Big News for the TL-100 Benchtop Ultracentrifuge

The Beckman TL-100 Ultracentrifuge—with a choice of fixed angle, swinging bucket and vertical tube rotors—has become the preferred way to separate small sample volumes, typically taking only one-fifth the time required by floor-model ultracentrifuges.

Now a new rotor, the TLA-100.3, brings even more capabilities to benchtop ultracentrifugation:

**Larger Capacity**

The rotor spins six open-top tubes that hold 3 mL each, triple the volume of any other TL-100 open-top tube. The fixed angle rotor also can run six 3.5-mL Quick-Seal® tubes for a maximum capacity of 21 mL.

**Higher Performance**

At a top speed of 100,000 rpm, the TLA-100.3 generates forces of 541,000 g (vs. a previous high of 436,000 g) and has a k factor of 16.5 for fast, efficient runs.

**Microcentrifuge Tubes**

With adapters, the new rotor also can spin 1.5-mL conical-bottom microcentrifuge tubes at speeds to 50,000 rpm—ideal for pelleting subcellular fractions and DNA or protein precipitates. You’ll find the 30°-angle titanium rotor useful for plasmid preps, protein binding studies and mRNA studies too.

Big NEWS! For the complete story on the TL-100 benchtop ultracentrifuge, its rotors, tubes, accessories and applications, write Beckman Instruments, Inc., Spinco Division, 1050 Page Mill Road, Palo Alto, CA 94304. Offices worldwide.
Free with every full analysis from Cambridge...

...a bR grade peptide.

The new range of 'biological reagent', (bR grade) peptides from Cambridge Research Biochemicals guarantees you a truly defined product for consistent, accurate results.

Setting the standard in peptide specification, each bR grade reagent is supplied by net peptide weight as determined by amino-acid analysis and enables standard solutions to be made directly from each vial.

Each product comes complete with a full analysis including amino-acid composition, high resolution HPLC and FAB mass spectrometry data confirming molecular weight, together with detailed storage and handling information.

Send now for your free copy of the new 'Cambridge bR Grade Peptides and Antibodies' catalogue which gives full details on over 100 products and custom synthesis services, and discover how bR grade peptides pass with honours at Cambridge.
The repeater.

Eppendorf Repeater™ Pipette

Reliable, repetitive pipetting. With the Eppendorf Repeater® Pipette, dispensing up to 48 samples without a refill is a snap. Just set the selection dial for the volume you need and your choice is locked in place to prevent errors. That means the last sample will be as accurate and precise as the first. And the unique Combitip™ polypropylene/polyethylene reservoir eliminates cleaning, contamination, and carryover because it's disposable.

1-second delivery. The Repeater makes serial pipetting procedures faster than ever before. Simply press the lever to deliver your samples at 1-second intervals. The volume range is wide enough to accommodate almost any procedure. With six Combitip sizes and five dial settings, you choose from 22 different volumes between 10 μL and 5 mL.

A wide variety of applications. The Repeater can handle any liquid easily. Even difficult or hazardous liquids aren't a problem, since the liquid contacts only the Combitip—not the instrument itself. The Combitip is available in nonsterile or sterile packaging for microbiologic and tissue culture techniques. And it can be refilled and reused as long as the same liquid is being pipetted.

For literature on the Repeater or other Eppendorf pipettes, write: Brinkmann Instruments Co., Division of Sybron Corporation, Cantiague Road, Westbury, NY 11590, or call 800-645-3050; in New York, 516-334-7500. In Canada: 50 Galaxy Blvd., Rexdale, Ont. M9W 4Y5, or call 416-675-7911.

For literature circle reader service number 51
For a demonstration circle reader service number 52
How to take command of your UV-Vis Assays

1. RECALL METHOD
2. START

If your analytical work involves the determination of:
- purity of samples
- perturbation and dilution effects
- concentration of single or multicomponents
- decomposition studies
- comparison with reference materials or other assays requiring advanced scanning capabilities, take command with the Varian DMS 200 UV-Vis Spectrophotometer. Combine its advanced calculator functions with its powerful COMMAND function and automate spectral data calculations. Calculated results are printed online, along with selected spectral data.

