Go Ahead and Make Your Day With a J6 Centrifuge

People who move ahead to a Beckman J6 Series Centrifuge say their workday is a lot easier because these 6000-rpm refrigerated floor models are so easy to use, so convenient, so reliable!

**Ingenuity**

With the J6 Series, you get the innovative sample handling advances Beckman has introduced to large-capacity centrifugation—stackable Multi-Disc™ adapters that hold every popular centrifuge tube and bottle; Aeroseal™ covers for protection from hazardous aerosols; a time-saving tube retaining/decanting device; microplate carriers that are interchangeable with J6 rotor buckets so you don’t have to use a second rotor.

**Advanced Rotors**

Whether speed or capacity is your requirement, you can optimize your system with one of six swinging bucket rotors. There also are two unique elutriator rotors for counterflow centrifugation (see inset), and a patented, high-capacity rotor for RIA racks.

**Three Choice Models**

Choose from three models that are years ahead of the competition—the popular J-6B with indirect drive that optimizes torque and simplifies maintenance; the J-6M/E with microprocessor control for programmability and speed control of ±10 rpm; the J-6M with brushless induction drive for acceleration and deceleration times that never vary regardless of rotor load or drive age.

**GO AHEAD—with a J6 Series Centrifuge!** For more information, call toll-free (800) 742-2345 or write Beckman Instruments, Inc., Spinco Division, 1050 Page Mill Road, Palo Alto, CA 94304. Offices worldwide.
Discover the Power of the ACAS™ 470

Controlled Laser Illumination
with the ACAS 470 (Anchored Cell Analysis and Sorting) brings new light to discovery in cell biology. Focus the laser beam where you want it for:
- fluorescence excitation
- photobleaching
- photoactivation
- cell surgery
- cell ablation
without disturbing the extracellular environment and attachment of cells.

Computer-Controlled Stage Movement
allows precise and automatic targeting of the laser beam. Stage speed provides for rapid sorting of cell monolayers in culture. Stage coordinates can be used for repositioning with the high accuracy necessary for automated sequential cell analysis.

By integrating computer-controlled laser illumination and stage movement, the ACAS 470 lets you explore new frontiers in cell research. Now you can automatically isolate:
- subpopulations of cells
- mutant cells
- transfected cells
for propagation or analysis.

Now you can use fluorescence to quantitatively measure:
- orientation and localization of cellular components
- cell-cell interactions
- fluorescence redistribution after photobleaching (FRAP)
- cell subpopulations
and much more.

Convenient Software
that is easy to learn and to use is the heart of the ACAS 470. Experimental parameters are set, data are accessed and the stage is controlled through an alphanumeric keyboard or hand-held mouse. The CRT screen displays collected data, results, menus and prompts for greater user interaction.

Are you considering instrumentation for CELL SORTING?
FLUORESCENCE ANALYSIS?
TALK WITH US! Only the ACAS 470 brings the methods of cell sorting and analysis to cells in culture. Call collect, (517) 349-7200, for more information.

By integrating computer-controlled laser illumination and stage movement, the ACAS 470 lets you explore new frontiers in cell research. Now you can automatically isolate:
- subpopulations of cells
- mutant cells
- transfected cells
for propagation or analysis.

Cell Sorting of anchorage-dependent cells is now possible with the ACAS 470. Selective sorting is achieved by destroying unwanted cells via the laser beam, or by physical separation through a unique cookie-cutter selection method. In this way, homogeneous cell progeny can be obtained from a heterogeneous cell population.

Quantitative Fluorescence Analysis
is optimized with the ACAS 470. Cells are imaged for convenient manual or automated interaction. For fluorescence analysis, the ACAS 470 sequentially exposes only small areas of a cell to brief laser pulses. The resulting fluorescence represents emitted light from targeted fluorescent molecules, giving three-dimensional information.

Analyze fluorescent images

For cells in culture

Meridian Instruments, Inc.
2310 Science Parkway
Okemos, Michigan 48864

© 1986, Meridian Instruments, Inc.

Circle No. 39 on Readers’ Service Card
A new, multi-method system for the derivatization and analysis of biological compounds

The 420A System is the first multi-functional, fully automated microanalyzer to eliminate sample contamination, degradation and loss associated with manual techniques. Thus, it delivers the highest sample-to-sample reproducibility, sensitivity and accuracy for the analysis of PTC amino acids and other derivatized biological compounds.

