEO has a mid-range −Mv and a relatively low sulfate content, which permits binding with other materials for specific requirements or for use in counterimmunoelectrophoresis. Agarose HBO is a high −Mv agarose, also ideal for use in counterimmunoelectrophoresis or for binding in special applications. Agarose NDO is a specially prepared material offering an extremely low −Mv, coupled with excellent gel strength. The ultra-high purity and exceptionally low sulfate content of Agarose NDO eliminate nonspecific binding to nucleic acids and proteins, so that samples can be recovered more easily and efficiently. This makes Agarose NDO the preferred agarose matrix for DNA restriction fragments.

Agarose LGT is a low −Mv agarose with a low melting point of 25°C, which permits recovery of unstable, heat-sensitive samples from an Agarose LGT gel.

Agarose Zero (−M0), an electroendosmosis-free gel matrix, has high porosity and good gel strength of Agarose Zero (−M0), which readily permit the separation of macromolecules. The −M0 of this agarose is equal to zero, eliminating the flow of solvent toward either electrode during electrophoresis is eliminated and improving the sample resolution.

All of National Diagnostics' agaroses are white, free-flowing solids of uniform particle size that readily dissolve in warm water. National Diagnostics, 1013-1017 Kennedy Blvd., Manville, NJ 08835-2031, USA. Telephone 201-722-8600 or 1-800-526-3867. Circle 57 on Reader Service Card.
Electronic motorized pipette. Rainin's new EDP2™ electronic motorized pipette gives you: The accuracy and precision of its piston movements, which are not subject to human error. With an EDP2 pipette, there is no chance of generating an undetected liquid measurement error. By pressing the trigger with your index finger, a computer and a miniature motor go to work and produce a perfect piston movement every time. EDP2 also has a multiple sample dispensing option, choice of pipetting speeds, and a large, easy-to-read volume display. Rainin, Mack Rd., Woburn, MA 01801, USA. Telephone 617-935-3050. Circle 52 on Reader Service Card.

Pharmacological activities wall-chart. A new wallchart lists more than 400 products and their pharmacological activities, including adenosines, adrenergics, benzodiazepines, cholecystokinin, cholinergics, dopaminergics, enzyme inhibitors, excitatory amino acids, GABA-ergics, neurotoxins, opioids, serotonergics, and second messenger agents. RBL, 9 Erie Dr., Natick, MA 01746, USA. Telephone 508-651-8151. Circle 55 on Reader Service Card.

Biodegradable scintillation cocktail. Bio-Safe NATM is a new generation ready-to-use liquid scintillation cocktail designed for nonaqueous organic samples and glass filter discs. Formulated to yield higher counting efficiencies for nonaqueous samples compared to aqueous formulas, it contains nonhazardous, biodegradable components and allows disposal as ordinary liquid waste. Bio-Safe NA has a flash point exceeding 300°F and is therefore classified as a nonregulated combustible liquid rather than a flammable liquid. A low vapor pressure of < 0.5 mm Hg reduces exposure to the atmosphere. Research Products International, 410 N. Business Center Dr., Mt. Prospect, IL 60056, USA. Telephone 312-635-7330. Circle 69 on Reader Service Card.

Micro flow-through conductivity probe. A miniature flow-through conductivity probe, which can be used with a strip chart recorder or pH/millivolt meter, is specifically designed to be used for column chromatography HPLC and ion chromatography measures. The conductivity probe, model COND-158, has a 1/16" I.D. tube that attaches directly to the effluent side of the HPLS/LS column. The conductivity cell has a low dead volume of only 80 microliters. The probe measures up to 10,000 siemens in three ranges 0-2 volts and can be hooked up directly to a strip chart recorder for continuous conductivity recording. Lazar, 920 N. Formosa Ave., Los Angeles, CA 90046, USA. Telephone 213-384-6195. Outside Toll Free 1-800-824-2066. Circle 53 on Reader Service Card.

Biological safety cabinets. Germ-free Class II, Type A, are vertical laminar flow biological safety cabinets that protect personnel, environment, and work in progress from the hazards of low-to-moderate risk solids and liquid aerosols. The Germfree Bioflow™ Chamber provides a stable environment for sterile procedures and for operations formerly performed in a glove box. To ensure a continuous supply of ultra-clean air to the work area, the unit's supply and exhaust air are filtered through HEPA filters that remove solid and liquid particles 0.3 micron in size or greater with 99.99% efficiency. Four bench-top models and three console models are available in either all stainless steel or stainless steel and cold rolled steel construction. Hotpack, 10940 Dut- ton Rd., Philadelphia, PA 19154, USA. Telephone 1-800-523-3608. Circle 66 on Reader Service Card.

Enzymatic sequence analysis. The TaqTrack sequencing system is a new method for enzymatic sequence analysis that takes advantage of the intrinsic properties of the DNA polymerase isolated from Thermus aquaticus (Taq DNA polymerase). Thermus aquaticus is an thermophilic microorganism whose DNA polymerase shows high thermal stability and lacks exonuclease activity. As a sequencing enzyme, Taq DNA polymerase exhibits a consistent band intensity, low background, and a high degree of accuracy. The higher reaction temperature of the TaqTrack sequencing system (70-95°C) decreases the secondary structure of DNA templates, allowing polymerization through highly structured regions. Stringency of primer hybridization increases, decreasing non-specific binding. The system produces readable sequence data from 1 to 500 bases with a single-stranded DNA template.

Two configurations of nucleotide mixes are available: the nucleotide mix for routine sequencing, and a deaza nucleotide mix for resolving band compressions associated with GC-rich templates. Sequencing primers for a variety of common cloning vectors are available separately. Promega, 2800 S. Fish Hatchery Rd., Madison, WI 53711, USA. Telephone 608-274-4330. Circle 63 on Reader Service Card.
New autosampler for LC. The SP8775 Autosampler offers many of the same features and capabilities as its cousin, the SP8780. It easily connects to any pump or data system. Four removable trays accommodate 80 samples, plus a priority vial, and accept either crimp-top or screw-cap vials. An automatic flush after each injection prevents sample carryover from one injection to the next. The autosampler has a precision rating of less than .5%. The keyboard is designed so that parameter entry, file setup, and diagnostic testing are simple and straightforward. A keyboard-locking feature protects against accidental interruption of a sampling run, and autosampler functions are clearly indicated on the display panel during all stages of operation. The SP8775 can be configured for micro-LC as well as large-volume sample injections. An optional communications board provides a full range of communications choices: BCD, RS-232, or LABNET®, Spectra-Physics' local LC instrument network. As part of a ChromNet/modular LC system, it is possible to set up all files and parameters from a single keyboard, and store files on disk. Spectra-Physics, 3333 N. First St., San Jose, CA 95134, Telephone 408-432-3333. Circle 62 on Reader Service Card.

Chromatography software. Isco ChemResearch® software combines HPLC gradient programming and system control with dual-channel data acquisition and integration. ChemResearch runs on IBM PS/2 and PC-compatible computers; the current version, available to registered owners as a free update, supports high-res color graphics and transfer of data files to other applications. Data functions include real-time display and printout, complete integration reports, and standards comparisons. Gradient control works with all Isco HPLC solvent delivery systems and can also be configured for binary gradients with virtually any HPLC pumps having voltage or frequency inputs. Isco, P.O. Box 5347, Lincoln, NE 68505, USA. Telephone 402-464-0231. Circle 60 on Reader Service Card.

Gene machine chemistry. The most widely used and successful chemistry for DNA synthesis, the beta-cyanoethyl phosphoramidite chemistry, is used in virtually all leading automated DNA synthesizers throughout the world. The advanced beta-cyanoethyl phosphoramidite chemistry has replaced the old methoxy phosphoramidite chemistry and has greatly improved the efficiency, purity, and speed of DNA synthesis. Compared with the beta-cyanoethyl phosphoramidite chemistry to other DNA chemistries, Beta-cyanoethyl phosphoramidites are more stable in solution and eliminate N-methylation of thymidine. The advanced chemistry allows researchers to synthesize longer DNA sequences, in excess of 200-base oligonucleotides. The result is increased efficiency and chemically synthesized DNA that is largely indistinguishable from biological DNA. MilliGen, 75 Wiggins Ave., Bedford, MA 01730, USA. Telephone 617-275-5208. Circle 70 on Reader Service Card.

Ultraviolet blocking spectacles for complete eye protection. Model ULTRA-100 Spectacles from ULTRA-LUM are manufactured with a specially formulated polycarbonate that blocks virtually 100% of ultraviolet radiation, as well as blocking some of the blue/violet area of the spectrum. This helps to remove the blue base effect normally associated with ultraviolet radiation. Spectacles feature top and side shield protection, for greater UV protection from peripheral or reflected sources. The design allows for wearing overall prescription glasses.