IBM PC/XT software enhances DMS 200 capabilities by extending method storage, storing spectral data and allowing application of user-developed spectral manipulations.

Call 800-231-5772 (in Canada 416-457-4130) for more information on the DMS 200, one of Varian’s family of high-performing UV-Vis-NIR spectrophotometers.

IBM and PC/XT are trademarks of International Business Machines Corporation

DETERMINATION OF TWO COMPONENTS IN A MIXTURE

YELLOW DYE CONCENTRATION 0.843
RED DYE CONCENTRATION 0.591

VER Y INTELLIGENT SOLUTIONS FOR YOU
Introducing the New VANOX.
A breakthrough in research capability.

The quality of any research microscope relies on the interrelationship of optical performance, computer intelligence and mechanical capability. For more than six decades, Olympus has dedicated itself to development of a unique fusion of these distinct disciplines.

Nowhere is this achievement better exemplified than in the all-new Vanox Research Microscope System. An innovative concept that builds into the System's models a broad range of skills and versatility traditionally requiring attachments, accessories and add-ons to limited-capability microscopes...all make the new Vanox the most significant contribution to research microscopes in over a decade.

Some of the built-in innovations include three photographic ports for cine, 35mm or large format cameras, auto-exposure with spot or integrated measurements, light balancing filters, choice of condensers and illuminators, including Koehler, and so much more that only a hands-on experience can attempt to show the breakthrough quality of the new Vanox models. Arrange a demonstration now by contacting Olympus Corporation, Precision Instrument Division, 4 Nevada Drive, Lake Success, NY 11042-1179. Phone toll-free 1 (800) 446-5967.

NEW VANOX
The care to meet to know, to understand.

Ares-Serono Symposia is an independent foundation, created in 1971, to promote scientific research in all disciplines which contribute towards improving human health. This aim is pursued by means of congresses, courses, seminars and specialized studies.

Some of the international meetings scheduled for 1987 are:

- Herpes and Papilloma Viruses
  Milan, Italy / March 26-27
  Scientific Organization: F. De Palo (I), F. Rilke (I) and H. Zur Hausen (D)

- IV Pan American Congress of Andrology
  São Paulo, Brazil / May 4-6
  Scientific Organization: A. Negro-Vilar (USA) and M. P. De Castro (BZ)

- Inhibin - Non-Steroidal Regulation of Follicle Stimulating Hormone Secretion
  Tokyo, Japan / May 21-22
  Scientific Organization: H. Burger (Aus) and M. Igarashi (J)

- Development and Function of the Reproductive Organs
  Turku, Finland / June 10-12
  Scientific Organization: M. Parvinen (SF)

- IV Colloquium of the European Pineal Study Group
  Modena, Italy / August 31 - September 4
  Scientific Organization: G.P. Trentini (I), A. Oksche (D) and P. Pevet (F)

- Cell-to-Cell Communication in Endocrinology
  Florence, Italy / October 8-9
  Scientific Organization: L. Martini (I), M. Sero (I) and C.W. Bardin (USA)

- Differentiation Therapy for Cancer
  Tucker's Town, Bermuda / October 23-25
  Scientific Organization: G.B. Rossi (I), F. Takaku (J) and S. Waxman (USA)

Do you know all the advantages that the Ares-Serono Symposia Congress Card offers? Please fill in this form and mail it to Ares-Serono Symposia for information.
This remarkable graphical train schedule, drawn in 1881 by the French scientist E. J. Marey, shows the trains running between Paris and Lyon, with intermediate stops. For example, the first train of the day leaves Paris at 6:30 am (upper left corner) and arrives in Lyon 13 hours later. (The modern high-speed train now makes the journey in 3 hours.) The diagonals moving from upper left to lower right show all trains going from Paris down to Lyon.

