

9 March 1984 • Vol. 223 • No. 4640

\$2.50

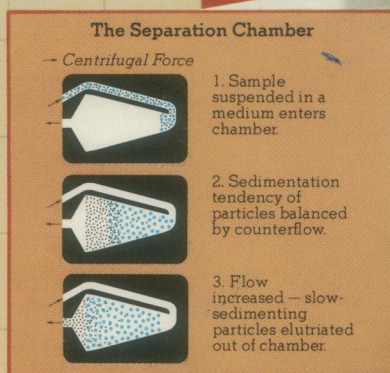
SCIENCE

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

AAAS ANNUAL MEETING
Preliminary Program

ELUTRIATION:

*The gentle,
rapid way to
separate living
cells*



For high yield harvesting of whole, living cells, hundreds of researchers use the Beckman elutriation system.

With centrifugal elutriation there's minimal cell loss. Recovery rates close to 100% are possible. Often in less than an hour.

Separation is by gentle washing action, so cells retain their

viability. Processing can be in isotonic media to avoid the osmotic effects and cellular ingestion of gradient materials. And there's no exposure to the effects of pelleting.

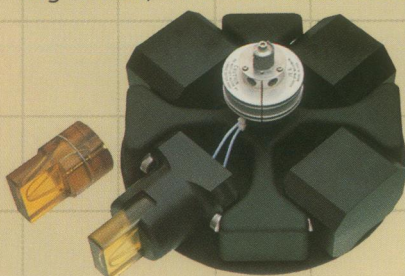
Cell concentration is high with the Beckman system. Typically 10^{10} to 10^{12} cells can be separated according to size, and synchronously dividing cells can be obtained for cancer research and drug inhibition studies.

The popular JE-6B Elutriator Rotor — with the standard chamber or the Sanderson chamber — is used in either J-6 or J-21 centrifuges.

New Large Volume Rotor

Now there's a larger volume elutriator rotor for J-6 centrifuges. The new JE-10X Rotor with 40-ml separation chamber. It saves you time by processing nearly ten times more cells than the JE-6B Rotor.

Centrifugal elutriation. It's fast and gentle. And rapidly becoming the preferred method for living cell separations. For complete details and a bibliography of over 250 references, ask your Beckman representative or write: Beckman Instruments, Inc., Spinco Division, P.O. Box 10200, Palo Alto, CA 94304.



BECKMAN

Circle No. 288 on Readers' Service Card

Monoclonal Anti-Human Leukocyte Reagents

Are you differentiating cell types—myeloid, CALLA, lymphoid (B- or T-cell subsets)? If so, consider our new and thoroughly characterized reagents for building your panels.

Our monoclonal anti-human leukocyte reagents are > 95 percent homogeneous, as demonstrated by SDS-polyacrylamide gel electrophoresis. They are purified by salt precipitation, or on protein A sepharose, and are packaged at a protein concentration of 1 mg/ml. This provides unmatched economy on an assay-to-assay basis.

Equally important, every reagent is carefully characterized by lot-specific assay results supplied with each shipment.

Don't be without our catalog
of reagents for immunological studies.
In it you will find anti-human
leukocyte reagents, as well as:

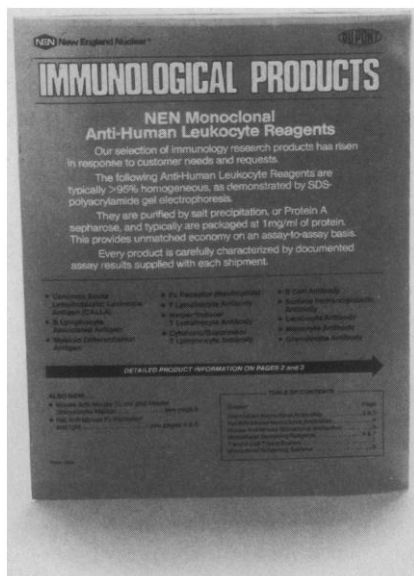
Monoclonal antibodies specific for mouse immunoglobulin studies

Allele-specific monoclonal anti-mouse lymphocyte reagents

Enzymes and fluorescent-labeled conjugates of both monoclonal and polyclonal antibodies

Hybridoma screening systems for murine immunoglobulins

Simply circle the inquiry number to receive the catalog without charge. We'll also keep you informed of future products as they're developed.



Not for use in humans or clinical diagnosis

New England Nuclear
549 Albany Street, Boston, MA 02118
Call toll free: 800-225-1572, Telex: 94-0996
Mass. and Internat'l: 617-482-9595
Europe: NEN Chemicals GmbH D-6072, Dreieich, W. Germany
Postfach 401240, Tel. (06103) 803-0, Telex 4-17993 NEN D
NEN Canada: 2453 46th Avenue, Lachine, Que H8T 3C9
Tel. 514-636-4971, Telex 05-821808 ©1983 NEN



Circle No. 317 on Readers' Service Card

SCIENCE

LETTERS	The CO ₂ Question: <i>W. C. Clark</i> and <i>G. Marland</i> ; Argentina's Capital: Buenos Aires: <i>C. Hojvat</i> ; Parapsychology: <i>V. R. Padgett</i> and <i>S. Cody</i>	1014
EDITORIAL	Field Access: A Growing Problem: <i>K. Prewitt</i>	1019
ARTICLES	Methane from Anaerobic Fermentation: <i>D. L. Klass</i>	1021
	Retinoblastoma: Clues to Human Oncogenesis: <i>A. L. Murphree</i> and <i>W. F. Benedict</i>	1028
	Food Safety: Revising the Statute: <i>D. A. Kessler</i>	1034
NEWS AND COMMENT	Hard Times in Uranium Enrichment	1041
	Problems at Parachute Creek	1042
	Will There Be Room on the Arc?	1043
	Sleight of Hand with EPA's R & D Budget	1045
	<i>Briefing</i> : A Major Retreat on the Yellow Rain Battlefield; OSTP Finally Gets a Deputy for Life Sciences; Interferon Patent Contest Kicks Off in Europe; France Boosts Industrial Research; U.S. Officials Hail Progress in Chemical Weapons Talks	1046
	Congress Looks at the Space Station	1048
RESEARCH NEWS	Practice Catches Theory in Kin Recognition	1049
	What Is the Risk from Chlorofluorocarbons?	1051
	Carbon Dioxide and the Control of Ice Ages	1053
ANNUAL MEETING	Preliminary Program; Meeting Information; Discounted Air Fares; Hotel Reservation Form; Advance Registration Form	1055

BOARD OF DIRECTORS

E. MARGARET BURBIDGE
Retiring President, Chairman

ANNA J. HARRISON
President

DAVID A. HAMBURG
President-Elect

ROBERT W. BERLINER
LAWRENCE BOGORAD

NANCIE L. GONZALEZ
WALTER E. MASSEY

CHAIRMEN AND SECRETARIES OF AAAS SECTIONS

MATHEMATICS (A)
Lipman Bers
Lynn Arthur Steen

PHYSICS (B)
James A. Krumhansl
Rolf M. Sinclair

CHEMISTRY (C)
Murray Goodman
William L. Jolly

ASTRONOMY (D)
Paul W. Hodge
Donat G. Wentzel

PSYCHOLOGY (J)
Janet T. Spence
Bert F. Green

SOCIAL, ECONOMIC, AND POLITICAL SCIENCES (K)
Kenneth J. Arrow
David L. Sils

HISTORY AND PHILOSOPHY OF SCIENCE (L)
Daniel J. Kevles
David L. Hull

ENGINEERING (M)
Eric A. Walker
W. Edward Lear

EDUCATION (Q)
Hans O. Andersen
Roger G. Olstad

DENTISTRY (R)
Erling Johansen
Harold M. Fullmer

PHARMACEUTICAL SCIENCES (S)
Stanley A. Kaplan
David A. Knapp

INFORMATION, COMPUTING, AND COMMUNICATION
Robert Lee Chartrand
Madeline M. Henderson

DIVISIONS

ARCTIC DIVISION

John Davies
President

Gunter E. Weller
Executive Secretary

PACIFIC DIVISION

Barbara Wright
President

Alan E. Leviton
Executive Director

SOUTHWESTERN AND ROCKY MOUNTAIN DIVISION

Walter G. Whitford
President

M. Michelle Bai
Executive Officer

SCIENCE is published weekly on Friday, except the last week in December, by the American Association for the Advancement of Science, 1515 Massachusetts Avenue, NW, Washington, D.C. 20005. Second-class postage (publication No. 484460) paid at Washington, D.C., and at an additional entry. Now combined with The Scientific Monthly. Copyright © 1984 by the American Association for the Advancement of Science. Domestic individual membership and subscription (51 issues): \$53. Domestic institutional subscription (51 issues): \$90. Foreign postage extra: Canada \$24, other (surface mail) \$27, air-surface via Amsterdam \$65. First class, airmail, school-year, and student rates on request. Single copies \$2.50 (\$3 by mail); back issues \$3 (\$3.50 by mail); Biotechnology issue, \$5 (\$5.50 by mail); classroom rates on request. Change of address: allow 6 weeks, giving old and new addresses and seven-digit account number. Authorization to photocopy material for internal or personal use under circumstances not falling within the fair use provisions of the Copyright Act is granted by AAAS to libraries and other users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service, provided that the base fee of \$1 per copy plus \$0.10 per page is paid directly to CCC, 21 Congress Street, Salem, Massachusetts 01970. The identification code for Science is 0036-8075/83 \$1 + .10. Postmaster: Send Form 3579 to Science, 1515 Massachusetts Avenue, NW, Washington, D.C. 20005. Science is indexed in the Reader's Guide to Periodical Literature and in several specialized indexes.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