The ULTRA-100 Spectacles are manufactured to comply with the ANSI Z87.1-1979 Protective Eyewear Standards (penetration, impact, heat deformation, and flammability). They provide eye protection in the lab (TLC, electrophoresis, fluorescence analysis, photochemical experiments). Ultralum, 217 E. Star of India Lane, Carson, CA 90746, USA. Telephone 213-324-2247. Circle 54 on Reader Service Card.

Literature

Isotemp Ovens and Incubators, a catalog from Fisher Scientific, 711 Forbes Ave., Pittsburgh, PA 15219, USA. How to achieve optimal separation and clarification of small volume samples, in “The Solution to the Unfilterable Solution,” a brochure from Schleicher & Schuell, 10 Optical Ave., Keene, NH 03431, USA.

HPLC/Microbore LC/supercritical fluid chromatography featured in a catalog from Isco, P.O. Box 5347, Lincoln, NE 68505, USA.

Instrumentation for automated analysis of diverse samples based on electrophoretic separation in a brochure from Microphoretic Systems, 750 N. Pastoria Ave., Sunnyvale, CA 94086, USA.
The FASEB Journal

Information for Authors*

The FASEB Journal (FJ) is the official publication of the Federation of American Societies for Experimental Biology (FASEB). FJ publishes two types of articles: 1) brief, definitive, and essentially final research communications of broad interest that are considered to warrant prompt publication; and 2) state-of-the-art reviews, drawn, as far as possible, from the topics of the FASEB symposia.

Manuscripts containing original communications, or proposals for reviews, should be sent to the Editor-in-Chief, Dr. W. J. Whelan, The FASEB Journal, P.O. Box 016129, Miami, FL 33101-6129, USA.

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The aim of FJ is to illustrate the unity of biology and the interdependence of its constituent disciplines. Therefore, in keeping with this policy, and to qualify for acceptance, an original communication must not only be of outstanding scientific quality but must also be of broad interest.

The subject coverage of FJ is illustrated by the following disciplinary areas: biochemistry, biophysics, cell biology, developmental biology, genetics, immunology, neurobiology, nutrition, pathology, pharmacology, and physiology.

Papers should begin with an abstract written for the general readership and be free from jargon. They should continue with an introduction followed by the results and discussion; they should conclude with a succinct bibliography. Methods may be included within the text, legends and tables or as a separate section. Papers may not occupy more than four printed pages (equivalent of 5000 words and inclusive of illustrations and diagrams) and will be returned as unacceptable if they exceed this limitation.

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FJ also presents research reviews. Heretofore these have been in the form of extended reports emanating from symposia or mini-symposia presented at FASEB meetings. To provide such research summaries in a more compact form and thereby to allow, within space limitations, a more comprehensive and representative survey of the acquisition of new biological knowledge, FJ publishes state-of-the-art reviews that emphasize interdisciplinary aspects of the growing points of research.

These reviews will serve as a window on topics addressed at Society-sponsored symposia or plenary lectures. Therefore, review authors are sought from among those engaged in organizing the symposia. At the same time, volunteered reviews are welcomed that embody the principles of timeliness, topicality, and broad interest. A proposal for such a review, not a completed review, should be sent to the Editor-in-Chief, who will advise on its acceptability.

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General Instructions

1) Manuscripts should be typewritten, with double spacing and 1-inch margins, on 8½ x 11 inch bond paper. Computer printouts of manuscripts must be readable; a dot-matrix printer is generally unacceptable. Metric units should be used. An original and four copies, with figures and tables, should be submitted to the Editor-in-Chief. Pages should be arranged and numbered consecutively in the following order: title page, footnotes, abstract of up to 200 words and indexing key words (maximum of five), text, references, figure legends, tables, and illustrations.

2) The title page should show: title of article, author(s); laboratory or institution of origin with city and state or country; complete address for mailing proofs and telephone number for corresponding author; and shortened title (maximum of 50 characters and spaces) for the running foot.

3) The title should be brief (no more than 90 characters, including letters, spaces, and punctuation) and informative. Do not use phrases in which more than three words modify another word (use "Renal hemodynamic effects of atrial natriuretic factor" rather than "Atrial natriuretic factor renal hemodynamic effects"). Serial titles, such as "Interferon, IX," are not permitted, except as a footnote.

4) The abstract, a paragraph of no more than 200 words, should be written for the general readership and be free from jargon. It should be self-explanatory and suitable for use by abstracting services without rewriting. It should state the purpose and major findings and conclusions of the study. Citation of references should be avoided; if used, include bibliographic information.

5) Footnotes, double-spaced, should be assembled on one or more separate sheets; they should be numbered consecutively throughout.

6) The text should be readable, clear, and concise. Any corrections should be neat and legible. Standard nomenclature should be used; unfamiliar or new items should be defined at first mention. (See Abbreviations section below.) Foreign words not in general use in the English language should be underlined for italic type; italics should not be used for emphasis. Latin plurals should not be used if the English equivalent has been accepted, e.g., lamellae, not lamellae. Webster's New Collegiate Dictionary (1977) should be followed for spelling, compounding, and word separation.

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Each author must include, as a footnote to the first page of text, a list of any new or special abbreviations used in the paper, with the spelled-out form and definition if necessary for clarity. For information on style in general, authors are referred to the CBE Style Manual, 5th ed. (1985), prepared by the CBE Style Manual Committee (Bethesda, MD). Chemical and biochemical terms and nomenclature should be in accordance with the recommendations for usage by the International Union of Pure and Applied Chemistry (IUPAC), the International Union of Biochemistry (IUB), and their Committee on Nomenclature [see Biochemical Nomen-

< C.

lm less than

ln lumen

log logarithm

lx lux

M mega-

Mr relative molecular mass

M molar (moles/liter)
m meter; milli-
m meta-, in chemical name

m², m³ square and cubic meters

mA milliamperc

max maximum

meq milliequivalent

mg milligram

mi mile

min minute

mi/h miles per hour

ml milliliter

ml/min milliliters per minute

mm, mm², mm³ millimeters

mm Hg millimeters of mercury

mol mole

mol wt molecular weight

mosmol milliosmole

mp melting point

m/s meters per second

mRNA messenger RNA

ms millisecond

mtDNA mitochondrial DNA

mtRNA mitochondrial RNA

µ micro-

µeq microequivalent

µg microgram

µl microliter

µM micromolar

µm micrometer

µmol micromole

MW · h megawatt-hour

×500 magnification

N newton

N normal (concentration); number (statistics)

n nano-; neutron

n number (statistics); normal (chemical name)

na nanoampere

NAD, NAD⁺, nicotinamide adenine dinucleotides and

NADPH, NADP⁺, phosphates

nDNA nuclear DNA

nRNA nuclear RNA

nm nanometer

NMN nicotinamide mononucleotide

NMR nuclear magnetic resonance

no. number

N/m² newton per square meter

Ω ohm

o ortho-, in chemical name

o.d. outside diameter

osmol osmole

oz ounce

P peta-; poise; pressure

P phosphate other than inorganic;

probability

P₁ inorganic phosphate

p pico-

Pa pascal

% percent

% per mille

pH negative log of hydrogen ion

concentration

pk negative log of dissociation constant

PM after noon

pm picometer

PP inorganic pyrophosphate

ppb parts per billion

ppm parts per million

Q₁₀ increase in rate of chemical reaction for

each 10⁰C increase in temperature

R roentgen

r configuration; gas constant; resistance

correlation coefficient

rad radian; radiation

ref reference

Rh ribonucleic acid

RNase ribonuclease

rpm revolutions per minute

rps revolutions per second

rRNA ribosomal RNA

S siemens, Svedberg unit

S configuration

s second

s symmetrical, in chemical name

s.c. subcutaneous

SD standard deviation

SE standard error

sec secondary, in chemical name

SEM standard error of the mean

sp., spp. species, with generic name

sp gr specific gravity

square use exponent 2

STP standard temperature and pressure

Sv sievert (replaces rem)

t tera-; teela)

t metric ton

t₁/₂ half-life (half-time)

tert tertiary, in chemical name

TMP, TDP, TTP ribosylthymine phosphates

Tris tris(hydroxymethyl)aminomethane

tRNA transfer RNA

U uridine phosphates

UV ultraviolet

V volt

V volume

vol/vol volume ratio

vs. versus

W watt

Wb weber

W-h watt hour

wk week

wt weight

wt/vol weight per volume

wt/wt weight ratio

x mean

XMP, XDP, XTP xanthosine phosphates

yd yard

yr year

Note: standard three-letter or single-letter abbreviations for

amino acids may be used in sequences and in tables and figures.

References

References should be cited in the text in numerical order, with

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(Titles and inclusive pages must be used.)


(1986) Interrelationships between zinc and immune function.

Federation Proc. 45, 1474-1479
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2. Lettering should be in black ink and must be legible after reduction (i.e., at least 1.5 mm high). The smallest elements (subscripts or superscripts) should be readable when reduced. Type-written or computer-generated lettering is not preferred.