Trains going from Lyon to Paris are indicated by diagonals running from the lower left to the upper right. Steeper lines indicate faster trains. When a train stops at a station, the line is horizontal during the time of the stop. When two trains pass one another, the lines on the graphical train schedule cross. Graphical schedules are currently used in Japan for managing the day-to-day operations of the Shinkansen (the bullet train) and by New Jersey Transit.

The Visual Display of Quantitative Information

EDWARD R. TUFTE

'A beautiful, brilliant book.' MATHEMATICAL MONTHLY

'Original, beautifully presented, sharp and learned, this book is a work of art. The art here is a cognitive art, the graphic display of relations and empirical data.' SCIENTIFIC AMERICAN

'A truly splendid volume...so much care in its writing, illustration, typography, and production. It is among the best books you will ever see.' DATAMATION

'This beautifully produced book is a lucid labor of love and a quietly passionate plea for the good and ethical design of information.... The overall intention and power of the book is stunning. A classic, as beautiful physically as it is intellectually.' OPTICAL ENGINEERING

'A visual Strunk and White.' BOSTON GLOBE

'A brilliant book, advocating heresy on almost every page.... Even more than a landmark book... a declaration of independence from the dual tyrannies of production and design.' CARTOGRAPHICA

'An unusual and fascinating book...compulsory reading. A devastating critique of many standard graphical techniques, but a constructive one that suggests many ingenious and effective alternatives.' NATURE

250 illustrations, including many of the most sophisticated and beautiful graphics, maps, and charts ever drawn. Color, clothbound, exquisitely printed. Moneyback guarantee. $34 (£24) postpaid. Two or more copies, $27 (£21) postpaid.

Graphics Press  Box 430  Cheshire, Connecticut  06410  USA
Graphics Press UK  P.O. Box 8  Godalming  Surrey  GU7 3HB  UK
The First Disposable Benchtop Airlift Bioreactor for Cell Culture Applications

NOW AVAILABLE FOR IMMEDIATE DELIVERY

The Ventrex Sterile Cellift™ Bioreactor uses the latest airlift fermentation technology for a variety of cell culture applications. The disposable benchtop unit is presterilized and easy to set up and use in either a batch culture or continuous feed mode. Its 650mL working volume lets you begin cost-effective production immediately. Then expand by adding additional units — all with very minimal investment.

Cellift is now in stock and available for immediate delivery from Fisher Scientific. There is also a complete line of complementary tissue culture reagents and accessories as well as many other innovative products for biotechnology applications . . . all backed by the Fisher Biotechnology Group tradition of quality, service and support.

For literature on the Cellift bioreactor or any of our other biotechnology products, please use the reply card; write to us at 711 Forbes Avenue, Pittsburgh, PA 15219; or call (412) 562-8543.
One step beyond...

Experience new dimensions in biomedical research through the oculars of the Leitz® Diaplan and Orthoplan® 2 research microscopes. Designed to meet the recommendations of leading research microscopists around the world, these new microscopes feature:

- Large, high stability stand for rock solid support.
- Built-in-the-stand aperture and field diaphragms for true Koehler illumination down to 1.6x objectives.
- Newly designed flatfield and widefield objectives for unsurpassed brilliance, contrast and absolute neutral color rendition.
- Modular accessories for all imaging techniques from epifluorescence to interference contrast.

Find out how Leitz Diaplan and Orthoplan 2 microscopes can help you keep one step beyond the field in biomedical research. Call or write for additional information or a demonstration to E. Leitz, Inc., Rockleigh, NJ 07647. (201) 767-1100.
Extend your time and your budget

Your applications are on the cutting edge, pushing the frontiers of your field—and of today's scientific computer systems. But your job isn't computer system design. You want to save your time for your project's real work. And your budget has very real limits. Minimum time demands and maximum system performance within your budget are critical.

The highest performance data acquisition family

MASSCOMP offers you much more than 32-bit MC68020 computing power. It's the only complete family specifically designed to maximize high-speed data acquisition and processing performance. From the CPU out, MASSCOMP systems are built for real time.