AAAS NEWS	Fact-Finding Mission Visits Philippines: <i>Eric Stover</i> ; AAAS Delegates in Sri Lanka and India; Advisory Group on Population Plans Study; Science Issues Focus of AAAS-Macmillan Book Series; Pacific Division to Meet in June; Nomination of AAAS Fellows Invited	1066
BOOK REVIEWS	The Cloud People, reviewed by <i>J. W. Whitecotton</i> ; Quetzalcoatl and the Irony of Empire, <i>B. R. Ortiz de Montellano</i> ; Thomas Harriot, <i>A. E. Shapiro</i> ; From Egg to Embryo, <i>G. Freeman</i> ; Books Received.....	1068
REPORTS	Sulfur Dioxide: Episodic Injection Shows Evidence for Active Venus Volcanism: <i>L. W. Esposito</i>	1072
	The Structure of Abelsonite: <i>C. B. Storm et al.</i>	1075
	Dioxin in Soil: Bioavailability After Ingestion by Rats and Guinea Pigs: <i>E. E. McConnell et al.</i>	1077
	Rat Transforming Growth Factor Type 1: Structure and Relation to Epidermal Growth Factor: <i>H. Marquardt et al.</i>	1079
	Transmammary Infection of Newborn by Larval Trematodes: <i>W. L. Shoop and K. C. Corkum</i>	1082
	Simian AIDS: Isolation of a Type D Retrovirus and Transmission of the Disease: <i>P. A. Marx et al.</i>	1083
	T-Cell Growth Factor Gene: Lack of Expression in Human T-Cell Leukemia-Lymphoma Virus-Infected Cells: <i>S. K. Arya, F. Wong-Staal, R. C. Gallo</i>	1086
	Active Aerial Dispersal of Minute Wingless Arthropods: Exploitation of Boundary-Layer Velocity Gradients: <i>J. O. Washburn and L. Washburn</i>	1088
	Communal Nursing in Mexican Free-Tailed Bat Maternity Colonies: <i>G. F. McCracken</i>	1090
PRODUCTS AND MATERIALS	Image Analyzer; Centrifugation Medium for Nucleic Acids; Microbore Flowmeter for Liquid Chromatography; Waterproof Thermograph; Laboratory Ovens; Ion Chromatography Software; Pharmacology Software; Literature	1094

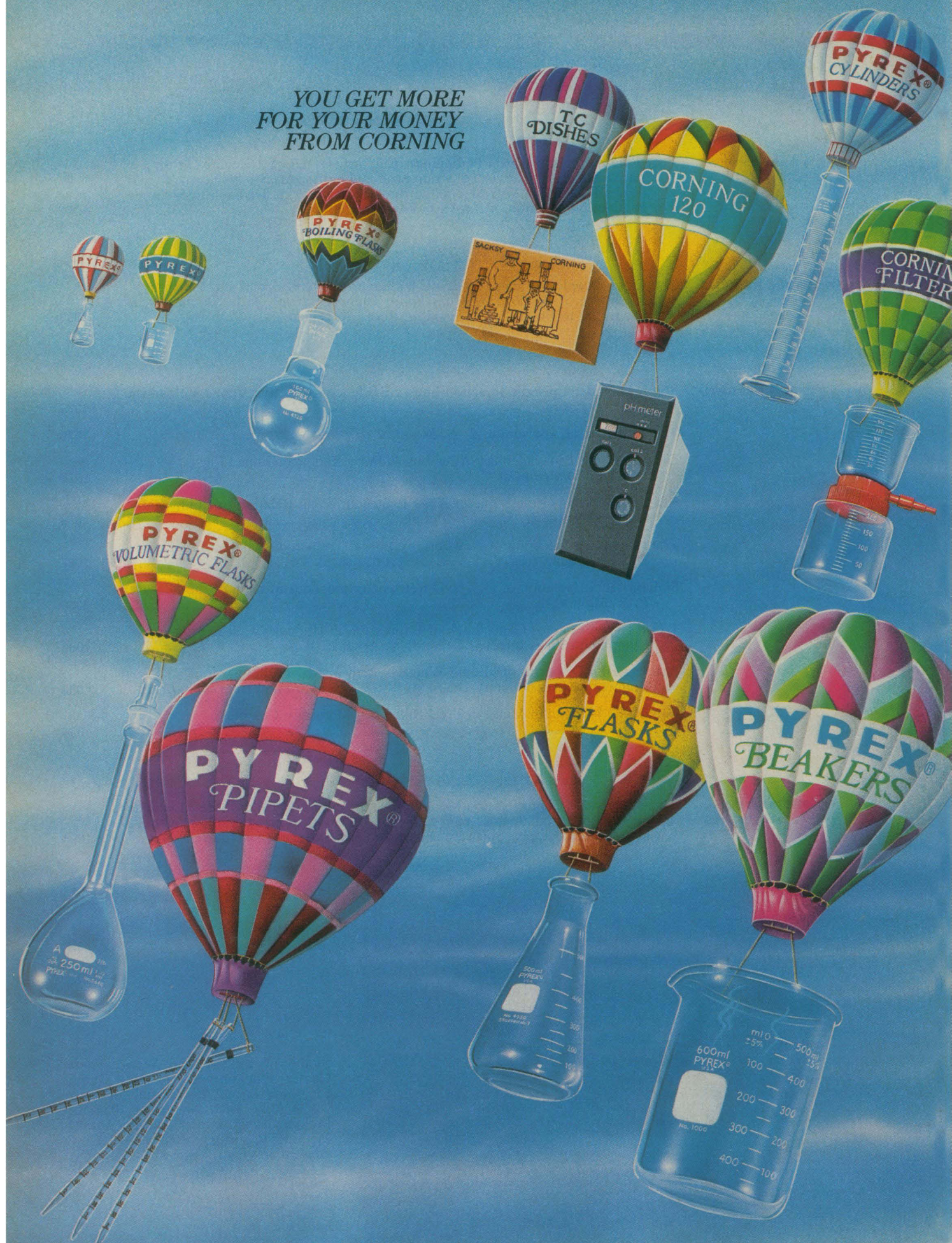
HY NELKIN SAWYER	SHEILA E. WIDNALL HARRIET ZUCKERMAN	WILLIAM T. GOLDEN Treasurer	WILLIAM D. CAREY Executive Officer
3Y AND GEOGRAPHY (E) Merriam as Dutro, Jr.	BIOLOGICAL SCIENCES (G) Charlotte P. Mangum Walter Chavin	ANTHROPOLOGY (H) Richard A. Gould Priscilla Reining	
L SCIENCES (N) Kretschmer E. Rhoads	AGRICULTURE (O) Leo M. Walsh Coyt T. Wilson	INDUSTRIAL SCIENCE (P) Nat C. Robertson Robert L. Stern	
ICS (U) E. Moses J. Wegman	ATMOSPHERIC AND HYDROSPHERIC (W) Hans A. Panofsky Bernice Ackerman	GENERAL (X) Lora M. Shields Rodney W. Nichols	

COVER

Statue of Liberty and World Trade Center (background) in New York City, site of AAAS Annual Meeting, 24-29 May 1984. See page 1055 for Preliminary Program of the Annual Meeting. [Courtesy of New York Convention & Visitors Bureau]

American Association for the Advancement of Science was founded in 1848 and incorporated in 1874. Its objects are: to encourage the work of scientists, to facilitate cooperation among them, to foster scientific freedom and responsibility, to promote the effectiveness of science in the promotion of human welfare, and to increase public understanding and appreciation of the importance and promise of the methods of science in human progress.

YOU GET MORE
FOR YOUR MONEY
FROM CORNING





BUY NOW AND SAVE 5%

Sale Away with CORNING from March through June of 1984 and take some of the sting out of your budget restraints.

You can now get 5% off your price on the most popular CORNING® and PYREX® brand items from your favorite dealer.

Sale Away with a wide array of PYREX brand labware—improved 1000 beakers and 4980 Erlenmeyer flasks. Precision grade 5640 volumetric flasks. Rugged 4320 boiling flasks. Easy to read 3024 cylinders. 7065 Mohr measuring pipets.

Sale Away with a new CORNING 120 pH meter. Pick an easy to clean CORNING PC 35 hot plate.

Sale Away with 35, 60, and 100 mm CORNING tissue culture dishes. Try new CORNING 200 and 500 ml sterile filter/storage systems.

Expand your buying power. Don't be left behind. Jump into the CORNING Sale Away promotion now. See your dealer for details.