3. Graphs such as electrocardiograms, kymograms, and oscillograms should be prepared so that the dark cross-hatched background is eliminated, the faint portions of the graphs are intensified, and sharp prints are obtained. To avoid this processing, use blue-rulled instead of black-rulled recording paper for the original records.

4. A figure containing several panels with the same axes, usually denoted a, b, etc: authors should indicate on each panel its experimental specificity and should label axes as precisely as possible: e.g., Time after drug additions rather than 'Time.' Also, express results in mol rather than cpm or absorbance units. If results are given in percent, define 100% in standard units in the legend.

5. When possible, all lettering should be within the framework of the illustration; likewise the key to symbols should be on the face of the chart. Use one symbol for the same experimental conditions in all comparable figures in the article. When the figure is so filled that it is necessary to explain symbols in the legend, only these standard characters should be used: □ ■ ○ ● △ ▽ ▼ ▼ ▼ ▼ ▼ ▼ ▼

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Acknowledgments

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Various U.S. national and state laws against discrimination, including the Federal Civil Rights Act of 1964, prohibit discrimination in employment in the United States because of race, color, religion, national origin, age, sex, or any reason not based on a bona fide occupational qualification. The Federation of American Societies for Experimental Biology endorses these principles and reserves the right to edit all copy and to refuse advertisements not in consonance therewith.

Employment in countries other than the United States may be restricted by government visa and other policies. Moreover, it is suggested that the generally accepted employment practices, the cultural conditions, and the exact provisions of the specific positions being considered be investigated thoroughly. The U.S. Embassies in countries of interest to potential employees should be able to provide up-to-date data concerning internal conditions.

For a description of operation at annual meetings, please refer to the January or February issue or contact the Placement Service.

Address all correspondence to FASEB Placement Service, 9650 Rockville Pike, Bethesda, MD 20814. (301) 530-7020

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**POSITIONS AVAILABLE**

**POSTDOCTORAL/ASSISTANT SCIENTISTS, MOLECULAR BIOLOGY.** Two positions available to study gene expression in the pancreatic islet. Standard recombinant DNA technology will be used to study factors (other than the insulin gene) that regulate insulin secretion. Appointment two-year minimum. Competitive salary. Send CV to Dr. Michael J. MacDonald, University of Wisconsin Medical School, Room 3459, 1300 University Avenue, Madison, WI 53706.

**FACULTY POSITION.** The Department of Biochemistry at the University of Texas Health Science Center at San Antonio invites applications for a tenure-track faculty position at the assistant or associate professor level. Candidates with research expertise in any area of contemporary biochemistry or biophysics will be considered. Special consideration will be given to candidates whose research would benefit from access to state-of-the-art protein sequencing and synthesis facilities. Interested applicants should send a CV, a statement of their research interests and the names of three professional references to Dr. Merle S. Olson, Department of Biochemistry, The University of Texas Health Science Center at San Antonio, 7703 Floyd Curl Drive, San Antonio, TX 78284-7760. The deadline for applications is April 1, 1989. An affirmative action/equal opportunity employer.

**ASSISTANT DIRECTOR.** The Microsurgical Research Laboratories invites applications from Ph.D. with postdoctoral experience for tenure-track position as Assistant Professor of Surgery. The candidate will be expected to perform independent research and to develop an externally funded program. Interests should complement ongoing activities in the laboratory: studies of skin and muscle microcirculation, tissue ischemia/reperfusion injuries and electrical injuries. Salary: $30,000 (under review). Send statement of research interests, CV and three letters of recommendation to Carolyn L. Kerrigan, M.D., McGill University, Division of Plastic Surgery, Royal Victoria Hospital, 687 Pine Avenue W, Montreal, Quebec H3A 1A1. In accordance with Canadian immigration requirements, consideration, in the first instance, will be given to Canadian citizens and permanent residents of Canada. Others are encouraged to apply and will be considered.

**BIOMEDICAL ENGINEERING.** Basic and clinical research on bone density using QCT, DPA and bone scintigraphy. Candidate will have the opportunity to collaborate with large multidisciplinary laboratory focusing on bone and mineral metabolism. Ph.D. in bioengineering, biophysics, or allied field. Experience in bone density desirable but not necessary. Salary competitive. Potential postdoctoral fellows or research assistant professors are invited to apply. Send CV and two letters of reference to Dr. Donald Sauser, Radiology Department, Loma Linda University, Loma Linda, CA 92354.
**PARKE-DAVIS**

**Director**

Parke-Davis Research Institute
Sheridan Park Research Center,
Mississauga, Ontario, Canada

The Parke-Davis Research Institute is dedicated to toxicological research and safety testing of new pharmaceuticals as part of the worldwide drug development efforts of the Parke-Davis Pharmaceutical Research Division, Warner-Lambert Company.

We are seeking a strong individual with a DVM, MD or Ph.D. in Toxicology or equivalent advanced degree in science. Certification in Pathology, Toxicology or equivalent is desired.

This senior research management position is directly responsible for the operation, planning and conduct of toxicology studies by a large group of scientists. A minimum of 8-10 years of research experience in toxicology/pathology of laboratory animals from safety evaluations is desired, preferably with experience in a multi-disciplinary environment of toxicology research. Working knowledge of all aspects of toxicity testing, including general toxicology, pathology, mutagenesis, clinical laboratory sciences and reproductive toxicology will be necessary, together with knowledge of Good Laboratory Practice regulations, worldwide testing and regulatory guidelines and experience in regulatory affairs.

This leadership position requires an exceptional person with long-term growth potential, excellent publication record, national/international recognition and demonstrated record of independent biochemical, toxicological or biological research.

Excellent written and oral communications skills and interpersonal effectiveness with management background are essential. This senior scientist would also have experience in successfully leading scientists, encouraging open communications and working in a complex matrix organization, actively interacting with senior research management, and having administrative control of a large budget and scientific projects.

This high-quality laboratory constitutes a part of the worldwide toxicology research efforts and the position reports to the Vice President, Pathology and Experimental Toxicology, located at the division research headquarters in Ann Arbor, Michigan, USA.

Enjoy an excellent program of benefits, relocation and compensation, in addition to a high-quality of life environment, which makes this position very attractive for a long-term career with Warner-Lambert.

In compliance with Canadian Government Regulation, preference will be directed to Canadian citizens or permanent residents.

Join this respected worldwide leader in pharmaceutical research. Send curriculum vitae and references in confidence to: Mr. T. Romps, Human Resources Representative, PARKE-DAVIS Pharmaceutical Research Division, 2800 Plymouth Road, Ann Arbor, MI 48105, USA.

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**CHAIR OF NUTRITION**

UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL

The School of Public Health is seeking highly qualified candidates for the position of Chair, Department of Nutrition. This department is one of eight in the School. It is comprised of 10 full-time faculty members, 8 staff members, 50 graduate students, and 28 undergraduate students. The department offers degree programs leading to a Doctor of Public Health, a Master of Public Health and a Bachelor of Science in Public Health.

- **RESPONSIBILITIES:** To provide strong research and programmatic leadership for the Department of Nutrition. This will include recruitment of faculty; attraction of external research funding, and the development of substantive interaction with on- and off-campus nutrition-related research institutions and with other sectors of the public health community.

- **QUALIFICATIONS:**
  - *Earned doctorate in field relevant to nutrition science, biochemistry or public health nutrition.*
  - *Record of professional activities, research and scholarship that establishes preeminence at the national/international level.*
  - *Possession of the requisite administrative skills for the leadership of a large academic program.*
  - **FACULTY STATUS, RANK AND SALARY:** Tenure track position at the Associate or Full Professor level; rank and salary commensurate with experience and qualifications.

- **APPLICATION REVIEW WILL BEGIN APRIL 1, 1989 AND CONTINUE UNTIL POSITION IS FILLED**

Send resume and names of three references to:

Professor Barry Margolin, Chair, Department of Nutrition,
School of Public Health
CB#7400, CB#7400
University of North Carolina at Chapel Hill
Chapel Hill, NC 27599-7400

*THE UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL IS AN EQUAL OPPORTUNITY/ AFFIRMATIVE ACTION EMPLOYER.*

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**HEAD, DEPARTMENT OF NUTRITION AND FOOD SCIENCES,** The University of Tennessee, Knoxville. Earned doctorate with established record of research and teaching required. Demonstrated administrative experience and skills essential. Experience or knowledge across areas represented in department desirable: nutrition, food science, public health nutrition, hotel and restaurant administration, food systems administration. Overseer management of department, including resource allocation for College and Agricultural Experiment Station funding. Facilitate program direction and curriculum development. Foster faculty research and teaching. Facilitate development of proposals for outside funding. Send a letter of application, the names of three references and a CV to Jacky De Jonge, 110 Jessie Harris Building, The University of Tennessee, Knoxville, TN 37996-1900. The Search Committee will begin screening applications on April 1, 1989, and the search will continue until the position is filled. UTK is an EEO/AA/Title IX/section 504 employer.