One of MASSCOMP's five system groups is sure to meet your requirements for up to 1 MHz sampling, transparent multiprocessing, high-resolution data acquisition and processing performance. From the CPU out, MASSCOMP systems are built for real time.

Your programs will run faster, powered by multiple CPUs, floating point and fully integrated multiple array processors. And the combination of UNIX and 32-bit virtual addressing simplifies scientific program development. With MASSCOMP you get more flexibility and faster results. Because data acquisition is our core business, not just an option.

Imaging, simulation, measurement and control, C2I, life sciences, geophysics...

You get cost-effective computer systems tailored to your specific application and supported by scientists and engineers from your field. MASSCOMP is staffed with experts from each of the above disciplines. They know your procedures and instruments. They're on call before and after you receive your system, for technical help and overall project consultation. They'll have you up and running fast, avoiding frustrating and expensive start-up delays.

Unmatched price/performance

Spec for spec, feature for feature, no competitor comes close to the cost-effectiveness of MASSCOMP's real-time computers. Applications formerly requiring mainframe computing can now be economically handled in your department or at your remote location. No more waiting for time-critical data. No more loss of control.

Save 30% on MC5400 systems*

For a limited time you can save an additional 30% on pre-configured MC5400 systems with extended warranties. These are complete data acquisition systems, fully configured with A/D, D/A, digital I/O and full color graphics. They represent the single best value in the industry today.

Call the MASSCOMP Scientific Products Group

1-800-451-1824

Find out how MASSCOMP performance extremes are within your means.

*United States Only

MASSCOMP is a registered trademark of Massachusetts Computer Corporation.

UNIX is a registered trademark of AT&T Bell Laboratories.
Mettler DeltaRange allows small differences to stand out from large quantities.

Introducing the new Mettler PM with DeltaRange

When small differences count, Mettler DeltaRange® lets them stand out. Because new Mettler PM DeltaRange precision balances give you an extra decimal place - effective anywhere within the weighing range.

It is like having two balances in one. A PM DeltaRange balance gives you the capacity to formulate large amounts. And the accuracy you need to make sure those amounts are correct. Because a touch of the control bar gives you ten times greater precision - exactly when you need it.

But the Mettler PM gives you more than added accuracy. The PM introduces Mettler DeltaTrac. This active display monitors balance capacity and guides you through the weighing process. Keeping you and your weighing on track.

The new PM balances give the option of DeltaRange on two models. The PM4600 with a capacity of 4100 g, reading to 0.01 g, and the PM460 with a 410 g capacity, reading to 0.001 g.

For two balances in one, and more information on the entire PM line with DeltaTrac, send for our 24 page PM series balance brochure.

Mettler Instrument Corporation
Box 71
Hightstown, NJ 08520
Tel. 1-800-257-9535

Analytical and Precision Balances  Industrial Precision Scales  Thermal, Titration and Density Instruments  Nationwide Service
Now Multiphor II gives you horizontal electrophoretic transfer

Horizontal electrophoretic transfer is so ingenious that it just simply outdates all other blotting methods. That means an end to big tanks, additional cooling equipment and extra power supply. Plus the exit of messy handling, tedious procedures and limited blotting capacity.

It's all done with NovaBlot. A unique kit that adds even more value to the world's most versatile electrophoresis system. Now you can get it all in one. NovaBlot and Multiphor II. The perfect combination. Performing SDS, PAGE, IEF, gradient, immuno, and 2-D electrophoresis with the same modular system.

USES 25 TIMES LESS BUFFER
If you're using separate blotting equipment you're wasting money. As soon as you change to NovaBlot you'll slash expensive buffer costs by 25 times. That's because NovaBlot provides uniform transfer with minimal buffer. And the kit costs so little, it's likely to pay for itself in under 6 months. If you get the complete Multiphor II NovaBlot System, then your investment is repaid within 18 months.

Just check the mathematics with your nearest LKB representative. Find out how easily you can transfer 12 gels in 1 hour with only 200 ml buffer. With or without the complete Multiphor II. Either way you can only gain.
YOUR PRESCRIPTION FOR ACCURATE COLOR.