The System has three integrated components: the Model 420A Derivatizer, the Model 120A Analyzer and the Model 900A Data Module. Together they execute every step of a protocol to provide unattended operation from sample preparation and derivatization, through chromatographic analysis, data integration and reporting. The result is a system with the flexibility to implement differing chemistry and separation protocols for optimized microanalyses.

Analysis of PTC amino acids from hydrolyzed proteins or peptides is the first of a growing library of applications-specific packages. The 420A System performs amino acid analysis with the precision and accuracy of dedicated instruments and delivers sensitivities comparable to current microsequencing techniques.

With the 420A System, samples are immobilized on a porous, glass fiber support. Temperature, chemical and other conditions are precisely controlled in an inert environment. The prepared sample is automatically transferred to the online analyzer; resulting data is integrated, reported and stored.

For more information, contact your local Applied Biosystems representative, one of the offices listed below, or indicate reader service number 402.
Imagine what you could do if your computer could see.

Eikonix® high performance digital imaging cameras give your computer the ability to see. Which in turn gives you the ability to improve the quality of your research, and open new markets.

Easy-to-use Eikonix cameras are compatible with IEEE 488, DEC Q-Bus, Unibus, Multibus and VME bus based systems as well as IBM® PCs. They’re the most flexible, cost-effective, reliable, and accurate means available for getting high resolution image data into a computer for analysis, manipulation, display and storage. And they’re backed by a team of specialists that provides all the technical support you need for whatever applications you have – worldwide.


If you’d like us to focus on your particular application, please call us at (617) 275-5070. If you’d like some literature, simply write to us at Eikonix Corporation, 23 Crosby Drive, Bedford, MA 01730, Telex: 951231.
Leitz® Precision Instruments for the Laboratory... designed for long lasting performance

Precision, convenience, ease of operation, reliability, and quality optics are hallmark features of Leitz laboratory instruments.

Microscopes: Two outstanding models are offered at reasonable cost—the Laborlux® K and Laborlux D Laboratory Microscopes. They offer superior optical performance for brightfield, darkfield, phase contrast or fluorescence microscopy.

Microtomes: Innovative, ergonomically designed precision sectioning instruments for every histology laboratory, adjustable in 1 micron increments from 1 to 25 microns. Available in manual or motorized models.

Cryostat: An ideal instrument for sectioning frozen or fixed specimens in pathology, histochemistry, autoradiography and fluorescence microscopy. Independent specimen temperature control and digital readout of chamber, knife and specimen temperatures ensure consistent high quality frozen sections.

To stay one step beyond the field in clinical laboratory investigation... stay in touch with E. Leitz, Inc., Rockleigh, NJ 07647. (201) 767-1100.
The Right Choice

Revco's new and complete line of:

Low Profile Ultra-low Temperature Freezers
Chromatography Refrigerators
Blood Bank Equipment
General Lab Refrigerators and Freezers

Fully-featured with reliable, field proven refrigeration systems that maintain temperatures as low as -120°C, advanced electronic instrumentation and full 13-month warranty on parts and labor.

Write or call today for your free catalog. This time choose REVCO, "The Right Choice."

REVCO
Rheem Manufacturing Company
Scientific Products Division
Aiken Rd., Rt. 1, Box 275 • Asheville, N.C. 28804
Toll-free 1-800-252-7100 • Telex 57-7449
N.C. (704)658-2711
Try it yourself. Take any half-dozen well-informed staff members and say knowingly, “Of course, you've heard about these new QVECs.” You'll be treated to at least five different versions of precisely what QVECs are not.

What no one will admit to—especially at the Dean's annual reception—is that they have no idea whether QVECs are a cream-filled French pastry or the focus of the latest microchip research.

A pity. Because for many of your people, TIAA-CREF's QVECs (short for Qualified Voluntary Employee Contributions) represent an intelligent, convenient and highly competitive tax-deferred alternative to an IRA.

In fact, if any members of your staff are considering buying IRAs, your institution should be offering them TIAA-CREF QVECs—for these important reasons.

☐ QVECs provide a lifetime income, unlike most IRAs.
☐ QVECs currently offer attractive rates of return.
☐ QVECs offer the investment choice between two funds—TIAA and CREF.
☐ QVECs are portable—when staff move to another institution that offers QVECs, their QVECs can go right along.

So sooner or later you can expect to be interrogated on the subject of QVECs by the head of business studies or the rising star of the history department. And you'll want to have the facts at your command.

We can provide them. For a full briefing, simply return the form below or write us at QVECs, TIAA-CREF, 730 Third Avenue, New York, New York 10017. Then, when the subject comes up, as it's sure to do, you'll be ready to set the record straight.