**ACADEMIC PATHOLOGIST/MEDICAL MICROBIOLOGIST,** M.D. or Ph.D. or equivalent and postdoctoral experience required. The Department of Microbiology at Montana State University is seeking to fill a tenure-track vacancy at the level of assistant professor. The appointment will start between September 1 and December 30, 1989. The position is supported jointly by the Department of Microbiology and the WAMI Regional Medical Education Program (which provides the first-year medical school curriculum at Montana State University for 20 medical students who are enrolled in the University of Washington School of Medicine). The primary teaching responsibility will be to teach and/or coordinate courses in pathology and infectious diseases for medical students. The individual will also contribute to courses related to undergraduate and graduate education in the Department of Microbiology. The successful candidate will be expected to establish a vigorous, independently funded research program in experimental pathology or in an area which complements or extends departmental strengths in molecular biology, medical microbiology, immunology and oncology. Salary is competitive at the rank of Assistant Professor. Send letter of application, CV and two letters of reference to the Montana State University, Bozeman, MT 59717 (406) 994-2373. Montana State University is an EEO/AA employer.
CHAIRMAN, DEPARTMENT OF PHARMACOLOGY AND TOXICOLOGY for this strong department in a rapidly growing private medical school. Strengths in cardiovascular pharmacology and neuropharmacology are complemented by developing interdepartmental efforts in molecular biology, cancer research and the neurosciences. Individuals with active scientific programs and a desire to play a leadership role in an exciting environment should contact John F. Kumpke, M.D., Ph.D., Chairman, Pharmacology Search Committee, c/o Office of the Dean, Medical College of Wisconsin, 8701 Watertown Plank Road, Milwaukee, WI 53226. The Medical College of Wisconsin is a private, free-standing medical school located on the campus of the Milwaukee Regional Medical Center. The College has 650 full-time faculty members, admits 200 medical students annually, has a graduate school enrollment of 65 and currently receives $25 million annually in extramural research grant support. The Medical College of Wisconsin is an equal opportunity/AA employer committed to increasing female and minority representation in leadership positions.

RESEARCH ASSOCIATE. Position available immediately to investigate the role of dopamine and dopamine receptors in modulating function in the anterior segment of the eye. Neurophysiologic models, neurochemical correlates and receptor binding techniques will be used to identify the functional bases for the involvement of dopamine receptors in ocular responses. Aqueous flow and intraocular pressure measurements will be used to monitor drug-induced changes in ocular hydrodynamics. Candidates should have a Ph.D. in biomedical science or biology. Send CV, names of three referees and statement of career goals to the Physiology Department, 7201 15th Street, Houston, TX 77030. The Bipolar Electrode, Bayville College of Medicine, 4000 Research Forest Drive, The Woodlands, TX 77381 (713) 363-0999.

RESEARCH ASSOCIATE needed at Texas Medical Center, Houston, Texas, to plan, execute and provide technical expertise for recombinant DNA experiments. Subclone DNA into CAT and expression vectors. Make serial deletions and run DNA synthesizer for mutagenesis work. Subclone DNA, run Sanger reactions and perform polyacrylamide gel electrophoresis. Interpret data and enter on computer. Install hardware and software. Enter, analyze and graph data. Perform literature searches and sequence analyses using network facilities. Train laboratory personnel and help direct long term research program. Must have M.A. degree in microbiology with one course taken in each: microbial genetics, immunology, virology and pharmacology. Must have one publication in the field of molecular biology, ability to perform RNA isolation, in vitro transcription, SI mapping, Northern blot, DNA cloning with M13 and plasmid system, DNA sequencing, computer aided data analysis. Salary $25,000/year, 40 hours/week. Apply at the Texas Employment Commission, Houston, Texas, or send resume to the Texas Employment Commission, TEC Building, Austin, TX 78778. J.O. #5190761. Ad paid by an equal opportunity employer.

POSTDOCTORAL POSITION. Research in vascular cell biology, principally in vitro, with major interest in vascular cell interactions both among the cellular elements themselves and extracellular matrix macromolecules. Expertise in all aspects of cell culture and basic techniques of cell biology required. Position available immediately, funded for minimum of two years. Salary range $22,000 to $25,000. Reply with CV and references to Richard P. Cambreia, M.D., Massachusetts General Hospital, 15 Parkman Street, Boston, MA 02114.

TRAUMA RESEARCH TRAINING FELLOWSHIPS. Three postdoctoral research fellowships, supported by an NIH Training Grant, are available in the area of pathophysiologic responses to injury, for the two-year period beginning 1 July, 1989 and ending 30 June, 1991. Research focus is the investigation of the central neural, autonomic and adrenal responses to injury; studies of local wound metabolism and whole body metabolism in response to injury; and investigations into the control of cerebral spinal fluid flow and the mechanisms underlying brain edema following injury. This interdisciplinary training program is supervised by faculty from the Departments of Surgery, Neurosurgery, and Anesthesiology. The first year stipends are $25,000. Applicants must be citizens or permanent residents of the United States, possess either a Ph.D. or an M.D. degree, and have two years experience following their doctoral program. Please send CV and the names of three references to Michael D. Caldwell, M.D., Ph.D., Rhode Island Hospital, 593 Eddy Street, APC-137, Providence, RI 02903. Applications must be received no later than 1 April, 1989. Women and minorities are encouraged to apply. The Rhode Island Hospital is an equal opportunity/affirmative action employer.

FACULTY POSITION. Department of Physiology, Faculty of Medicine, The University of Western Ontario. Applications are invited for a Limited Term (five years) position at the assistant professor level. Candidates must have a Ph.D., M.D. or equivalent and are expected to establish and maintain an independently funded research program in an area broadly related to existing interests of the Department: motor and integrative, cardiovascular-respiratory, endocrine, gastrointestinal, autonomic, renal and cellular physiology. Candidates will also be expected to contribute to teaching programs in medicine, science, dentistry and graduate studies. Salary is negotiable, depending on qualifications and experience. Applications, with CV, selected reprints, outline of research interests and names of three referees should be submitted to Chairman, Department of Physiology, The University of Western Ontario, London, Ontario N6A 5C1. The position is now available. Applications will be received until the position is filled. In accordance with Canadian immigration requirements, this ad is directed to Canadian citizens and permanent residents of Canada. The University of Western Ontario is an equal opportunity employer.

POSTDOCTORAL POSITIONS, MOLECULAR MICROBIOLOGY. Positions available for postdoctoral fellows/research associates in well-funded research-oriented medical school department of microbiology. Faculty interests include molecular genetics/virology; cellular/molecular immunology-immunogenetics; yeast/nematode molecular biology; mycoplasma; malaria; membranes; pathogenesis and vaccine development. U.S. resident applicants may qualify for appointments as NIH postdoctoral trainees. Submit CV, statement of goals, and addresses, telephone numbers of three references to Richard A. Finkelstein, Ph.D., Millisap Distinguished Professor and Chairman, Department of Microbiology, School of Medicine, University of Missouri, Columbia, MO 65212. The University of Missouri is an affirmative action/equal opportunity employer.

FACULTY POSITIONS IN PHYSIOLOGY. The Department of Physiology and Biophysics, Howard University College of Medicine, Washington, DC is seeking applications for two faculty positions at the level of assistant professor or associate professor. Only qualified individuals with a strong commitment to teaching and research should apply. Responsibilities include teaching medical, dental and graduate students, as well as conducting an independent research program. The preferred areas of expertise are neurophysiology and endocrinology. Applicants for the Assistant Professor position should have a minimum of two years postdoctoral experience with a demonstrated ability to conduct high quality independent research. Applicants for the Associate Professor position should, in addition, have a demonstrated record of funded research. Interested applicants should submit CV, three letters of reference and a summary of research interests to Dr. Felix E. Griscom, Chairman, Faculty Recruitment Committee, Department of Physiology, Howard University College of Medicine, Washington, DC 20059. Howard University is an equal opportunity employer.

ASSOCIATE PROFESSOR. Candidates must hold a Ph.D. or equivalent degree, have several years of postdoctoral training, have established a strong, nationally visible research program and have demonstrated high quality research and teaching abilities. Preference will be given to individuals working in the area of developmental biology using an evolutionary, molecular approach to eukaryotic gene regulation. It is anticipated that candidates will be involved in the study of transcriptional control using modern molecular techniques, such as gene transfer methods. The successful applicant should have developed an independent, funded research program and will participate in the training of graduate students, postdoctoral and medical students and dental students. Interested individuals should submit a CV, a list of at least four professional references and a brief statement of research interests to R. A. Prough, Chair, Department of Biochemistry, University of Louisville School of Medicine, Health Sciences Center, Louisville, KY 40292. Applications for the position will be accepted up to April 1, 1989. The University of Louisville is an affirmative action/equal opportunity employer.