THE PANASONIC "MEDICAL GROUP."

When your research depends on accurate color reproduction, taking a chance could be critical. That's why we offer the Medical Group:

The Panasonic WV-CD500 compact solid-state color camera incorporates a three-chip interline CCD image sensor and an efficient middle index prism optics system for minimal burn-in and distortion. And produces resolution of 360 lines. Also the control unit separates from the camera body which makes it ideal for microscopy.

The MT-1340G 13" (meas diag) color monitor has been designed to meet the U.L. standard 544 for use in health-care facilities. Its accurate reproduction facilitates diagnoses where color tone and density are a factor. RGB (linear) input has been raised from the standard 0.7Vp-p to 1.5Vp-p to match the output signal levels of medical imaging devices. And it produces a resolution of 400 lines for crisp and easy-to-read images.

The AG-6300MD VHS recorder also conforms to the U.L. standard 544. It is perfectly suited for use with X-ray and ultra-sound equipment for diagnosis and medical training.

Don't take a chance when your research depends on color accuracy. Take a look at the Panasonic "Medical Group."

For more information, contact your nearest Panasonic Professional/Industrial Video dealer or call your nearest regional office.

Northeast: (201) 348-7620
Midwest: (312) 981-4826
Southeast: (404) 925-6835
West: (714) 895-7200
Northwest: (206) 251-5209

Panasonic
Industrial Company

Circle No. 40 on Readers' Service Card
Now, you can save both time and bench space in your research lab.

For the first time students will get hands-on learning from one classroom station.

FOTODYNE's unique new Foto/Phoresis™ system provides leading edge technology for recombinant DNA analysis. Electrophoresis, visualization and photodocumentation are now done at one station using only two square feet of space. In your laboratory, gels are now run and documented without ever leaving the bench! Now instead of just seeing demonstrations, students can participate.

Foto/Phoresis™ is so complete it even comes with a detailed protocol. All for under $1600. For more technical information call 1-800-DNA-FOTO today.

Call 1-800-DNA-FOTO

FOTODYNE INCORPORATED

16700 West Victor Road • P.O. Box 183 • New Berlin, Wisconsin 53151-0183 U.S.A. • 414-786-9550 • Telex 26-0127

Polaroid is a registered trademark of Polaroid Corporation. FMC and Seakem are registered trademarks of FMC Corporation.
The strategy for running the marathon is vastly different than for the 100-yard dash. A successful pension fund has a different investment strategy, too. Far different than the quick return, end-of-quarter performance goals of many investment funds.

While many financial service companies are racing to offer higher risk investments with the hope of higher returns, TIAA and CREF continue to achieve steady growth with broadly diversified portfolios of retirement-oriented investments.

This balanced, long-term investment philosophy is the foundation for building lifetime retirement incomes.

Maintaining the highest yields over 40 years would be comparable to maintaining the speed of the 100-yard dash over the 26-plus miles of the marathon. Highly unlikely.

The key to successful retirement funding is consistency over long time periods, because the investments must provide annuity payments throughout a staff member’s entire retired life. A very real reason why over 150,000 retired educators enjoy the rewards of having participated in a TIAA-CREF retirement plan.

When the results are in at retirement, you will find that TIAA-CREF retirees are far ahead.

Send for a free copy of our recent survey among staff members retired from educational institutions. Simply write on your letterhead.

TIAA-CREF. You can count on us today... and for tomorrow.

Teachers Insurance and Annuity Association
College Retirement Equities Fund
730 Third Avenue, New York, NY 10017
MACSYMA solves mathematical problems analytically.


If you work with quantitative models in scientific or engineering disciplines, MACSYMA can increase your modelling power. MACSYMA combines symbolic and numeric computation. And enables you to accurately manipulate symbolic expressions in a fraction of the time required manually.

Wide range of capabilities

MACSYMA offers the widest range of capabilities for symbolic computations in applied mathematics of any commercially available program. For example:

Algebra: MACSYMA can manipulate large expressions, expand, simplify and factor expressions, handle matrices and arrays and solve systems of equations.