Corning Science Products
Corning, New York 14831

Circle No. 263 on Readers' Service Card

The Most Trusted Tools Of Science

CORNING

No other laboratory shaker is more accurate
or provides faster results than the

Burrell Wrist-Action[™] Shaker

If you expect fast, accurate results from your laboratory shaker, there's only one shaker that duplicates true wrist-action shaking. The Burrell Wrist-Action Shaker.

Here's why.

The Burrell Wrist-Action Shaker duplicates a hand mixing swirl for as long as necessary, at the speed and shaking angle you select. The swirling motion is the key . . . all the contents are in continuous motion, assuring faster, more complete mixing. The swirling motion is constant at every speed, so you can replicate exact operations . . . every time.

Flexible and versatile.

Flexibility and versatility are what make the Burrell Wrist-Action Shaker

so popular. We call it the Build-Up[®] System. With it you can add on or interchange side-arms and platforms so the capacity of your Burrell Shaker grows and changes with your needs. The Burrell Shaker can accommodate from four to twenty-four Erlenmeyer flasks, and with special clamps a Burrell platform can hold up to eight 250 ml flasks, as well as separatory funnels as large as 2000 ml.

Who uses the Burrell Wrist-Action Shaker?

The Burrell Shaker is working accurately in hundreds of industrial and clinical laboratories; government research departments; universities, colleges and technical schools. For

more than forty years, the Burrell Shaker has been working hard in laboratories around the world. It's a proven, quality, indispensable piece of laboratory equipment.

Get the whole story.

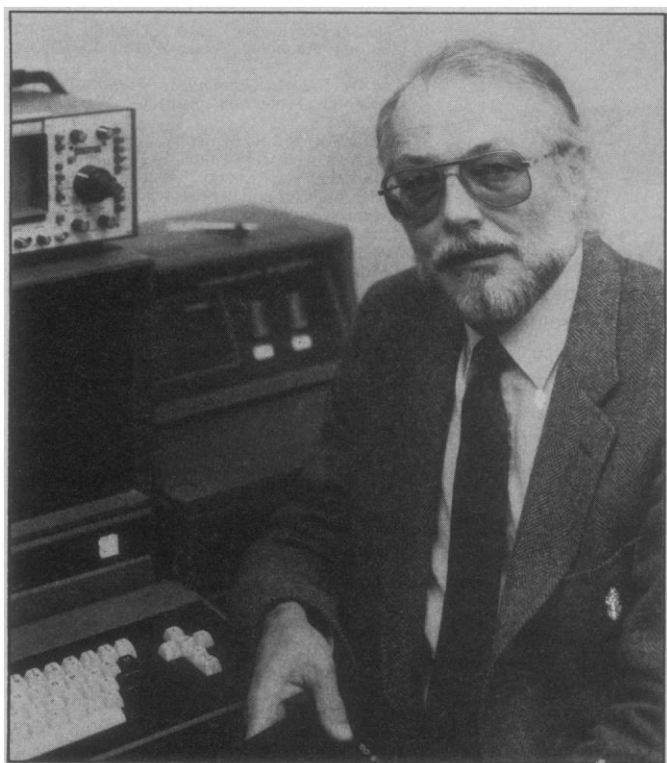
We want you to know all the facts. Write or call Burrell Corporation and we'll send you our brochure describing the only true wrist-action shaker available.

BURRELL

BURRELL CORPORATION
SCIENTIFIC INSTRUMENTS
AND LABORATORY SUPPLIES
2223 FIFTH AVENUE, PITTSBURGH, PA 15219
Telephone 412/471-2527



ALL THE FEATURES OF THE BURRELL WRIST-ACTION SHAKER ADD UP TO THE MOST VERSATILE SHAKER AVAILABLE.



HOW TO BUY A VARIABLE LC DETECTOR

**Dr. Geoffrey B. Crooks,
ISCO chief design engineer:**

When you're buying a variable wavelength LC detector, you'll have to sort through a lot of specifications and promises to find the right one. Here is some information I think will help you make your decision.

Performance. Baseline noise is a better indication of the detector's sensitivity than the minimum absorbance range available. You can expect a good detector to have a dry cell, peak-to-peak noise of no more than 3×10^{-5} A with a 0.5 second rise time, at all wavelengths from 200 to 300 nm. Noise should be less if measured at a longer response time or only in the 240 nm region. Remember, noise specified $\pm$ looks twice as good as peak-to-peak. Most detectors use a low-cost passive (resistor-capacitor) filter which reduces noise but also reduces response speed and distorts peak shape. Better detectors have active filters, but they're not all the same — one highly-reputed instrument has an active filter with bad overshoot which is covered up by automatic baseline correction.

Make sure that the bandwidth is narrow enough to give good quantitation, and that the flow cell volume is small. Good detectors have bandwidths in the 4-6 nm range and cell volumes on the order of 8 μ l per cm of optical pathlength.

Versatility. The more flow cells available, the less limited you'll be. If you can't later buy a 1 μ l or smaller cell for your detector, you won't be doing any μ LC. Versatility is also enhanced by a wide wavelength range and the ability to read %T.

Operating ease. Consider the warm-up time required. Look to see how easy flow cell changing is: an easy-to-see cell isn't necessarily easy to remove. A plug-in cell cassette is best. Ask if you have to physically remove one lamp and put in another to change from UV to VIS, or whether you can just flip a switch. Is N₂ purge required for coldroom or short wavelength operation?

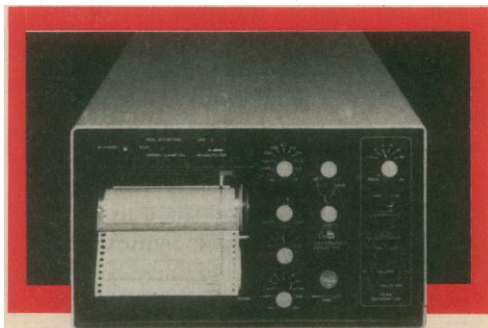
That can be a real nuisance. And does the detector have any special features that will be useful to you? For example, our V4 can be supplied with a built-in 10 cm recorder and can control a fraction collector to put different peaks into different test tubes. Other detectors have different features, such as automatic wavelength scanning.

Value. Always consider features and performance in relation to purchase and operating costs. See if the visible lamp and other necessary items are included in the base price. You should find out expected deuterium lamp life: 1000 hours is typical; over 5000 hours is exceptional, but it can be done. Is the lamp life wasted by using it at visible wavelengths or for long warm-ups? You can easily spend as much on lamp replacement over a three to five year period as you did on the detector itself.

You and I know that sales literature often doesn't tell the whole story, and that some manufacturers use specifications obtained under questionable conditions.

You should try the instrument first, or at least buy it on approval so you can send it back if it's not what you really want. And finally, how long is the warranty and what does it give you if something goes wrong?

We designed the ISCO V4 with all these points in mind. It has top specifications and many special features that make it a pleasure to use, yet it's almost the lowest priced variable detector you can buy. To learn about it, write or call us toll-free [800] 228-4250 for your catalog. ISCO, P.O. Box 5347, Lincoln, NE 68505.



ISCO's fourth generation variable detector. The V4 has 190-750 nm range; 6 nm bandwidth; 0.002 AUFS sensitivity; 2×10^{-5} noise; 10 flow cells for LC, HPLC, and μ LC; 8000 hr median D₂ lamp life; and a three-year warranty. It's priced at \$3995 without optional built-in recorder and peak separator.



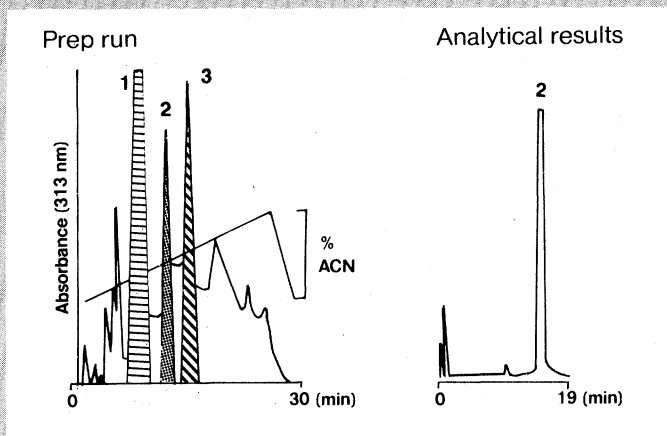
Purify even the most difficult compounds in less time and with less effort than any other technique.

Waters PrepLC™ 500A System.

Applying innovative technologies to the chemistry of separation for maximum load, resolution and purity.

Waters PrepLC 500A System is the fastest, most efficient preparative separation technique available for the separation of biological compounds, chemical intermediates, pharmaceuticals and virtually any compound separable by analytical HPLC. Innovative technologies such as Waters patented Radial Compression design, fluid velocity control and exclusive shave/recycle technique allow faster separations with less compound activity loss than any other separation process.