QVECs. The educated alternative to an IRA.

Teachers Insurance and Annuity Association
College Retirement Equities Fund
730 Third Avenue
New York, New York 10017

Y es. Please send free all I need to become an instant expert on QVECs, so I can pass the word on to my staff members.

Name _____________________________
Title _____________________________
Institution _________________________
Address ___________________________
City _____________________________ State ______ Zip ______
WE REGRET TO INFORM YOU THAT DUE TO CUTBACKS IN FUNDING...

Bad news is brewing in Washington for scientists these days. That’s because the federal government is looking every which way to cut the budget. We’re working to keep science dollars in the budget.

The National Coalition for Science and Technology is scientists working together on key issues.

Keeping money available for scientists is our primary goal. NCST members help support activities such as these:

- We’re working to protect science dollars in the current federal budget for R&D and education.
- We’re working to extend the R&D tax credit for gifts to universities.
- We successfully lobbied for rational animal care legislation that would not stifle research.
- We’re working with members of Congress on legislation that will help universities revitalize laboratories and classrooms.

Why NCST deserves your support.

Institutions like NSF, NIH, NAS and many professional societies are prohibited by their own charters from lobbying. That’s one reason former Senator and NCST board member Paul Tsongas once said of the scientific community, “In this highly political town, your clout barely registers a blip on the screen.” NCST is turning that around. And today, more than ever, we need an informed voice speaking up for scientists. NCST scientists talk directly to members of Congress. We’re telling them just how vital scientific research is and why it needs to be funded.

Now is the time to join.

For the cost of a dozen test tubes you can be a member of NCST. Please remember, NCST is working in Washington to keep scientists working in their labs.

Yes, I want to help NCST speak up for scientists. My one-year $35 membership is enclosed.

name ____________________________
address ____________________________
city ______ state ______ zip ________

THE NATIONAL COALITION FOR SCIENCE AND TECHNOLOGY
2000 P St. NW, Suite 305, Washington, DC 20036
Hotline: (202) 833-2326

Circle No. 138 on Readers’ Service Card

ARE YOU RESPONSIBLE FOR A LABORATORY COURSE IN BIOLOGY?

We provide all of the chemicals, electrophoresis equipment, accessories and laboratory manuals needed for your students to perform state-of-the-art experiments such as:

- Restriction Nuclease Mapping of Bacteriophage Lambda DNA.
- Amplification of a Prokaryotic Gene in Bacteria.
- Evolution of Serum Proteins as revealed by the Western Blot Procedure.
- And many more.

For free brochure contact:

BIOSTAR CORPORATION
P.O. Box 5756
Lafayette, IN 47903
Phone: 317-448-6832

Circle No. 147 on Readers’ Service Card

NEW AAAS PUBLICATION

Scientists and Human Rights

Present and Future Directions

Proceedings from a 1984 AAAS Annual Meeting Workshop

The second workshop report of the AAAS Clearinghouse on Science and Human Rights, a project of the AAAS Committee on Scientific Freedom and Responsibility, examines the activities of scientific societies in the human rights field. Workshop speakers also review mechanisms available within international intergovernmental organizations to address human rights violations of scientific and medical professionals.

Prepared by Kathie McCleskey, Senior Program Associate, AAAS Clearinghouse on Science and Human Rights.

$3.00, paperbound, 70 pp.

Order from AAAS Sales Department, 1333 H St, NW, Washington, DC 20005. Please add $1.50 postage and handling per order. Make checks payable to AAAS.

Circle No. 138 on Readers’ Service Card

MIT
Specialized Center of Research in Genetic Toxicology (National Institute of Environmental Health Sciences)

This newly established group seeks applications from qualified individuals at the postdoctoral and post-doctoral level.

Department of Applied Biological Sciences (MIT)
- J.M. Essigmann—mammalian cell mutagenesis
- R. Fitts—genetic control systems
- W.G. Thilly—human cell "repair" mutants

Department of Biology (MIT)
- A. Varshavsky—ubiquitin in cellular stress responses
- G. Walker—bacterial DNA repair genes

School of Public Health (Harvard)
- L. Samson—human cell alkylation repair

Department of Biochemistry and Molecular Biology (Harvard)
- B. Demple—repair of oxidative DNA damage in yeast

Please address enquiries and applications to:
William G. Thilly, Director
Room E19-666, M.L.T.
Cambridge, Massachusetts 02139, USA
Tel. (617) 253-6221

MIT and Harvard University are Equal Opportunity employers.
SCIENCE, ARMS CONTROL, AND NATIONAL SECURITY FELLOWSHIPS

AAAS Invites Applications

The American Association for the Advancement of Science invites applications for two Science, Arms Control, and National Security Fellowships. Fellows will select a term of either 8 months or 1 year to begin on January 1, 1987.