ASSISTANT/ASSOCIATE PROFESSOR AND POSTDOCTORAL FELLOW. Harvard Medical School and Children's Hospital, Boston, Massachusetts. Major emphasis is on cell and molecular biology of connective and skeletal tissue, cells and noncollagenous proteins. Candidates should have some experience in isolation and characterization of proteins and genes. Write or send resume to Dr. Melvin J. Glümcher, M.D., Children's Hospital, Enders Building 11th Floor, 320 Longwood Avenue, Boston, MA 02115.
POSITIONS DESIRED

Ph.D., 1976; Biochemistry, cell biology; Tissue culture, differentiation, B-leukemias, MAB generation and antigen characterization, immunological assays, mouse x mouse and human x mouse hybridomas, antibody antibody, HBV, HIV, biochemical analytical assays, scale-up fermentation. 2-9018

Ph.D., 1986; Molecular biology; Growth of phages and plasmids, DNA isolation, restriction mapping, cloning, Southern blotting, electron microscopy of DNA heteroduplexes, nucleotide sequencing and immunoscreening a cDNA library. Avail. immediately. 2-9036

Ph.D., 1983; Molecular biology, developmental biology, protein biochemistry; Gene cloning, sequencing, regulation, expression, DNA and RNA preparation, in situ hybridization, immunohistochemistry, cell, tissue and embryo culture; Avail. July 1989; Staff position in academia/industry; Salary negot. 2-9037

Ph.D., 1989 (expected); Physiology, smooth muscle; In vitro studies of isometric longitudinal contractions of ileal smooth muscle from rachitic and normal chicks; Avail. fall 1989; Postdoc. position in academic industry; Salary negot. 1-9038

Ph.D., 1990 (expected); Molecular pharmacology, biochemistry; Receptor biochemistry & 2nd messenger systems in cardiovascular and reproductive tissue, isolated tissue bath & other classical pharmacologic techniques/tools used to investigate G protein-receptor coupling mechanisms; Avail. spring 1990; Postdoc. in academia/industry. 3-9039

Ph.D., 1989; Immunopharmacology, biochemistry, microbiology; TEM, SEM, cell separation and culture, radiolabeling, electrophoresis, chromatography, techniques in clinical pathology, histology, microbiology, virology, hematology; Avail. summer 1989; Postdoc. or permanent position in academia/industry; Salary negot. 6-9040

Ph.D., 1989 (expected); Life sciences, physiology, cardiovascular physiology, neuropharmacology, neuroanatomy; MAB techniques, enzyme kinetics, electrophoresis, EM techniques, lipoprotein interaction with pseudocholinesterase isoenzymes, in vivo receptor assays; Avail. summer 1989; Postdoc. or staff position in academia/industry. 1-9041

Ph.D., 1986; Anatomy, microvascular physiology; In vivo microscopic study of microcirculatory control mechanisms during health and disease; Avail. fall 1989; Research and/or teaching preferred; Salary negot. 1-9042

Ph.D., 1989 (expected); Pharmacology, cell biology, physiology; Transport studies and neurotransmitter control of epithelial transport, Ussing chamber/voltage clamp, serotonin 2nd messenger and receptor classification, radioligand binding; Avail. winter 1989; Postdoc. position in academia/industry; Salary negot. 3-9043

Ph.D., 1988; Nutritional sciences, biochemistry; Experience in vitamin B2 assessment and analysis, HPLC and fluorometry, background in clinical research and dietetics, nutritional education and support; Avail. immediately; Research and/or teaching position preferred; Salary negot.; Washington, DC area. 5-9044

B.S., 1981; Crop production, botany/horticulture, plant breeding; Level of virus in potatoes grown from meristematic tissue, landscape project design and installation; Avail. immediately; County agent/extension work/R&D crop production/plant breeder/botanist; Salary negot. 8-9045

Ph.D., 1982; Endocrine physiology; Endocrine mechanisms of bone growth development and homeostasis, reproductive toxicology, developmental biology/teratology, RIA, biochemical characterization of steroid receptors, cell culture, statistics, computer literacy; Currently instructor; Avail. immediately; Industry/academia; Northeast preferred. 1-9046

Ph.D., 1989; Physiology, nutrition, biochemistry; Histology/histochemistry, microelectrode techniques, animal surgery skills, tissue and cell culture, clinical nutrition and enzyme assays, excellent teaching experience; Avail. immediately; Full- or part-time research and/or teaching academia/industry; Salary negot.; NH/MA area. 5-9047

Ph.D., 1984; Bioanalytical chemistry; Protein characterization, separation, primary composition and sequence analysis, microbe to preparation scale chromatography, electrophoresis/transblotting and elution; Core facility operation/group leader; Salary negot. 2-9048

Ph.D., 1989 (expected); Pharmacology, cardiovascular pharmacology, physiology; In vivo studies in microvascuature of skeletal muscle and the kidney; indirect estimation of blood pressure in small animals, drug analysis by HPLC; Avail. fall 1989; Postdoc. position in academia; Salary negot. 3-9050

Ph.D., 1986; Immunology, cell biology, microbiology; Tissue culture, in vitro bioassays, lymphocyte cloning, MAB production and conjugation, animal surgery, injections and antisera production, immunofluorescence microscopy/photography; Avail. July 1989; Research/teaching; Salary negot. 6-9051

Ph.D., 1988; Immunology, molecular biology; Generation and characterization of chimeric IgE molecules, experience in isolation of immunoglobulin genes, transfection and expression, development of solid-phase immunoassays, electrophoresis, HPLC and FPLC analysis, antibody generation and purification; Avail. January 1990; Salary negot. 5-9052

Ph.D., 1989 (expected); Vascular physiology, cell biology; Isolation and characterization of pulmonary microvascular endothelial cells, tissue culture, in vitro angiogenesis, permeability and contractility, immunofluorescence, TLC and RIA; Avail. September 1989; Postdoc. position in research/industry; Salary negot.; Boston, MA area. 1-9053

Ph.D., 1989 (expected); M.D., 1982 (China); Biomedical engineering, electrophysiology; Bioelectronics, signal processing, computer software and hardware, computer graphics, biostatistics, modeling and optimization methods, animal surgical procedures; Avail. summer 1989; Postdoc. position in academia/industry; Salary negot. 1-9055

Ph.D., 1986; Exercise physiology, physiology; 3 yr. postdoc. experience respiratory and cardiovascular physiology, large animal surgery, control of hemodynamics and oxygenation in isolated muscle and gut, hypoxia, hyperoxia, teaching respiratory physiology; Avail. August 1989; Research/teaching in academia. 1-9056

Ph.D., 1989 (expected); Physiology, pharmacology; Experience in isolated vascular smooth muscle contraction/relaxation including coronary microvessel vascular studies, cyclic nucleotide RIA, and canine cardiovascular surgery; Avail. summer 1989; Postdoc. position in academia; Salary negot. 1-9057

Ph.D., 1985; Biochemical pharmacology, toxicology; Drug metabolism, disposition, pharmacokinetics, cell culture, physiology, biochemistry, transport across blood-brain barrier using microdialysis, BUI and cultured monolayers, HPLC, mass spectrometry, bioassays, enzyme kinetics; Avail. August 1989; Staff position in academia/industry. 3-9058

Ph.D., 1989 (expected); Pharmacology, neuroscience; Experience in opioid pharmacology, receptor binding, analgesic assay, receptor classification using in vitro bioassay, receptor-mediated neurotransmitter release in superfusion system, HPLC, SPSS, SAS, Macintosh; Avail. summer 1989; Postdoc. in molecular pharmacology preferred; Salary negot. 3-9059

Ph.D., 1982; Immunology; Tissue culture, MAB production and purification, molecular biology techniques, interested in biological immune response modifiers; Avail. March 1989; Salary negot. 6-9060

Ph.D., 1983; Medical genetics, immunology, molecular biology; M.B.A.; Immunodiagnostic assay & vaccine development, protein purification/ characterization, electrophoresis, chromatography/immunoblots, MAB & polyclonal production, endo-/antiendotoxin measurement/biostatistics, project design/administration, computer; R&D/management. 6-9061

Ph.D., 1985; Pharmacology, physiology; Characterization of cerebrovascular control mechanisms, in vivo measurement of cardiovascular function, RIA of eicosanoid levels in CSF and plasma; Avail. July 1989; Staff position in academia; Salary negot. 3-9062

M.A., 1989 (expected); Background in general toxicology, environmental, and forensic toxicology, experience in sample collection, preparation and analysis, utilizing GC/MS, ICP, and HPLC, work-up of bioassays; Avail. June 1989; Position in research, government or industry; Salary negot. 8-9064
Ph.D., 1989 (expected); Physiology, neurobiology; Cerebral blood flow and metabolism, models of neurological disorders, hypoxia, aging, adrenergic and cholinergic neurotransmission; Avail. 1989; Postdoc. position in industry; NJ, NY. 1-9066

Ph.D., 1984; Cardiovascular physiology, pharmacology, biomedical engineering; Surgical instrumentation of animals (acute and chronic), isolated cardiac muscles, in vivo electrophysiology, neural control of heart, neuropeptides, baroreflex, computers, electronics; Avail. September 1989; Research/faculty position in academia/industry; Salary negot. 1-9067