Isolate peptides and proteins with 99% purity

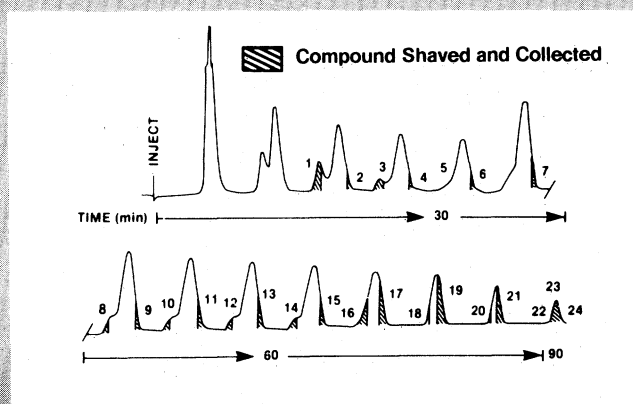


Problem: To isolate biologically active peptides and intermediate molecular weight proteins to 99% purity.

Solution: Isolate a crude synthetic peptide and protein extract to 99% purity without loss of biological activity by: performing a thirty-minute reverse phase gradient, collecting an enriched fraction of product, and rechromatographing a heavier load of the partially purified product under different gradient conditions.

Sample: 500 mg Peptide Hydrolysate
 Cartridge: PrepPAK® C₁₈, 57 mm x 30 cm (300Å pore, 30 µm particle)
 Solvent: A) 0.1% TFA in H₂O
 B) ACN: 0.1% TFA in H₂O, 40:60
 0-100% B in 30 min, linear
 Flow Rate: 150 ml/min
 Detection: UV, 313 nm

Purify natural product isomers with high yield



Problem: To purify three hard-to-resolve isomers with higher yield than traditional techniques.

Solution: By employing the exclusive shave/recycle feature of the PrepLC 500A System, the effective column length was increased to 26 feet (the sample was recycled 13 successive times without repetitive manual injection and collection) and a 77% yield of pure isomers was realized. This compares favorably to a 26.6% yield achieved with column chromatography.¹

Sample: 0.75 g Labdatriene Isomers
 Cartridge: PrepPAK® 500 Silica, 57 mm x 60 cm
 Mobile Phase: n-Hexane
 Flow Rate: 250 ml/min
 Detector: RI

¹Journal of Liquid Chromatography 4(3) 525-532, (1981)

Let us show you how the Waters PrepLC 500A will purify even your most difficult mixtures with higher yield



Waters Associates

MILLIPORE 34 Maple Street Milford MA 01757/(617) 478-2000

FIND IT FAST BIBLIOTEK... DESIGNED FOR SCIENTISTS

A unique software package for the Apple II Computer. BIBLIOTEK was developed by active researchers to make the cataloging and retrieval of references and literature citation quick and efficient.

Basic functions include:

- Citation entry
- Selective retrieval
- Sorting and printing

For a complete product summary, write or call:



**SCIENTIFIC SOFTWARE
PRODUCTS, INC.**

5726 Professional Circle Suite 105
Indianapolis, IN 46241
(317) 244-6163

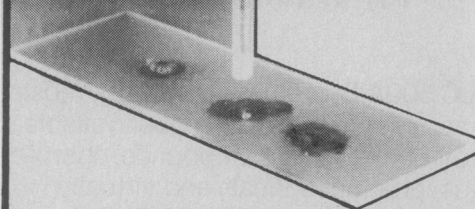
Apple II is a registered trademark of Apple Computer, Inc.

Circle No. 326 on Readers' Service Card

MEASURE CO₂ CONTENT!

**Smallest electrode
available.**

Carbon dioxide can be measured quickly and easily with the MI-720, a high quality electrode from the foremost authority in microelectrode technology.



MICROELECTRODES, INC.

Oak Hill Park, Londonderry, N.H. 03053 USA
(603) 668-0692

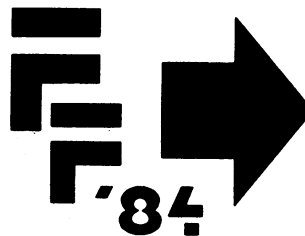
Circle No. 260 on Readers' Service Card

SCIENTISTS & ENGINEERS CONFERENCE ON THE FOREFRONTS OF LARGE-SCALE COMPUTATIONAL PROBLEMS

June 25-27, 1984
National Bureau of Standards
Gaithersburg, Maryland

**SCIENTISTS
AND ENGINEERS
WORKING IN:**
structural analysis •
materials science •
pharmacology • chemical
synthesis • economics •
medical imaging •
physics • fluid mechanics •
aerodynamics —
PLAN NOW TO ATTEND

The Conference on the Forefronts of Large Scale Computation Problems will explore the interdisciplinary applications, new approaches, and future trends of large-scale computing technology and focus on experimental and computational problems that approach or exceed the limits of traditional methodologies.



For further information, contact William L. Schrader, Newman Laboratory, Cornell University, Ithaca, New York 14853 (607) 256-3455.

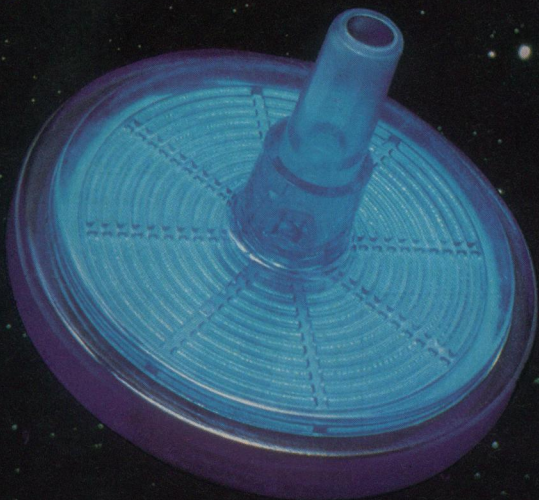
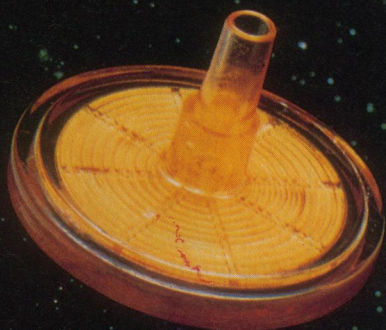
Speakers include:

- Kenneth G. Wilson
- Enrico Clementi ■ James D. Gunton ■ Lawrence R. Klein ■ James A. Swanson
- David A. Pensak ■ Gabor T. Herman ■ Gary Demos
- Roger W. Cohen ■ Roland W. Schmitt ■ Paul E. Rubbert

BUY NOW and SAVE!
Special introductory price in effect
until March 31, 1984.

MICREX™

THE SIMPLE SAMPLE SAVER



All new, high recovery, 25 mm disposable filter unit

- The lowest sample holdup, *highest recovery* of any 25 mm syringe filter unit available today.
- Membrane is bilaterally supported for bidirectional filtration.
- Select from a range of pore sizes and filter materials, 0.2 to 1.2 μm .
- Color-coded for fast identification.
- Sterile, individually packaged units in new dispenser box for convenience.
- Ideal for filtration of serum, urine, reagents, buffers, stains, dyes, admixtures, etc.
- Accepted by and registered with the U.S. F.D.A. as a *Medical Device*.

The MICREX filter unit saves time and money while providing the performance and quality you expect from S&S.



Schleicher & Schuell

See us at ASM Booth
#523 and 524

Schleicher & Schuell, Inc.,
Keene, N.H. 03431 (603) 352-3810

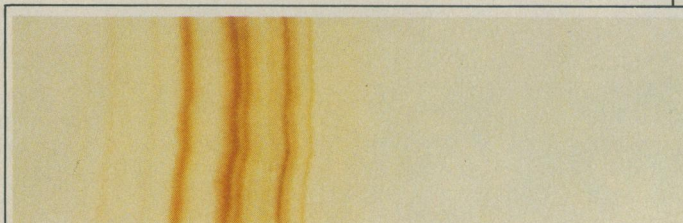
Circle No. 55 on Readers' Service Card

Only with the new LKB Horizontal Electrophoresis System do you also get...

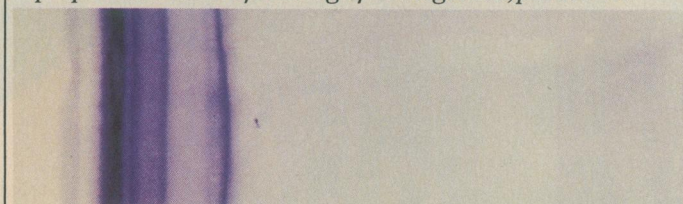
A choice of 3 preparative methods

Preparative electrofocusing in Immobiline gels is the newest, most efficient way of separating proteins in quantities up to 1 gram. LKB Immobilines combine greatly improved resolution with sample recovery rates of up to 98%. And the absence of soluble carrier ampholytes means that high resolution preparative electrofocusing of low molecular weight substances is now fully practicable.