Calculus: MACSYMA can differentiate, perform definite and indefinite integration, take limits, expand functions in Taylor or Laurent series, solve differential equations and compute Laplace transforms.

Symbolic-Numeric interface: MACSYMA can generate FORTRAN coding of expressions for numerical analysis or perform numerical analysis in the powerful MACSYMA™ language.

Post-Processing: MACSYMA can plot in 2 or 3 dimensions and interface to standard mathematical text composers.

Broad base of applications

Throughout the world thousands of scientists, engineers and mathematicians are using MACSYMA in such diverse applications as structural engineering, fluid mechanics, acoustics, CAD, electronic and VLSI circuit design, electromagnetic field problems, plasma physics, atomic scattering cross sections, control theory, maximum likelihood estimation, genetic studies and more.

Compatible with many computer systems

Current systems include: MicroVAX II™, VAX™, SUN-2™ & SUN-3™, VMS™, UNIX™ & UNICOS™, Masscomp MC5500™

Other versions will be following soon.

Symbolically...

(C1) DEPENDS(Y,T)
(C2) DIFF(Y,T); $Y' = (2T+1)Y + T^2 + T + 1$
(C3) SOLVODE(D2,Y,T);
(C4) SOLVE(SUBST(Y=1,T=1),D3,%C,Numer);
(C5) SPECIFIC SOLN(SUBST(D4,SOLN);
(C6) FORTRAN(DS);$Y = -(0.5518192 * EXP(T) - T - 1) / (0.5518192 * EXP(T) - 1)$

and Numerically.

For an information kit about all the ways MACSYMA can work for you, just call

1-800-MACSYMA.

In Mass., Alaska or Hawaii only call: (617) 577-7770.

Or please write to us at:

Symbolics, Inc.
Eleven Cambridge Center
Cambridge, MA 02142

Name
Title
Company
Address
City State Zip
Telephone
Extension

MACSYMA is available to colleges and universities at special rates.

MACSYMA

The most comprehensive software approach to symbolic mathematical computations.

symbolics™

Your next step in computing.™

MACSYMA, MicroVAX II™, VMS™, SUN-2™ & SUN-3™, VAX™, UNIX™ & UNICOS™, Masscomp MC5500™ are trademarks of Symbolics, Inc. MicroVAX II, VAX and VMS are trademarks of the Digital Equipment Corporation. UNIX is a trademark of AT&T Bell Laboratories. Masscomp is a trademark of the Massachusetts Computer Corporation. SUN-2 and SUN-3 are trademarks of SUN Microsystems, Inc. Copyright 1986 Symbolics, Inc.

Circle No. 92 on Readers' Service Card
The Health Effects Institute
Announces a Symposium on
Diesel Emissions and Health Effects:
Current Status and Future Research Needs

FEBRUARY 10-12, 1986
The Cottages Conference Center
Hilton Head Island, South Carolina

As part of its Fourth Annual Conference, the HEI is sponsoring a symposium on the
toxicology of diesel emissions, and the exposure and characterization of diesel exhaust.
Topics include:
• Results of animal bioassays
• Disposition of inhaled soot and organics
• DNA damage and genotoxicity
• Mechanisms and modulation of respiratory tract carcinogenesis
• Societal implications of the use of diesel fuel

The symposium will be co-chaired by Dr. Roger O. McClellan, member, HEI Research
Committee and President, Lovelace Inhalation Toxicology Research Institute, Albuquerque,
NM, and Dr. Gerald N. Wogan, member, HEI Research Committee and Head, Department
of Applied Biological Sciences, Massachusetts Institute of Technology, Cambridge, MA.