Ph.D., 1989 (expected); Biochemistry, biomembranes, enzymology, cellular metabolism; Experience in high pressure liquid chromatography with electrochemical detection, background in clinical chemistry, hematology and microbiology; Avail. June 1989; Postdoc. position in industry/government; Salary negot. 2-9068

Ph.D., 1983; Nutritional biochemistry, animal science, biochemical genetics; Nutrient transport/bioavailability, vitamin assay, biotin metabolism, newborn screening, experience in writing, editing, public speaking, research management; Avail. July 1989; Writing/editing/research administration; Salary negot. 5-9069

Ph.D., 1980; Immunology, allergy; Characterization IgE receptor, surface molecular migration/cytoskeletal interaction, regulation/modulation of IgE allergic characterization and standardization, MAb production; Avail. June 1989; Staff position R&D; Salary negot. 6-9070

Ph.D., 1986; Cellular immunology; Transplantation, infectious disease, lymphocyte-endothelia interactions, limiting dilution analysis, MAb techniques, immunohistochemistry, FACS, teaching experience; Avail. summer 1989; Staff position in academia/industry; Salary negot. 6-9071

Ph.D., 1986; Pharmacology, inflammation, immunology; T cell functions, lymphokine assays, tissue culture, molecular biology (RNA dot blot), PMN functions, antiinflammatory drug evaluation, column chromatography, HPLC analysis (leukotrienes), tissue bath/receptor studies; Research scientist in industry/government; Salary negot. 6-9072

Ph.D., 1987; Immunology, biochemistry, cell biology; Experience in situ hybridization, Northern and Southern blotting, cellular immunology, virus infections, lymphokine assays, protein modification, ligand-receptor kinetic analysis; Avail. July 1989; Staff position in academia/industry; Salary negot. 6-9073

Ph.D., 1989 (expected); Immunology, immunochemistry; Tissue culture, hybridoma technology, ELISA, SDS-PAGE, Western blot, affinity chromatography, MAb purification, zymogram, animal immunization, animal surgery and medicine; Avail. January 1990; Postdoc. or research position. 6-9074

M.S., 1989 (expected); Mammalian physiology, blood vessel physiology; Substance P studies, fluorescent protein tracer technique, protein assay, TEM and SEM, basic immunology techniques, small animal models; Avail. May 1989; Staff position in industry; Salary negot. 1-9075

M.D., 1987; M.S., 1984; Ph.D., 1989 (expected); Neuroanatomy, physiology, pharmacology, neurology; Development and plasticity of neural system, brain surgery, animal models, tissue culture, EM immunological technique, Golgi staining, PHAL, HRP, Postdoc. or research associate position in academia; Salary negot. 1-9076

Ph.D., 1987; Cell physiology, biochemistry, protein chemistry; Signal transduction and cell proliferation studies, action of EGF and PDGF on cell calcium, calcium ion measurement, cell culture, electrophoresis, 2nd messenger function of IP3, protein phosphorylation; Avail. April 1989; Salary negot. 2-9078

Ph.D., 1989 (expected); Eukaryotic gene expression, viral persistence and pathogenesis; Experience in virus purification, DNA/RNA isolation and hybridization analysis, DNA cloning and sequencing, cDNA libraries, eukaryotic expression vectors; Avail. summer 1989; Postdoc. position in academia/industry; Salary negot. 2-9079

Ph.D., 1990 (expected); Growth physiology, animal nutrition, applied animal science; Experience in growth performance and metabolism experiments, RIA and enzyme immunoassay techniques, quantification of membrane receptors; Avail. spring 1990; Research position in industry/academia; Salary negot. 5-9081

Ph.D., 1988; Human nutrition, perinatal health/development of public policy, nutrition education for health care providers; Interrelationships between diet and behavior, food constituents and abnormal childhood behavior/development; Avail. summer 1989; Faculty/research academy; Salary negot. 5-9083

Ph.D., 1985; Molecular basis of cell-cell and cell-matrix interactions; Protein and carbohydrate chemistry, cell biology, immunology, developmental biology, collagen and proteoglycan biochemistry, antibody characterization, tissue culture, chromatography, electrophoresis, Northern and Western blotting, FACS, EM; Salary negot. 7-9084

Ph.D., 1987; Biochemical and molecular mechanistic toxicology; DNA adducts in liver and bone marrow with 32P post labeling, TLC, HPLC, metabolites, liver perfusion, enzymes, forensic toxicology; Avail. July 1989; Staff position in academia, industry or government; Salary negot. 3-9086

Ph.D., 1988; Pharmacology, toxicology; Experience in biochemical & cardiovascular pharmacology, clinical pharmacology of anesthetics, pharmacokinetics, 3 yr. government experience in risk assessment, chemical toxicity review, occupational health, report writing, conference coordination; Staff position industry/government; Salary negot. 3-9088

Ph.D., 1989 (expected); Pharmacology; Antibody modeling of receptors, production and characterization of heterologous & monoclonal antibodies, protein purification, RIA, ELISA, receptor binding assays, HPLC, SDS-PAGE, IEP, pharmacokinetic studies; Avail. January 1990; Postdoc. academia/industry; Salary negot. 3-9089

Ph.D., 1989 (expected); Immunotoxicology, pharmacology, cell biology; Characterization of gallium arsenide effects on macrophage functions involved in primary antibody response, tissue culture, in vitro/in vivo humoral and cell mediated immunoassays; Avail. fall 1989; Immunology postdoc. position in academia/industry; Salary negot. 3-9090

Ph.D., 1983; Cardiovascular physiology; Hypertension, atherosclerosis, vascular smooth muscle reactivity-role of pressure & fluid dynamics, endothelium, serotonin, in vivo coronal velocity profiles, VO2 & intramyocardial pressure, in vivo coronary, intestinal & muscle circulation, 86Rb uptake in isolated arteries; Research and/or teaching. 1-9091

Ph.D., 1989 (expected); Physiology, biochemistry, biophysics; Protein purification and analysis, polycrylamide gel electrophoresis, enzyme assay, muscle mechanics, "skinned" muscle fibers, small animal surgery, animal behavior shaping; Avail. January 1990; Staff or postdoc. position in industry; Salary negot.; Midwest preferred. 1-9092

Ph.D., 1989 (expected); Physiology, cell physiology, biochemistry; Transport of organic solutes in epithelial tissue and membrane vesicles, effect of growth hormone on body and cellular growth, and on nutrient absorption; Avail. summer 1989; Postdoc. position in academia/industry; Salary negot. 1-9093

M.D., 1984; Ph.D., 1989 (expected); Cardiovascular physiology; Physiology and pharmacology heart muscle with extensive experience left ventricular mechanics utilizing ultrasonic gauges and cineradiographic techniques; Avail. September 1989; Postdoc. position in academia/industry; Salary negot. 1-9094

Ph.D., 1976; Physiology, cell physiology, pharmacology; Isolated cell system, mammalian and human tissue culture, characterization of membrane receptors, mechanism of peptide action, measurement of intracellular messengers IP3, Ca++, Salary negot. 1-9095

Ph.D., 1990 (expected); Cardiovascular physiology; Endotoxemia, ischemia/reperfusion, in vivo cardiac function studies, mechanism of endotoxin action, effects of antioxidants on infarct size and contractile function; Avail. spring 1990; Postdoc. position in academia/industry; Salary negot. 1-9096
Ph.D., 1989 (expected); Physiology, immunology; Regulation of membrane receptors by steroids and cytokines, mechanism of steroid and cytokine action, MAbs and flow cytometry techniques, molecular genetic techniques related to RNA studies; Avail. fall 1989; Postdoc. immunology and molecular biology in academia/industry; Salary negot. 1-9097

Ph.D., 1981; Biochemistry, immunology; Membrane protein purification and characterization, tissue culture, MAbs production, electrophoresis, immunocytometry, hybridization, gel and/or Western blotting, molecular cloning; Avail. May 1989; Staff position in academia/industry; Salary negot.; Baltimore, MD/Washington, DC area preferred. 2-9098

Ph.D., 1989 (expected); Biochemistry, molecular biology, molecular genetics; Isolation and characterization of human genes, electrophoresis by FIGE, 3′-and 5′-end labeling, gel and/or Western blotting, protein sequencing, radioactive probes, recombinant library generation and screening, dideoxy sequencing; Avail. summer 1989. 2-9100

Ph.D., 1985; Biochemistry, eukaryotic/prokaryotic molecular biology; Experience in analytical chemistry, protein purification, gene bank construction, DNA sequencing, hybridizations, and computer analysis; Avail. August 1989; Research position in industry; Salary negot. 2-9101

Ph.D., 1989 (expected); Pharmacology; Intracerebroventricular cannulation, radioligand binding analysis, behavioral analysis, study of opiate tolerance and dependence, opiate/opioid pharmacology; Avail. summer 1989; Postdoc. position in academia/industry; Salary negot. 3-9103