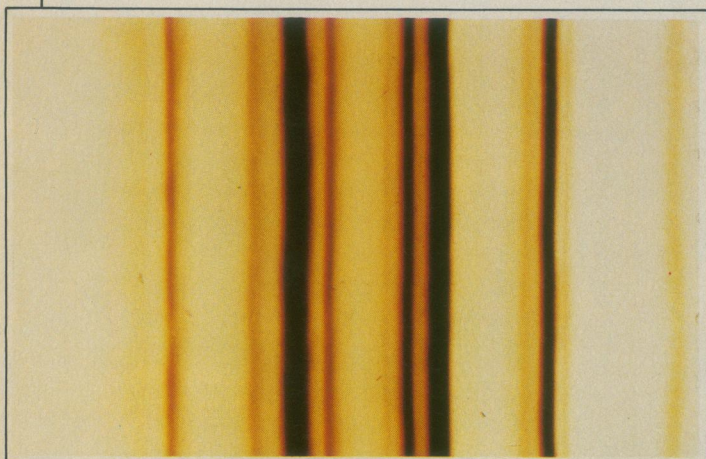
Preparative electrofocusing in granular gels is a more traditional method using Ampholine carrier ampholytes, and is also catered for by the LKB Horizontal Electrophoresis System. The enlarged cooling plate of the new Multiphor II doubles the sample capacity, while the movable electrodes give increased flexibility.



—preparative electrofocusing of hemoglobin, pH 6.0–8.5



—preparative isotachopheresis of human serum proteins



Preparative isotachopheresis is the third choice offered by the LKB Horizontal Electrophoresis System, and is a low-cost alternative giving good resolution for separations based on protein mobility. The twin integral buffer reservoirs permit gels to be run either across or along the length of the cooling plate.

◀ *—preparative electrofocusing of hemoglobin using Immobiline, pH 6.5 to 8.5*

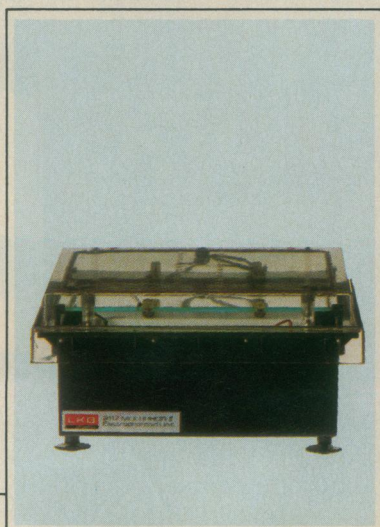
This is one in a series of advertisements describing the unrivalled versatility of the LKB Horizontal Electrophoresis System. For further information about preparative methods, and the many other applications of the system, send today for our brochure.

THE LKB SYSTEM

Only LKB can offer the research scientist a complete, integrated system in which each component works with and complements all the others. Based on the new and improved Multiphor II, the system also includes a 5KV power supply, thermostatic circulator, laser densitometer and data evaluation software.

In addition to the instrumentation, LKB provides a range of 18 major kits plus a complete programme of high quality chemicals, supplies and accessories, backed by the full worldwide support of the market leader in electrophoresis and electrofocusing.

LKB—the electrophoresis experts.



LKB Instruments, Inc.
9319 Gaither Road, Gaithersburg, Maryland 20877.

Tel. 301-963-3200,

Circle No. 161 on Readers' Service Card

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

Science serves its readers as a forum for the presentation and discussion of important issues related to the advancement of science, including the presentation of minority or conflicting points of view, rather than by publishing only material on which a consensus has been reached. Accordingly, all articles published in *Science*—including editorials, news and comment, and book reviews—are signed and reflect the individual views of the authors and not official points of view adopted by the AAAS or the institutions with which the authors are affiliated.

Editorial Board

FREDERICK R. BLATTNER, BERNARD F. BURKE, ARNOLD DEMAIN, CHARLES L. DRAKE, ARTHUR F. FINDEIS, E. PETER GEIDUSCHEK, GLYNN ISAAC, NEAL E. MILLER, FREDERICK MOSTELLER, ALLEN NEWELL, RUTH PATRICK, BRYANT W. ROSSITER, VERA C. RUBIN, WILLIAM P. SLICHTER, SOLOMON H. SNYDER, PAUL E. WAGGONER, JOHN WOOD

Publisher: WILLIAM D. CAREY
Associate Publisher: ROBERT V. ORMES

Editor: PHILIP H. ABELSON

Editorial Staff

Assistant Managing Editor: JOHN E. RINGLE
Production Editor: ELLEN E. MURPHY
Business Manager: HANS NUSSBAUM
News Editor: BARBARA J. CULLITON
News and Comment: COLIN NORMAN (deputy editor), JEFFREY L. FOX, CONSTANCE HOLDEN, ELIOT MARSHALL, R. JEFFREY SMITH, MARJORIE SUN, JOHN WALSH

European Correspondent: DAVID DICKSON
Contributing Writer: LUTHER J. CARTER
Research News: ROGER LEWIN (deputy editor), RICHARD A. KERR, GINA KOLATA, JEAN L. MARX, THOMAS H. MAUGH II, ARTHUR L. ROBINSON, M. MITCHELL WALDROP

Administrative Assistant, News: SCHERRAINE MACK;
Editorial Assistant, News: FANNIE GROOM
Senior Editors: ELEANORE BUTZ, MARY DORFMAN, RUTH KULSTAD

Associate Editors: MARTHA COLLINS, SYLVIA EBERHART, CAITILIN GORDON, LOIS SCHMITT
Assistant Editors: STEPHEN KEPPEL, LISA MCCULLOUGH, EDITH MEYERS

Book Reviews: KATHERINE LIVINGSTON, *Editor*; LINDA HEISERMAN, JANET KEGG

Letters: CHRISTINE GILBERT
Copy Editor: ISABELLA BOULDIN
Production: JOHN BAKER, HOLLY BISHOP, ELEANOR WARNER, JEAN ROCKWOOD, SHARON RYAN, BEVERLY SHIELDS

Covers, Reprints, and Permissions: GRAYCE FINGER, *Editor*; GERALDINE CRUMP, CORRINE HARRIS

Guide to Scientific Instruments: RICHARD G. SOMMER
Editorial Administrator: SUSAN ELLIOTT
Assistant to the Associate Publisher: ROSE LOWERY
Assistant to the Managing Editor: NANCY HARTNAGEL
Membership Recruitment: GWENDOLYN HUDDLE

Member and Subscription Records: ANN RAGLAND
EDITORIAL CORRESPONDENCE: 1515 Massachusetts Ave., NW, Washington, D.C. 20005. Area code 202. General Editorial Office, 467-4350; Book Reviews, 467-4367; Guide to Scientific Instruments, 467-4480; News and Comment, 467-4430; Reprints and Permissions, 467-4483; Research News, 467-4321. Cable: *Advancesci*, Washington. For "Information for Contributors," write to the editorial office or see page xi, *Science*, 30 September 1983.

BUSINESS CORRESPONDENCE: Area Code 202. Membership and Subscriptions: 467-4417.

Advertising Representatives

Director: EARL J. SCHERAGO
Production Manager: GINA REILLY
Advertising Sales Manager: RICHARD L. CHARLES
Marketing Manager: HERBERT L. BURKLUND
Sales: NEW YORK, N.Y. 10036: Steve Hamburger, 1515 Broadway (212-730-1050); SCOTCH PLAINS, N.J. 07076: C. Richard Callis, 12 Unami Lane (201-889-4873); CHICAGO, ILL. 60611: Jack Ryan, Room 2107, 919 N. Michigan Ave. (312-337-4973); BEVERLY HILLS, CALIF. 90211: Winn Nance, 111 N. La Cienega Blvd. (213-657-2772); SAN JOSE, CALIF. 95112: Bob Brindley, 310 S. 16 St. (408-998-4690); DORSET, VT. 05251: Fred W. Diefenbach, Kent Hill Rd. (802-867-5581).
ADVERTISING CORRESPONDENCE: Tenth floor, 1515 Broadway, New York 10036 (212-730-1050).

Field Access: A Growing Problem

A foreign policy of science has emerged that sweeps into its domain many nonscientific practices. A particularly troubling instance is the use of a political-bureaucratic process to control access to field sites. Restrictions on field access can seriously impede disciplines in which progress is made through observing conditions that are not present in any single nation or world area. Anthropology, archeology, botany, entomology, geology, primatology, and linguistics are such disciplines.

The criteria invoked in granting clearances to investigators vary from one discipline to the next and from one country to the next. Seldom, however, are the criteria exclusively scientific. Issues raised include: Could the foreign researcher exhaust a site or topic that should be preserved for local scholars? Could foreign-sponsored research put the host country at a commercial or military disadvantage? Could it prove politically embarrassing? Is it disrespectful to the local culture?

In the majority of cases, such questions are satisfactorily answered, visas granted, and field research proceeds. But often enough to cause concern, research today is impeded, redirected, postponed, or, if a scholar expects bureaucratic hassle, never proposed.

The requirement for formal procedures to obtain clearance for research projects is largely a post-World War II development. It is somewhat explicable when one takes into account the rhetoric, now widespread, which attaches each nation's investment in science to its security and its welfare. Science, not least of all international science, is in practice and rhetoric now tightly linked with sovereignty and national security.

If it is too late in the history of world politics to detach science from national sovereignty, and all the protective impulses this promotes, it is not too late to minimize damage to those disciplines whose work depends on field observation. Four things would help.