The Fellowship program will provide a unique opportunity for outstanding postdoctoral to mid-career scientists and engineers to participate directly in the policy-making process in the area of arms control and national security. Fellows will work in appropriate executive branch agencies of the federal government, congressional committees or support agencies, or nonprofit institutions in Washington, DC.

The AAAS will guide the placement process, provide an informative orientation program, and coordinate frequent seminars on a variety of topics related to arms control and national security.

The 1987 Science, Arms Control, and National Security Fellows will receive a stipend of up to $30,000 ($20,000 for an 8 month term) and a nominal relocation and travel allowance. Applications are invited from candidates in any area of the physical, biological, or behavioral sciences; science-related professions; or engineering. Minority and handicapped candidates are especially encouraged to apply.

For application requirements and additional information, contact:

Dr. W. Thomas Wander, Senior Program Associate
Science, Arms Control, and National Security Fellowships
American Association for the Advancement of Science
1333 H Street, NW, Washington, DC 20005


New from S&S - for "western" blot immunoa-reacts: #1

Accutran™ disposable incubation trays

- For use in "western" blot assays (e.g. HTLV-III testing)
- Non-protein binding surface
- 300 µl minimum sample volume
- Standard microtiteration format
- Accommodates 3-5 mm width strips

The Accutran disposable tray is an invaluable tool for protein immunotransfer testing and other assays based on the "western" blot technique. Its unique design makes it ideal for testing individual strips of nitrocellulose, and eliminates the risk of cross-contamination. Incubation, washing and developing can be performed without removing the test strip from the channel, reducing the exposure of lab personnel to samples and reagents. The Accutran Aspirator-8 accessory can be used to remove serum, wash solutions and other reagents from the tray without interfering with the test strips. Call or send for more information.

Schleicher & Schuell
Keene, New Hampshire 03431
(800) 245-4024 • (603) 352-3810

Circle No. 91 on Readers' Service Card

MINIFOLD® I Incubation Plate

Now...dot-blot filtration and incubation with one unit

- Permits extended incubation periods
- No cross-lateral flow
- Precise, uniform spotting
- Screening of all dot-blot type assays
- Can be used with a variety of transfer media
- Compatible with isotopic/nonisotopic detection techniques

Now researchers can use the Minifold I filtration manifold for all membrane-based dot-blot assays requiring both filtration and incubation steps. The S&S incubation plate features O-ring construction which prevents cross-lateral flow — plus the standard 96-well format that permits a variety of dilutions or test conditions to be assayed on a single membrane. The incubation plate is available as an accessory for current Minifold I users or can be ordered as part of the Minifold I unit. Call or send for more information.

Schleicher & Schuell
Keene, New Hampshire 03431
(800) 245-4024 • (603) 352-3810

Circle No. 88 on Readers' Service Card
Announcing a new book from AAAS

AIDS

Papers from Science, 1982–1985

Edited by
Ruth Kulstad, Science

Some of the most frequently cited papers on acquired immune deficiency syndrome (AIDS) that appeared in Science between August 1982 and September 1985 are included in this volume. Arranged chronologically, these 108 research papers and Science news reports show how far AIDS research has come and provide an indication of the directions in which it might go.

This fully indexed collection is useful not only for the experimental data and conclusions, but also as an excellent source of references to AIDS work in other major journals worldwide. An overview of research in AIDS to date is provided in the introduction by Dr. Myron Essex, chairman of the Department of Cancer Biology, Harvard University School of Public Health.

ca. 640pp.; fully indexed and illustrated
Hardcover $32.95, AAAS member price $26.35
Softcover $19.95, AAAS member price $15.95

Order from AAAS Marketing, Dept. A, 1333 H St., NW, Washington, DC 20005. Add $1.50 postage and handling per order. Allow 4–6 weeks for delivery.
Scientists and Journalists

Reporting Science as News

Edited by Sharon M. Friedman, Sharon Dunwoody, and Carol L. Rogers

This new book in the AAAS Issues in Science and Technology Series examines the human aspect of the links between scientists and journalists through the eyes of both. Scientists and Journalists is an indispensable reference for scientists, reporters, students, and anyone interested in science communication.

Hardcover; 352pp.; $24.95, $19.95 for AAAS members
Order directly from Macmillan, Inc., 866 Third Avenue, New York, NY 10022. Include your member number from Science label. Add $1.50 postage and handling per book.