Ph.D., 1984; Pharmacology, cell biology; Regulation of receptor-signal transduction mechanisms, phosphoinositide hydrolysis, adenylate cyclase activity, isolation and culture of cardiomyocytes, gel electrophoresis, Northern analysis; Avail. August 1989; Research and/or teaching. 3-9104

Ph.D., 1986; Food science, microbiology, nutrition; Mineral metabolism, radioisotopes, human metabolic studies, histology, cancer studies, anatomic-biochemical bacteriology and enzymology; Avail. spring 1989; Permanent position in academia/industry; Salary negot. 5-9105

Ph.D., 1987; Nutrition, food science, food technology; Mineral balance studies, atomic absorption spectroscopy, radiotopic tracer methodology, DMH colon cancer and DMBA mammary tumor animal models, qualitative evaluation of cereal and fermented dairy products; Date negot.; Staff position academia/industry; Salary negot. 5-9106

Ph.D., 1989 (expected); Animal or human nutrition, nutritional biochemistry; Isotope tracer studies of oxidative metabolism in hepatocytes & mitochondrial function, in vivo continuous infusion studies in piglets; Avail. August 1989; Staff position in academia/industry with research and/or teaching responsibilities; Salary negot. 5-9107

Ph.D., 1973; Biochemistry, immunology; Cellular immunology (RIA, ELISA, NK cells, hybridoma, immunofluorescence), aging, enzymology, tumor immunology, immunogenicity, glycolipids, immunopharmacology (cyclic AMP, Ca++ flux, purinoreceptor), leukemogenesis, in vivo/in vitro tumor models; Avail. spring 1989; Academy/industry. 6-9109

Ph.D., 1983; Immunology; Tissue culture, MAbs production, development of immunosays and diagnostic kits, antigen isolation, CFU-C, NK, LAK, CTL assays, development of experimental animal models, immunocytochemistry & FACS analysis; Currently junior faculty; Avail. summer 1989; Position in academia/industry; Salary negot. 6-9110

Ph.D., 1979; Immunology, parasitology; Experience in tissue culture and protozoan parasites, MAbs techniques, ELISA, RIA, HPLC, affinity chromatography, PAGE and Western blots, interleukin-2 assay and in vivo applications; Challenging position in industry/academia; Salary negot. 6-9112

Ph.D., 1989 (expected); Pathology, immunology; Immunopathology of murine viral disease, tissue culture, B and T hybridoma technology, detection, production and use (in vitro/in vivo) of fusion proteins, viral purification, immunocytochemistry techniques, flow cytometry, DTH; Avail. spring 1990; Research/teaching preferred. 6-9113

Ph.D., 1982; Immunology, parasitology; Tissue culture, lymphocyte transformation, antibody techniques, protein isolation and purification, chromatography, electrophoresis; Avail. April 1989; Immunology teaching or research in academia/industry; Salary negot. 6-9116

Ph.D., 1989 (expected); Physiology, cell physiology, biochemistry; In vivo/in vitro organic solute transport in intestinal epithelial tissue and membrane vesicles, toxicological studies with heavy metals; Avail. November 1989; Staff research position in industry or research/regulatory position in government; Salary negot. 1-9117

Ph.D., 1988; Biochemistry, enzymology; Gene regulation, preparation and analysis of protein, DNA, RNA labeling, bacteriologic, computer skills; Animal, clinical experience including all basic medical sciences and hemodialysis, pediatrics, psychology, neurology; Avail. March 1989; Postdoc. or permanent position in industry; Salary negot. 2-9118

Ph.D., 1986; Biochemistry, protein biosynthesis; NIH postdoc., 1986–present; Molecular biology, cloning of DNA, computer sequence analysis, electrophoresis, Northern, Southern and Western blot analysis, immunoprecipitation, mammalian tissue culture, use of MEDLINE data base; Avail. fall 1989; Research position; Salary negot. 2-9120

Ph.D., 1989 (expected); Biochemistry, endocrinology, cell biology/protein chemistry, Experience in plasma protein purification and determination of synthesis in humans based on constant isotope infusion, GC/MS analysis, receptor isolation; Avail. July 1989; Postdoc. position in academia/industry. Salary negot. 2-9121

Ph.D., 1989 (expected); Pharmacology, cell physiology, experimental pathology; Preparation of rat myocytes, mechanisms of oxidant induced injury, glutathione and adenine nucleotides by HPLC, enzymatic analysis, background in energy metabolism, calcium regulation and protein chemistry; Avail. summer 1989; Postdoc. position; Salary negot. 2-9122

Ph.D., 1985; Biochemical pharmacology; Xenobiotic and drug metabolism, HPLC, GC, TLC, radiometric, fluorimetric and spectrophotometric assays, electrophoresis, protein purification, some tissue culture experience; Date negot.; Staff position in academia/industry; Salary negot. 2-9123

Ph.D., 1989 (expected); Pharmacology, neurochemistry; Release of brain microsomal Ca by 2nd messengers and ethanol, measurement of endogenous catecholamine release from synaptosomes with HPLC, fura-2 measurements of cytosolic Ca, characterization of membrane receptors; Avail. fall 1989; Postdoc. position academia; Salary negot. 3-9124

Ph.D., 1989 (expected); Pharmacology, neurochemistry; Release of brain microsomal Ca by 2nd messengers and ethanol, measurement of endogenous catecholamine release from synaptosomes with HPLC, fura-2 measurements of cytosolic Ca, characterization of membrane receptors; Avail. fall 1989; Postdoc. position academia; Salary negot. 3-9125

Ph.D., 1988, (expected), Pharmacology, cardiovascular physiology, hypertension pathophysiology; Conscious animal (rat) direct arterial blood pressure recording and sampling, nerve recording, HPLC measurement of catecholamines, SDS-PAGE, biochemical assay, radioligand binding; Avail. 1990; Postdoc. in academia prefered. Salary negot. 3-9127

Ph.D., 1985; Pharmacology, physiology, neurosciences, pharmacogenetics, Bioanalytical methods development, HPLC, drug metabolism, catecholamine and indoleamine pharmacology, enzymology, human and veterinary medical applications; Staff research position; Salary negot. 3-9129

Ph.D., 1989 (expected); Toxicology; Experience in cellular and in vitro toxicity of the kidney, cell culture, digital imaging, fluorescent probes, fura-2, fluorescence microscopy, SEM, biochemical toxicology techniques; Avail. summer 1989; Postdoc. position in academia/industry. 3-9130

Ph.D., 1987; Pharmacology, physiology, biochemistry; Routine preparation of chronically-instrumented conscious rats for intrarenal arterial administration of drugs and enriched fractions of rat nephron segments for biochemical analysis; Avail. December 1989; Staff position in academia/industry; Midwest preferred. 3-9131

Ph.D., 1989 (expected); Human nutrition, clinical dietetics; Lipid metabolism, basic biochemistry, use of animal models, pathophysiology, nutrition assessment, nutrient requirements, dietary standards, research design, biostatistics, computer competency; Registered diettian; Avail. October 1989; Staff position in industry; Salary negot. 5-9132
Ph.D., 1991 (expected); Immunology, toxicology, biochemistry; Cell separation and culture, cell fractionation, chromatography, HPLC, TLC, DNA isolation, autoradiography, carcigen testing; Avail. winter 1991; Postdoc. position or permanent position in academia/industry; Salary negot. 5-9154

Ph.D., 1989 (expected); Nutritional sciences; M.P.H., 1984; Nutrition; Nutrition/experimental carcinogenesis (breast/colon/liver), cDNA library construction and screening, molecular biology techniques, diet formulation and laboratory management; Research position in academia/industry/government; Salary negot. 5-9135

Ph.D., 1982; Food science, biochemistry, enzymology, nutrition; Research associate (two yr.), experience in metabolism, carbohydrate/protein isolation & characterization, chemical-pharmaceutical assay tests, electrophoresis, HPLC, IR, GC/MS, NMR; Avail. September 1989; Analytical/R&D position in academia/industry; Salary negot. 5-9136

Ph.D., 1989 (expected); Nutritional biochemistry, mineral, fiber and lipid chemistry; Animal bioassays such as mineral and amino acid bioavailability/requirement, statistics, trace mineral, fiber, fatty acid analysis and GC, RIA of prostaglandins, tissue culture immune cells, immune assays including staining & flow cytometry. 5-9137

Ph.D., 1990 (expected); Nutrition; Amino acid and trace element bioavailability and toxicity, diet-drug interactions using rats and chicks, sodium status in infants and women, forage utilization in cattle, teaching experience; Research and/or teaching preferred; Salary negot. 5-9138

Ph.D., 1989 (expected); Animal nutrition, immunology; Tissue culture, MAB techniques, flow cytometry, in vitro bioassays, enzymatic/chemical assays, stable/radioactive tracer technologies, gas chromatography/mass spectrometry; Avail. summer 1989; Postdoc. position in academia/industry; Salary negot. 5-9139