First, the obligations of individual field researchers must be clarified. These include affirming the universality of scientific standards as well as insisting on full reporting of research findings. But the foreign scholar also has obligations to the host country and should take up residence only if willing to comply with indigenous moral and legal codes. Irresponsible personal behavior that insults or places in jeopardy segments of the local community invites restrictions on research even when the offending behavior is unrelated to the conduct of research.

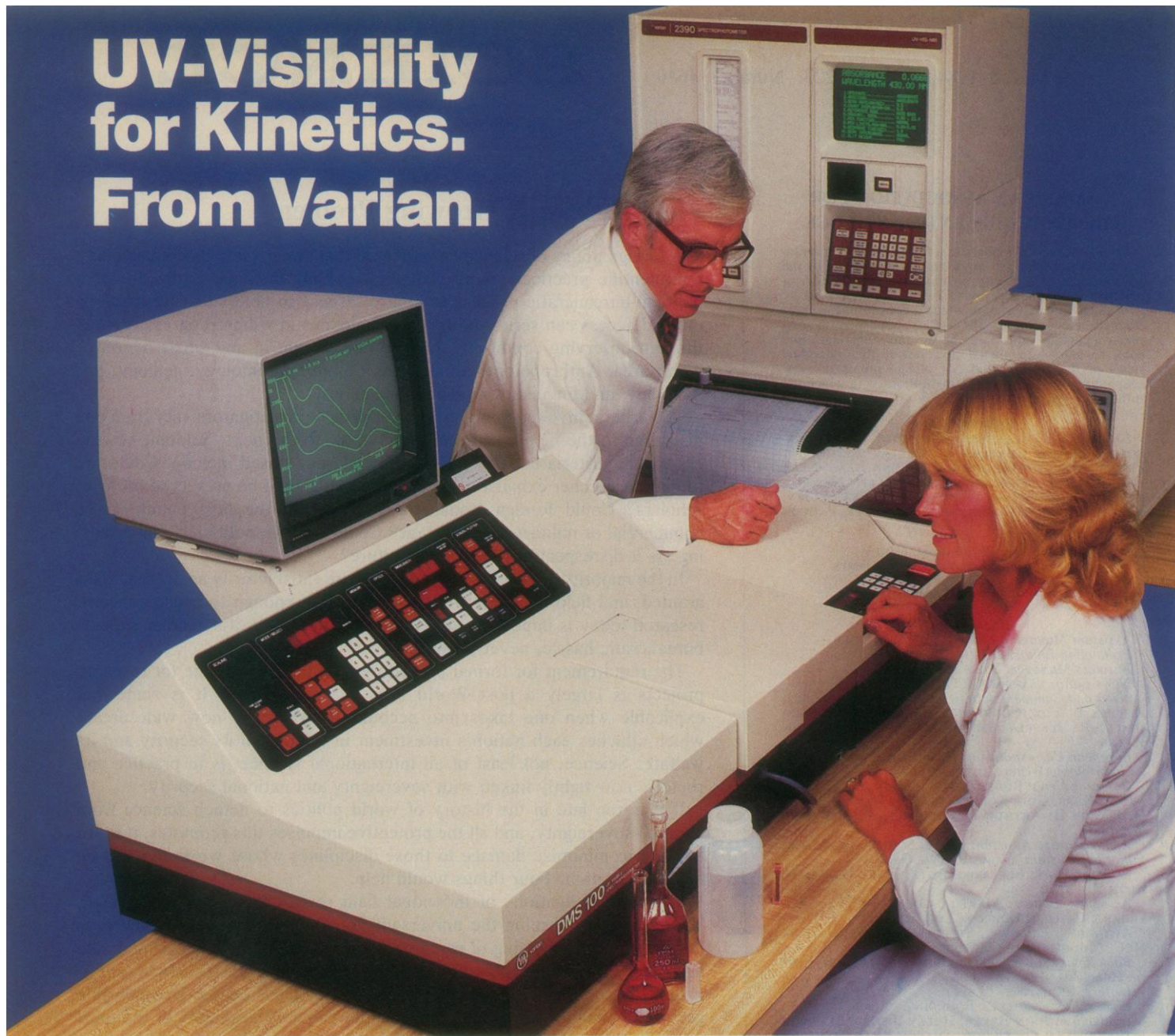
Second, overseas centers that have experience in negotiating clearances for researchers need to be strengthened and their responsibilities extended. These centers have accumulated goodwill with the local officials who administer the increasingly complex set of rules governing access and can help guide the inexperienced field researcher.

Third, a collaborative effort is needed by the various academies of the world, especially the newer ones being established in Third World countries. The academies can advise those who write and implement the rules restricting field access and help negotiate arrangements for visiting investigators.

Fourth, there should be increased sponsorship of cross-national research projects. Because cross-national collaboration does not always or everywhere make scientific sense, it should be resisted as the necessary entry price for field access. But when scientifically appropriate, such collaboration can greatly ease problems of access, as the international program of the National Science Foundation has successfully demonstrated.

These are modest actions, but if they replace the present inattention to what is a steadily worsening situation, we may yet avoid a world in which large numbers of scholars and research topics are subjected to the political veto power of host nations.—KENNETH PREWITT, *President, Social Science Research Council*, and *Fellow, Center for Advanced Study in the Behavioral Sciences, Stanford, California 94305*

UV-Visibility for Kinetics. From Varian.



Since its introduction, the DMS 100 Spectrophotometer has enjoyed unprecedented popularity, because it simply offers more analytical possibilities for your instrument investment dollar. Scientists like the way the DMS 100 displays a spectrum on the video screen in real time; the way it stores spectral information in its capacious memory for later retrieval; and its intelligent cell changer.

The DMS 100 with the cell changer lets you

- signal-average for each cell
- monitor cell temperature
- print out absorbance, slope, standard deviation, and temperature

But if you need

- accurate measurement of differences less than 0.010 Abs
- plots of temperature versus absorbance
- measurement of highly absorbing, scattering samples

you need the ultrahigh-performance Varian-Cary 2200 UV-Vis Spectrophotometer.



Computer compatibility? Of course!

Both the DMS 100 and the 2200 interface with the Varian DS 15 Data Station to form a completely automatic UV-Vis system.

Circle Reader Service Number **274** for more information; circle No. **275** to discuss your UV-Vis needs with a Varian representative.

For immediate assistance contact: Florham
Park NJ (201) 822-3700 • Park Ridge IL
(312) 825-7772 • Sugar Land TX (713) 491-7330
• Georgetown, Ontario (416) 457-4130.
Or write 611 Hansen Way, Palo Alto, CA 94303
In Europe: Steinhäuserstrasse, CH-6300 Zug,
Switzerland

**Intelligent Automation...
from Varian**





Annual Meeting
New York
24-29 May 1984

Discounted Air Fares



AAAS Convention

Number: AC3FOC22

Call Toll Free: 1-800-241-6760
(Georgia Residents:
1-800-282-8536)

Delta Air Lines offers you:

- 30% off regular roundtrip coach fare.
- No minimum stay requirements.

Conditions:

Arrival in New York must be between 20 and 28 May 1984.
Return dates must be within 15 days of your departure to New York.

Reservations and ticketing must be completed 7 days before departure.



UNITED AIRLINES

AAAS Convention

Number: 4474

Call Toll Free: 1-800-521-4041

United Airlines offers you:

- \$20 off roundtrip Super Saver fare.*
- No minimum stay requirements.

Conditions:

Travel dates must be between 19 May and 3 June 1984.

Reservations and ticketing must be completed by the day before departure.

*Not available for travel on 25 May and 28 May; other reduced fares will be offered to those travelling on these two dates.

If you use a travel agent or corporate travel department, please have them make your reservations through either Delta's or United's toll free number to obtain the above discount fares.

Note: The special convention fares do not apply to other discounted rates. There may be other promotional air fares. However, they are limited and have restrictions. Check with Delta or United for the greatest discount applicable to your itinerary.

MAIL TO:
AAAS Housing Dept.
New York Convention Bureau
2 Columbus Circle
New York, NY 10019

**HOTEL
 RESERVATIONS**

Annual Meeting
New York
 24-29 May 1984



Send confirmation to:

Name _____ Street _____

City _____ State _____ Zip _____ Phone No. _____

Other occupants of room:

Name _____ Name _____

Choice of hotel: 1. _____ 2. _____

Room: ☐ Single ☐ Double ☐ Twin **Suite:** ☐ 1 Bedroom ☐ 2 Bedrooms **Preferred Rate:** \$ _____

Please indicate special housing needs due to a handicap: ☐ Wheelchair accessible room.

Other _____

Arrival Date: _____ **Time:** _____ ☐ a.m. ☐ p.m.

Departure Date: _____ **Time:** _____ ☐ a.m. ☐ p.m.

(Be sure to list definite arrival and departure date and time. Reservations will be held only until 6 p.m. unless accompanied by 1 night's deposit.)