Registration fee for the Symposium is $100
Lodging and meals will be extra
Participation in the Symposium is limited
and by pre-registration only

For further information, contact: Dr. Rashid Shaikh, Health Effects Institute, 215 First
Street, Cambridge, MA 02142, (617) 491-2926.
The Health Effects Institute is an independent, non-profit corporation that is the nation's center for studies
of the health effects of automotive emissions. It is funded jointly by the United States Environmental
Protection Agency and the automotive industry.
THE SIXTH ANNUAL CONGRESS FOR
HYBRIDOMA RESEARCH
MARCH 1 – 4, 1987
MOSCONEE CENTER, SAN FRANCISCO, CALIFORNIA
Organized by Scherago Associates, Inc. and Mary Ann Liebert, Inc., publishers
Co-Chairmen:
Zenon Steplewski, The Wistar Institute, Philadelphia, PA
Hilary Koprowski, The Wistar Institute, Philadelphia, PA
Joseph Davie, Washington University, St. Louis, MO

PROGRAM

KEYNOTE ADDRESS (Sunday P.M.)
Stephen Goff, Columbia University, Alexander Rich, M.I.T.

ACQUIRED IMMUNE DEFICIENCY SYNDROME (AIDS)
(Monday A.M. – P.M.)
Chairman: Erling Norrby, Karolinska Institutet, Stockholm, Sweden
Speakers: Robert C. Gallo, Bethesda, William Haseltine, Boston
Robert A. Levy, San Francisco, Myron Essex, Boston
Jay A. Wiens, New York, Robin Weiss, London
Simon Wain-Hobson, Paris, Dani P. Bolognesi, Durham
Kosie Wong-Staal, Bethesda, Bernard Moss, Bethesda

ANTI-IgG TYPE VACCINES (Tuesday P.M.)
Chairman: J. Donald Capra, University of Texas
Speakers: Kathryn Meek, Univ. of Texas Health Science Center
At Dallas
Ronald C. Kennedy, Southwestern Foundation for
Biomedical Research
Dorthee Herlyn, The Wistar Institute
Karl Erik Hellstrom, Oncogen Inc.
David Sacks, N.I.H.

THE USE OF HYBRIDOMAS IN DETERMINING CYTOKINE
STRUCTURES AND FUNCTIONS (Wednesday A.M.)
Chairman: Robert Schreiber, Washington University
Speakers: Robert Coffman, DNAX Research Institute
Frank Ritch, Pritzler School of Medicine
Carl Pierce, Washington University School of Medicine
Robert Schreiber, Washington University

ANTIGENIC CARBOHYDRATE MAB’S IN THE STUDY OF GLYCOLI-
PID-MEDIATED CELLULAR EFFECTS (Wednesday a.m.)
Chairman: Jan Thulin, The Wistar Institute
Speakers: David A. Cheresh, Scripps Clinic & Research Foundation
Tomas Brodin, The Wallenberg Laboratory
Bruce Fenderson, Fred Hutchinson Cancer Research Center
Nobuo Hanai, Fred Hutchinson Cancer Research Center

SUMMARY (Wednesday P.M.)
Chairman: Joseph Davie, Washington University School of Medicine

WORKING GROUP MEETINGS
This year we are planning two Working Groups:

A. IMMUNOTHERAPY – Chairman, Michael Mastrangelo
    Thomas Jefferson University Hospital

B. IMMUNODIAGNOSIS – Chairman, Edgar Haber
    Massachusetts General Hospital

Working groups will meet in closed sessions. It is our intent to select participants actively involved in the above listed research for in-depth discussion of program made recently. The consensus reached by working groups will be presented to the whole Congress and results of these discussions will be published in Hybridoma.

POSTER SESSION AND EXHIBITS

REGISTRATION FEES:
$450 On-site registration
$400 ADVANCE REGISTRATION – (Received by Jan. 15) $150 STUDENT REGISTRATION – Undergraduate, graduate students only. Conf. in writing.
4-7 registrations received together from same organization $300 each. 8-10 registrations received together from same organization $200 each.

Attendance will be limited. Make checks payable to: Scherago Associates, Inc., DNA / HYBRIDOMA

□ Please reserve space(s): Registration Fee of $ enclosed.
□ Please send abstract form.

Name
Dept. __________________________ Organization __________________________
Street __________________________
City __________________________ State ________ Zip ________
Telephone: ( ) __________________________


Circle No. 124 on Readers' Service Card