SPACE BUFFS WANTED

Science Books & Films, the AAAS review journal, needs scientists and educators to review new books and films on space exploration, planetology, astronomy, astrophysics, and all aspects of space technology.

Throughout 1986–87, SB&F will be focusing its critique on trade books and films on space science topics for children, young adults, undergraduates, and general audiences.

Please contact the SB&F Editorial Office, AAAS, 1333 H St., NW, Washington, D.C. 20005. Telephone: (202) 326-6463.
This meeting will focus mainly on interleukins, interferons, and cytotoxic cytokines, highlighting their potential importance in human disease. This meeting is timely because many of these agents are available in pure form as a result of advances in conventional protein purifications and molecular biologic techniques. An attempt will be made to integrate studies of the mechanism of actions of these agents and their application in the treatment of disease.

The symposium will take place Monday and Tuesday from 8:30 am – 6:00 pm and Wednesday until 12 noon. Discussion groups based on poster sessions will be held Monday and Tuesday evenings. Table top exhibits will also be presented.

CO-CHAIRMEN

Stanley Cohen, Professor of Pathology, University of Connecticut Health Center, Farmington
Jan T. Vilcek, Professor of Microbiology, New York University Medical Center, New York

TENTATIVE PROGRAM

SUNDAY EVENING, AUGUST 10

KEYNOTE ADDRESS: MECHANISMS OF CELL PROLIFERATION

Speaker: Renato Baserga

MONDAY, AUGUST 11

TUMOR NECROSIS FACTOR AND OTHER CYTOTOXIC MEDIATORS
Chairman: P. Henkart
Comparison of TNF and Lymphotoxin: B.B. Aggarwal
Cachetin: B. Beutler
Interplay of TNS, IL 1, and Interferons in Monocytes Cytotoxicity:
Lois B. Epstein, M.D.
Soluble Factors in Cell-Mediated Cytotoxicity: P. Henkart
Regulation of Hematopoietic Cells by Cytokinos: G. Trinchieri

INTERFERONS AS REGULATORY AGENTS
Chairman: M. Revel
Regulation of Interferon Gene Expression: John D. Stobo, M.D.,
John Hopkins University
Beta Interferon: M. Revel
Growth Factors as Interferon Inducers: J. Vilcek
Interferon Receptors: S. Pestka
Regulations of Oncogenes Expression by Interferons:
R.M. Friedman

TUESDAY, AUGUST 12

INTERLEUKIN 2 AND OTHER GROWTH FACTORS
Chairman: T.A. Waldmann
The Nature of IL 2 Receptor: T.A. Waldmann
IL 2 Ligand-Receptor Interactions: K.A. Smith
Intracellular Transduction Pathways in IL 2 Stimulation: S. Cohen
Protein Kinase C in IL 2 Action: W.L. Farrar
B Cell Growth Factor: A.L. Maizel

INTERLEUKIN 1, COLONY STIMULATING FACTORS
Chairman: C.A. Dinarello
Structural Studies of IL 1: C.A. Dinarello
The Role of IL 1 in the Central Nervous System:
L.B. Lachman
IL 1 and Rheumatoid Arthritis: E. Amento
Biologic Effects of Colony Stimulating Factors: M. Moore

WEDNESDAY MORNING, AUGUST 13

POTENTIAL CLINICAL APPLICATIONS
Chairman: C.F. Nathan
LAK and IL 2 in Cancer Therapy: M.T. Lotze
Adoptive Transfer of Interferon-Activated Macrophages:
H.C. Stevenson

CONCLUDING REMARKS: S. Cohen, J. Vilcek

REGISTRATION FORM

$350 – Pre-Registration Fee (Received by July 1, 1986)
$400 – On-Site Fee
$175 – Student fee, undergraduates & graduates only (status must be confirmed in writing)
Attendance will be limited. Make checks payable to: Scherago Assoc., Inc., L & C Congress

Please reserve ______ space(s): Registration Fee must be included. □ Request Poster Session Abstract Form
Cancellations must be received in writing by July 1, 1986.

Name ____________________________
Dept. ____________________________
Organization ______________________
Street ____________________________
City _____________________________ State ______ Zip ______
Telephone: ( ______ ) ______

Return to: CONGRESS ON RESEARCH IN LYMPHOKINES AND CYTOKINES
c/o Scherago Associates, Inc.
1515 Broadway, New York, NY 10036 • (212) 730-1050

Circle No. 124 on Readers' Service Card