- All hotel reservations must be submitted to the AAAS Housing Department in writing (**use form above; type or print**).
- Reservations must be received by the Housing Department **not later than 1 May 1984**; reservations received after that date are conditional upon space availability at the hotels.
- Rooms are assigned on a first come, first served basis. If room rate requested is no longer available, the next available higher rate will be assigned.
- Confirmation will come directly from the hotel. All changes and cancellations must be made in writing (not by phone) through the AAAS Housing Department.

HOTEL RATES*

Hotel	Single	Double & Twin	Parlor + 1 Bedrm.	Parlor + 2 Bedrms.
The New York Hilton 1335 Avenue of the Americas (No. of rooms blocked: 700)	\$76, 83, 90	\$93, 100, 107	\$250, 290	\$400, 435
The Sheraton Centre 7th Avenue at 52nd Street (No. of rooms blocked: 700)	\$65, 83, 88	\$80, 98, 103	\$250, 365, 395	\$330, 445, 475

* Add 8.25% New York sales tax plus \$2 per night occupancy tax.

Charge for extra person in room: New York Hilton, \$17/night; Sheraton Centre, \$20/night.

Children are accommodated free of charge in same room with parents: New York Hilton, no age limit; Sheraton Centre, age 17 and under.



Annual Meeting
New York
24-29 May 1984

**ADVANCE
REGISTRATION
(A)**

MAIL TO:
AAAS—DEPT. R
1515 Massachusetts Ave., N.W.
Washington, D. C. 20005

Name of Registrant:

(Last)

(First and Initial)

Name of Spouse Registrant:

(Last)

(First and Initial)

Institution/Company Name:

(To be printed on badge)

(Registrant)

(Spouse Registrant)

Mailing Address:

(For receipt of program(s), badge(s); and
Science [for new applicants])

(Street)

(City)

(State)

(Zip Code)

Convention Address:

(Where you can be reached)

(Hotel and/or Phone No.)

Check days
attending:

Thu Fri Sat Sun Mon Tue
☐ ☐ ☐ ☐ ☐ ☐

☐ Please check here if you need special services due to a handicap. We will contact you prior to the meeting.

Register Now and Save Money—On-site Registration Fees Will Be Higher

- Please check appropriate boxes, complete remainder of form (type or print), and **enclose payment or charge to credit card below.**
- Use separate form (photocopy) if you wish to submit additional registrations other than spouse's.
- Preconvention program, badge, and voucher for full program and abstracts will be mailed to registrants in mid April.
- **Registrations received after 11 May** will be held at the *Advance Registrants' Desk* at the New York Hilton Hotel.
- **Refund requests** for registration fees must be made by letter or telegram before 18 May 1984 and will be honored **after** the Annual Meeting. **No refunds are made on cancellation requests received after this date.**
- Special one-day attendance registration will be available at on-site registration desks only.

Registration Category	Regular		Student or Retired	
	Single	Double	Single	Double
☐ AAAS Member	☐ \$43	☐ \$ 58	☐ \$24	☐ \$39
☐ Non-Member:				
☐ Meeting registration only	☐ \$53	☐ \$ 68	☐ \$24	☐ \$39
☐ Register and join: Single membership	☐ \$99	☐ \$114	☐ \$59	☐ \$74
☐ Register and join: Double membership		☐ \$131		☐ \$91

Students: Fulltime undergraduate or graduate students only.

Double Membership (registrant and spouse) includes single subscription to *Science* (51 issues per year).

1984 Membership Dues: Regular Member, \$56; Student or Emeritus, \$35; Spouse or Emeritus without *Science*, \$17.

Inquire for Canadian and other foreign rates.

Specify name(s) of new member(s) for single membership: _____

Charge to my ☐ **VISA** or ☐ **MASTERCARD**

Account No. _____ Expiration Date _____

Cardholder's Name _____ Signature _____
(Please print)

SURVEY OF ATTENDANTS

Annual Meeting, New York, 24-29 May 1984

Your answers to the following questions will help us to plan future Annual Meetings. Please complete the form and either return it with your registration form or send it separately (to the same address) if you wish to respond anonymously (the two forms will be processed separately).

Principal Professional Interest

- 11 ☐ Physical, mathematical
12 ☐ Biological, medical
13 ☐ Engineering
14 ☐ Social, behavioral
15 ☐ Science policy
16 ☐ _____
(other)

Principal Professional Activity

- 21 ☐ Teaching, education
22 ☐ Health practice
23 ☐ Other practice, consulting
24 ☐ Research, development
25 ☐ Administration
26 ☐ _____
(other)

Institutional Affiliation Type

- 31 ☐ University, 4-year college
32 ☐ Other educational
33 ☐ Industrial, commercial
34 ☐ Other Private
35 ☐ Government
36 ☐ _____
(other)

Highest Educational Level

- 41 ☐ Doctoral Degree
42 ☐ Master's Degree
43 ☐ Other professional
44 ☐ Bachelor's Degree
45 ☐ _____
(other)

Age

- 51 ☐ Under 26 years
52 ☐ 26 to 35 years
53 ☐ 36 to 45 years
54 ☐ 46 to 55 years
55 ☐ 56 to 65 years
56 ☐ Over 65 years

**Number of Past AAAS
Meetings Attended**

- 61 ☐ None
62 ☐ One
63 ☐ Two
64 ☐ Three
65 ☐ Four
66 ☐ Five or more

Distance Traveled to Meeting

- 71 ☐ Under 51 miles
72 ☐ 51 to 150 miles
73 ☐ 151 to 400 miles
74 ☐ 401 to 1000 miles
75 ☐ 1001 to 3000 miles
76 ☐ Over 3000 miles

AAAS

1983 Annual Meeting Detroit Tapes

Public Lectures

- AAAS Keynote Lecture: Science and the Urban University (David W. Adamany) #83AAAS/1 (1 tape, \$8.00)
- Adventure into Space (E. Margaret Burbidge) #83AAAS/6 (1 tape, \$8.00)
- Chemical Studies on the Origins of Life (Cyril Ponnamperuma) #83AAAS/5 (1 tape, \$8.00)
- Prospects/Progress in High-Energy Physics (Leon M. Lederman) #83AAAS/7 (1 tape, \$8.00)
- Sealing Wax and String (Derek DeSolla Price) #83AAAS/3 (1 tape, \$8.00)
- Somatic Cell Genetics: Human Implications (Theodore T. Puck) #83AAAS/4 (1 tape, \$8.00)
- The People of Herculaneum of 79 A.D. (Sara C. Bisel) #83AAAS/8 (1 tape, \$8.00)

Agriculture and Food

- Conservation of Animal Germ Plasm. #83AAAS/135-136 (2 tapes, \$16)
- New Frontiers in Agricultural Sciences and Their Societal Implications. #83AAAS/9-12 (4 tapes, \$32)
- Restructuring Policy for Agriculture: Some Alternatives. #83AAAS/93-94 (2 tapes, \$16)
- Rising Atmospheric Carbon Dioxide and Plant Productivity. #83AAAS/203-204 (2 tapes, \$16)
- Sources of Food From Rarely Used Plants. #83AAAS/147-148 (2 tapes, \$16)

Arms Control and Security

- Chemical and Biological Weapons: Detection, Control, and Disarmament. #83AAAS/221-222 (2 tapes, \$16.00)
- Defense Spending: Impact on Economy and Technology Base. #83AAAS/145-146 (2 tapes, \$16.00)
- Education and Nuclear War. #83AAAS/101-102 (2 tapes, \$16.00)
- Freezes, Treaties, Stops, and STARTS: Current Issues in Arms Control. #83AAAS/157-158 (2 tapes, \$16.00)
- The Environmental Effects of Thermonuclear War. #83AAAS/91-92 (2 tapes, \$16.00)

- The Impact of Command, Control, Communications, and Intelligence (C'I) on Strategic Nuclear Options. #83AAAS/141-142 (2 tapes, \$16.00)
- The Technology of Peace Making. #83AAAS/39-40 (2 tapes, \$16.00)
- Verification Technology: Potential and Limits. #83AAAS/27-28 (2 tapes, \$16.00)

Biological Sciences

- Control of Mammalian Sex Ratio at Birth. #83AAAS/25-26 (2 tapes, \$16.00)
- The Greening of the Continents: Steps Toward the Establishment of Terrestrial Communities. #83AAAS/89-90 (2 tapes, \$16.00)
- Living Earth. #83AAAS/33-34 (2 tapes, \$16.00)
- Multidisciplinary Approaches to Plant Opal Phytolith Research. #83AAAS/193-196 (4 tapes, \$32.00)
- The Precambrian-Cambrian Boundary and the Origins of Complex Life. #83AAAS/103-104 (2 tapes, \$16.00)

Cell Biology and Genetics

- Dissecting the Interferon Boom: Lessons for Biomedical Research. #83AAAS/15-16 (2 tapes, \$16.00)
- Gene Regulation in Development. #83AAAS/97-98 (2 tapes, \$16.00)
- Low Molecular Weight Peptides and Control of Gene Expression in Normal and Cancer Cells. #83AAAS/71-72 (2 tapes, \$16.00)
- Monoclonal Antibodies: New Biological Probes. #83AAAS/229-230 (2 tapes, \$16.00)
- Polynucleotide Chemistry and the Regulation of Life. #83AAAS/213-214 (2 tapes, \$16.00)
- The Origins of Biological Information. #83AAAS/117-120 (4 tapes, \$32.00)