M.S., 1989; Animal science, reproductive physiology; Experience in tissue culture, embryo collection and transfer, RIA, artificial insemination, cell freezing and immunology; Position as research associate working with new biotechnology techniques. 8-9142

Ph.D., 1984; Muscle biochemistry, respiratory physiology; Cell regulation of acetyl CoA & lipid metabolism, ischemia, electrical stimulation, radioenzymatic techniques, diffusion & gas exchange, small animal surgery, chronic catheterization, microsphere & noninvasive CO measurement; Teaching or research. 1-9143

Ph.D., 1989 (expected); Physiology, water and electrolyte physiology, endocrinology; mechanisms of cold diuresis in conscious, chronically instrumented rat, RIA for ADH, ANP, ALDO and renin; Avail. September 1989; Postdoc. position in academia/industry; Salary negot. 1-9144

Ph.D., 1989 (expected); Physiology, electrophysiology, pharmacology; Pacemaker & conduction studies in mammalian, avian & amphibian hearts, experience in surface electrodes, extra-/intracellular microelectrode recording, isolated organ tissue techniques, small animal surgery; Avail. January 1990; Postdoc. position in academia/industry. 1-9145

Ph.D., 1989 (expected); Physiology, respiratory physiology; Experience in single nerve fiber recording, measurements of lung mechanics in vivo/in vitro, studies of respiratory reflexes in whole animals; Avail. summer 1989; Postdoc. position; Salary negot. 1-9146

Ph.D., 1975; Physiology, neurobiology; Stereotoxic surgery (infusions, lesions & electrodes, brain microdialysis), awake monitoring (microdialysis & blood pressure, ECG), aggression, delirium & stroke models, CNS control cardiovascular, hyperthermia with cardiac arrest & blood substitution; Avail. 1989; Research/management/teaching. 1-9147

Ph.D., 1977; Physiology, neurosciences; Transport studies with multiple radiotracers, electrical impedance measurements, protein radiolabeling, single & chronic lesions and drug microinjections, HR/L with iontophoresis, taught medical students and undergraduates; Avail. July 1989; Staff position in academia/industry; Salary negot. 1-9149

Ph.D., 1989 (expected); Cardiovascular physiology, biochemistry; Function and metabolism of cardiovascular system, cardiac function measurements and animal surgery, metabolic analytical techniques, diabetes effects, interest in muscle mechanics, metabolism; 2nd messengers and exercise; Avail. fall 1989; Postdoc. position; Salary negot. 1-9150

M.D., 1982; Lipid biochemistry, cell physiology, cell biology; Cellular cholesterol and fatty acid metabolism, primary and explanted-migrated cell culture, radiolabeled assays, TEM, SEM receptor binding and background in lipoproteins; Avail. July 1989; Junior faculty position in academia/industry; Salary negot. 2-9151

Dr.P.H., 1975; Lung biology, biochemistry; Polyamine metabolism, collagen metabolism, microdissection of small blood vessels, isolated perfused lung preparation, small animal surgery, currently isolating mRNA for ODC; Avail. July 1989; Research/teaching; Salary negot. 2-9153

Ph.D., 1989 (expected); Virology, genetics, immunology; Viral protein purification and characterization, MAB techniques, tissue culture techniques, RIA, enzyme-linked immunooassay, recombinant DNA techniques, DNA sequencing & cloning; Avail. December 1989; Molecular biology postdoc. position in academia; 2-9154

Ph.D., 1984; Biochemistry, membrane immunohemistry; Tissue culture, experience in purification and characterization of cell surface receptors, trypsin peptide isolation, MAB techniques, ligand-receptor binding studies; Avail. summer 1989; Staff position in academia/industry; Salary negot. 2-9155

Ph.D., 1989 (expected); Immunology, microbiology, protein chemistry; Tissue culture, in vitro bioassays, flow cytometry, ELISA, bacterial culture, gel electrophoresis, gradient fractionation, protein/peptide purification; Avail. January 1990; Postdoc. position in academia; Salary negot. 6-9157

Ph.D., 1978; Pharmacology, biochemistry, cell physiology; Muscle protein phosphorylation, epi- and endothelial relaxing factors, purinergic receptors, arachidonic metabolism, in vitro bioassays, muscle mechanics, protein isolation, 2-D gel electrophoresis, RIA, computer programming; Avail. July 1989; Position in industry/academia; Salary negot. 3-9161

Ph.D., 1984; Pharmacology, toxicology; Inhalation toxicology, pulmonary function tests, hepatorenal toxicity, physiologically-based pharmacokinetic models, risk assessment, toxicokinetic evaluations, flow cytometry, teaching experience; Avail. July 1989; Faculty position in academia; Salary negot. 3-9163

Ph.D., 1987; Pharmacology, cancer biology, molecular neurobiology; Regulation tumor growth/cellular differentiation by endogenous factors, characterization membrane receptors, signal transduction mechanisms for growth factors, phospholipid metabolism, neurotransmitter measurement, whole animal/cell culture experience; Avail. July 1990. 3-9164

Ph.D., 1985; Pharmacology, toxicology, physiology, biochemistry, molecular biology; Gene expression, drug metabolism/excretion, enzymology, pulmonary and hepatic pharmacology/toxicology studied in vivo/in vitro and in tissue culture; Avail. fall 1989; Research position desired. 3-9166

Ph.D., 1989 (expected); Pharmacology; Preparation of purified sarcolemmal membranes and isolated cardiac myocytes, enzyme assays (Na, K-ATPase), isolated cardiac muscle contraction studies, retrograde perfused Langendorf heart preparations, receptor binding studies, ionselective microelectrodes; Postdoc. position in academia/industry. 3-9167

Ph.D., 1980; Pharmacology, ocular pharmacology and physiology; Trace element metabolism and measurement (atomic absorption spectroscopy), inflammation, free radicals; Avail. immediately; Position in academia/industry; Salary negot. 3-9168

Ph.D., 1986; Pharmacology; CNS cardiovascular control, hypothalamic control of monoamine release, monoamine/histamine assays, CNS techniques including microdialysis; Postdoc. position with opportunity to learn molecular biology and/or genetics, possibly involving monoamines, hypertension or cardiovascular control. 3-9169

Ph.D., 1986; Autonomic pharmacology, neuro- and cardiovascular pharmacology, physiology; Measurement of HR, BP, and sympathetic nerve activity in conscious and anesthetized animals, microinjection of drugs into the CNS of conscious and anesthetized rats; Avail. June 1989; Staff position in academia/industry; Salary negot. 3-9170
FASEB PLACEMENT SERVICE
1989 ANNUAL MEETING

LOCATION — New Orleans Convention Center

REGISTRATION
Sunday, March 19 ..................... 2:00 PM-8:00 PM
Monday - Tuesday, March 20-21 ...... 8:30 AM-4:30 PM
Wednesday, March 22 .................. 8:30 AM-1:00 PM

INTERVIEW SCHEDULING
Monday - Wednesday, March 20-22 .... 8:30 AM-4:30 PM

INTERVIEWS
Monday, March 20 ..................... 1:00 PM-4:30 PM
Tuesday - Wednesday, March 21-22 .... 9:00 AM-4:30 PM
Thursday, March 23 .................... 9:00 AM-1:00 PM

Employers, interviewers and candidates using the interviewing facilities at the Annual Meeting must register for attendance at the meeting as well as with the Placement Service.

CANDIDATES
Annual Fee ........................................ $10.00
Positions, published in March .................. $10.00

The annual fee includes:
1. Publication of application in the 1989 Candidates, distributed in February, if application is received by January 20, 1989
2. Publication of Position Desired advertisement in one issue of The FASEB Journal
3. Use of interviewing facilities at the FASEB Annual Meeting, including interview scheduling services, review of posted position vacancy descriptions, and distribution of copy of application to each participating employer
4. Availability of application for review by employers visiting the FASEB campus and by FASEB staff members conducting searches on behalf of employers

EMPLOYERS
Annual Fee
Commercial organizations ........................... $450.00
Academic and other nonprofit institutions .......... $225.00

The annual fee includes:
1. Receipt of one copy of 1989 Candidates, published and distributed in February
2. Posting of position vacancy descriptions at Annual Meeting
3. Receipt of copy of application of each candidate attending meeting
4. Use of interviewing facilities at the FASEB Annual Meeting, including interview scheduling services

Interviewers must be authorized by the individual named on registration form. Authorization of two interviewers is included in the annual fee. Three additional interviewers may be authorized, at an additional fee of $25.00 each which must accompany authorization.

Employers not registering with the Placement Service may purchase the posting of position vacancy descriptions at Annual Meetings, under a “No Interviews Granted” heading, for a fee of $36.00 per description. Payment must accompany description(s).

Position vacancy descriptions received from any employer, whether or not otherwise participating in Placement Service operations, will be included without charge in the 1989 Positions, published and distributed in March, if received by February 3, 1989.

ADVANCE REGISTRATION
Candidates and employers are requested to register in advance, by March 3, 1989; at-meeting registration is available.

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