Earth and Planetary Sciences

- Forecasting the Climate Next Season: How Skillful? How Useful? #83AAAS/233-234 (2 tapes, \$16.00)
- Perceiving Earth Resources From Space, Part I: Technology Outlook. #83AAAS/163-164 (2 tapes, \$16.00)
- Perceiving Earth Resources From Space, Part II: Applications Outlook. #AAAS/183-184 (2 tapes, \$16.00)

- Planetary Perspectives on the Geosciences. #83AAAS/73-76. (4 tapes, \$32.00)
- Space Industrialization: The Growing Community. #83AAAS/49-50 (2 tapes, \$16.00)
- The Evolving Role of Man in Space. #83AAAS/17-18 (2 tapes, \$16.00)

Ecology and Environment

- Acid Deposition: A Transboundary Problem for the U.S. and Canada. #83AAAS/109-112 (4 tapes, \$32.00)
- Degradation and Rehabilitation of Fragile Environments: Karst Areas and Desert Margins. #83AAAS/69-70 (2 tapes, \$16.00)
- Environmental Catastrophes: Detection, Dissemination, and Societal Response to Warnings. #83AAAS/209-210 (2 tapes, \$16.00)
- Managing Groundwater Resources: An Assessment of Future Options. #83AAAS/211-212 (2 tapes, \$16.00)
- The Great Lakes Ecosystem: Resources, Management, and Anthropogenic Impacts. #83AAAS/55-58 (4 tapes, \$32.00)
- Water Quality Regulation at the Edge of Science. #83AAAS/231-232 (2 tapes, \$16.00)

Economics and Industry

- Deregulation of Electric Utilities. #83AAAS/207-208 (2 tapes, \$16.00)
- Normative Analysis. #83AAAS/61-64 (4 tapes, \$32.00)
- Plant Closures: Corporate Disinvestment and Economic Succession. #83AAAS/149-150 (2 tapes, \$16.00)
- Social, Political, and Economic Responses to Advances in Manufacturing Technology. #83AAAS/41-42 (2 tapes, \$16.00)

Energy Alternatives

- A Current Assessment of Key Issues in the Nuclear Power Option. #83AAAS/19-20 (2 tapes, \$16.00)
- Energy: The Human Dimension. #83AAAS/95-96 (2 tapes, \$16.00)
- Limits to Solar and Biomass Energy Growth. #83AAAS/47-48 (2 tapes, \$16.00)
- The New Promise of Coal. #83AAAS/129-130 (2 tapes, \$16.00)
- When the Oil Runs Out, How Long Do We Have? #83AAAS/169-170 (2 tapes, \$16.00)

Engineering and Technology

- Artificial Intelligence: Its Science and Application. #83AAAS/113-115 (3 tapes, \$24.00)
- Computer-Aided Design of Dynamic Systems. #83AAAS/159-161 (3 tapes, \$24.00)
- Emerging Technology for the Disabled. #83AAAS/181-182 (2 tapes, \$16.00)
- How Far Miniaturization? #83AAAS/79-80 (2 tapes, \$16.00)
- The Science of the Automobile. #83AAAS/199-200 (2 tapes, \$16.00)

General Interest

- Alternative Energy for Transportation. #83AAAS/191-192 (2 tapes, \$16.00)
- Automation, the Economy, and Jobs. #83AAAS/13 (1 tape, \$8.00)
- Frontiers of the Natural Sciences. #83AAAS/59-60C (4 tapes, \$32.00)
- Frontiers in the Social Sciences: What Does Sustainable Development Mean? #83AAAS/45-46 (2 tapes, \$16.00)
- Global 2000 Revised. #83AAAS/137-140 (4 tapes, \$32.00)

Health Care and Public Health

- Adolescent Despair, Suicide, and Violent Death. #83AAAS/197-198 (2 tapes, \$16.00)
- Analysis and Use of Survival Data in the Biomedical Sciences. #83AAAS/179-180 (2 tapes, \$16.00)
- Changing Patterns of Diseases. #83AAAS/31-32 (2 tapes, \$16.00)

History, Philosophy, and Ethics

- Expert Claims and Social Decisions: Issues for Professional Ethics and Accountability. #83AAAS/37-38 (2 tapes, \$16.00)
- Fraud and Dishonesty in Science. #83AAAS/131-132 (2 tapes, \$16.00)
- How Much Science Is Secret? #83AAAS/85-86 (2 tapes, \$16.00)
- Understanding the Process of Transformation of Knowledge. #83AAAS/177-178 (2 tapes, \$16.00)

Information and Communication

- Multidimensional World Impact of Advancing Information Technologies. #83AAAS/121-124 (4 tapes, \$32.00)
- Science and Music: Recording, New Instruments. #83AAAS/43-44 (2 tapes, \$16.00)
- Television and Science: Is TV the Medium for the Message? #83AAAS/107-108 (2 tapes, \$16.00)

Mathematical and Physical Biology

- Issues Arising from the Expansion of Genetic Screening and Genetic Engineering Technology. #83AAAS/133-134 (2 tapes, \$16.00)
- Radiation Risk: Assessment and Applications. #83AAAS/173-176 (4 tapes, \$32.00)
- The Revolution in the Analysis of Scientific Data: Concomitant of the Computer Revolution. #83AAAS/51-54 (4 tapes, \$32.00)

Medical Sciences

- Alzheimer's Disease and Dementia: Neurobiology and Public Policy. #83AAAS/219-220 (2 tapes, \$16.00)
- Clues to the Etiology of Human Cancer from Studies in China. #83AAAS/125-128 (4 tapes, \$32.00)
- Efficacy of Psychotherapy. #83AAAS/215-216 (2 tapes, \$16.00)
- Nutrition in Health and Diseased States. #83AAAS/167-168 (2 tapes, \$16.00)
- Prenatal Diagnosis and the Fate of the Handicapped Fetus and Newborn: Medical, Ethical, and Legal Perspectives. #83AAAS/23-24 (2 tapes, \$16.00)
- Sodium, Potassium and Essential Hypertension. #83AAAS/187-188 (2 tapes, \$16.00)

Physical Sciences

- Chemistry Is Fun! #83AAAS/29-30 (2 tapes, \$16.00)
- Fractal Geometry in Nature, Science, and Art. #83AAAS/165-166 (2 tapes, \$16.00)
- Large-Scale Structure in the Universe. #83AAAS/155-156 (2 tapes, \$16.00)
- Science for the Naked Eye; Or, The Physics of Everyday Experience. #83AAAS/81-84 (4 tapes, \$32.00)
- Searching for Our Analogs in the Universe. #83AAAS/217-218 (2 tapes, \$16.00)
- Status and Prospects in High-Energy Physics. #83AAAS/189-190 (2 tapes, \$16.00)

Regulatory Biology

- Basic and Clinical Aspects of the Gonadotropin Releasing Hormone and Its Analogs. #83AAAS/185-186 (2 tapes, \$16.00)
- Changing Perspectives on Menopause. #83AAAS/227-228 (2 tapes, \$16.00)
- Hormones and Bone Biology: Current Concepts in Pathogenesis and Prevention of Osteoporosis. #83AAAS/171-172 (2 tapes, \$16.00)
- Neuronal Functions of Peptides. #83AAAS/21-22 (2 tapes, \$16.00)

- Progress in Corticosteroid Research. #83AAAS/205-206 (2 tapes, \$16.00)

Science Education

- Case Histories in Industry-Assisted Graduate Science Education. #83AAAS/153-154 (2 tapes, \$16.00)
- Case Histories in Industry-Assisted Secondary School Science Education. #83AAAS/105-106 (2 tapes, \$16.00)
- Case Histories in Industry-Assisted Undergraduate Science Education. #83AAAS/143-144 (2 tapes, \$16.00)
- Computers and Mathematics Learning. #83AAAS/223-224 (2 tapes, \$16.00)
- The Crises in Science and Mathematics Education: Perspectives from the National, State, and Local Levels. #83AAAS/87-88 (2 tapes, \$16.00)

Science and Technology Policy

- Federal R&D, FY 1984: Budgets, Policies, Outlooks. #83AAAS/65-67 (3 tapes, \$24.00)

Sociology and Anthropology

- New Windows on the Development of Language in People Who Cannot Speak. #83AAAS/77-78 (2 tapes, \$16.00)
- Science, Art, and Archeology. #83AAAS/151-152 (2 tapes, \$16.00)
- The Function and Management of Aggression and Cooperation in Biocultural Evolution. #83AAAS/201-202 (2 tapes, \$16.00)
- Tools for Dealing with Drinking and Driving Problems. #83AAAS/225-226 (2 tapes, \$16.00)

Mail orders to:

Mobiltape Company, Inc.
1741 Gardena Avenue
Glendale, CA 91204

For credit card purchases only, call toll free: 800-423-2050
Please do not order tapes directly from AAAS. Doing so will delay shipment of your order.



American Association for the
Advancement of Science