

University of Wisconsin), continuous conversion of glucose to fructose using glucose isomerase (W. H. Pitcher, Corning Glass), and a variety of potential uses of enzymes trapped in textile fibers (D. Dinelli, SNAM Progetti). A new heat-stable amylase for use in the starch industry was described by S. Slott (Novo Industry), while A. R. Doig (Massachusetts Institute of Technology) reported on the advantages of thermophilic microorganisms as sources of more heat-stable enzymes. D. Scheel (National Institute for Occupational Safety and Health) gave an extensive review of human immunological reactions to detergent additive proteolytic enzymes; and the results of an extensive 1972 survey of the U.S. enzyme industry were presented by B. Wolnack (Wolnack Associates).

Two analytical methods that use immobilized enzymes and are in the final stages of precommercial trials were discussed. Enzymes immobilized on the surface of nylon tubes have been designed for automated clinical analysis by W. E. Hornby (University of St. Andrews). Thousands of analyses have been performed with the same enzyme tube. G. G. Guilbault (Louisiana State University) added to his previous encyclopedic list of enzyme electrodes and enzyme pad devices for use in clinical and trace chemical analyses. A more futuristic analytical application of enzymes, as thermal probes, was described by C. Cooney (Massachusetts Institute of Technology).

In the medical area several potential uses of immobilized enzymes and immunological proteins have stimulated considerable research. Progress on the use of microencapsulation with the artificial kidney was reported by T. M. S. Chang (McGill University). The use of collagen-immobilized enzymes in blood treatment was mentioned by F. Bernath (Rutgers University); and some ideas for medical uses of immobilized enzymes were offered by G. Broun (Centre Hospitalier Regional de Rouen, France).

Other selected topics included the culture of animal cells as sources of enzymes (M. Posner, Beth Israel Hospital), continuous isolation of enzymes (P. Dunnill, University College London), and affinity chromatographic purification of urokinase (E. K. Pye), L. Goldstein (Tel Aviv University) described a new method for bonding enzymes to derivatized nylons; and J. Porath (Uppsala University), D. Jaworek (Boehringer Mannheim), and

O. Zaborsky (Esso Research) described several approaches and problems in enzyme immobilization. Progress in the immobilization of multienzyme systems was presented by K. Mosbach and N. O. Kaplan (University of California at San Diego).

More than 60 invited papers and 20 research briefs were presented. The enthusiasm for the future potential of this field was strongly in evidence. Significant funding for enzyme engineering is being provided in at least seven countries; however, very strong concern was voiced for the U.S. effort because of the cutback of federal funding for this interdisciplinary area.

A conference proceedings is being published by Plenum Press.

LEMUEL B. WINGARD, JR.

*Department of Pharmacology,  
School of Medicine,  
University of Pittsburgh,  
Pittsburgh, Pennsylvania 15261*

E. KENDALL PYE

*Department of Biochemistry,  
School of Medicine,  
University of Pennsylvania,  
Philadelphia 19174*

## Forthcoming Events

### May

12-17. **Electrochemical Soc.** (Electronics Div.), San Francisco, Calif. (E. G. Enck, ES, P.O. Box 2071, Princeton, N.J. 08540)

12-17. **American Industrial Hygiene Assoc.**, Miami Beach, Fla. (W. E. McCormick, 66 S. Miller Rd., Akron, Ohio 44313)

12-17. **International Magnetism Conf.**, Inst. of Electrical and Electronics Engineers, Toronto, Ont., Canada. (R. C. Byloff, Wolf Research and Development Corp., 6801 Kenilworth Ave., Riverdale, Md. 20840)

12-17. **American Soc. for Microbiology**, Chicago, Ill. (R. W. Sarber, ASM, 1913 I St., NW, Washington, D.C. 20006)

13-14. **Council of Biology Editors**, Albuquerque, N.M. (H. E. Kennedy, Bio-Sciences Information Service, 2100 Arch St., Philadelphia, Pa. 19103)

13-14. **Mapping Environmental Geology**, Austin, Tex. (E. G. Wermund, Bureau of Economic Geology, Univ. of Texas, University Station, Austin 78712)

13-14. **Microelectronics Applications of the Scanning Electron Microscope Conf.**, Rockville, Md. (J. M. Wehrung, EMventions Microanalysis Lab., 2351 Shady Grove Rd., Rockville 20850)

13-15. **Electronic Components Conf.**, Inst. of Electrical and Electronics Engineers, Washington, D.C. (IEEE, 345 E. 47 St., New York 10017)

13-16. **Society of Plastics Engineers**, San Francisco, Calif. (R. D. Forger, SPE, 656 W. Putnam Ave., Greenwich, Conn. 06830)

13-17. **International Childbirth Education Assoc.**, St. Petersburg, Fla. (K. Myrtle, 819 20th Ave. N, St. Petersburg 33704)

14. **Ferroalloys and Alloying Additives Conf.**, Committee A-9, American Soc. for Testing and Materials, Philadelphia, Pa. (J. McFadden, Meetings Dept., ASTM, 1916 Race St., Philadelphia 19103)

14-16. **International Conf. on Neurobiology of CNS-Hormone Interactions**, Chapel Hill, N.C. (W. E. Stumpf, Labs. for Reproductive Biology, 111 Swing Bldg., Univ. of North Carolina, Chapel Hill 27514)

14-17. **Society for Experimental Stress Analysis**, Detroit, Mich. (B. E. Rossi, SESA, 21 Bridge Sq., Westport, Conn. 06880)

14-17. **International Magnetism Conf.**, 12th, Magnetism Soc., Inst. of Electrical and Electronics Engineers, Toronto, Ont., Canada. (H. Chang, IBM T. J. Watson Research Center, P.O. Box 218, Yorktown Heights, N.Y. 10598)

14-17. **South African Conf. on Rheumatism, Arthritis and Allied Disorders**, 4th, Durban. (W. G. McNeill, Medical School, P.O. Box 39, Congella, Durban, Natal, Union of South Africa)

15-17. **Minnesota State Medical Assoc.**, Duluth. (H. W. Brunn, 375 Jackson St., St. Paul, Minn. 55101)

15-17. **International Conf. on Plasma Science**, Inst. of Electrical and Electronics Engineers, Knoxville, Tenn. (IEEE, 345 E. 47 St., New York 10017)

15-18. **Society for Technical Communication**, 21st, St. Louis, Mo. (C. T. Youngblood, STC, Suite 421, 1010 Vermont Ave., NW, Washington, D.C. 20005)

15-19. **Neurological Soc. of America**, Key Biscayne, Fla. (S. N. Chou, Univ. of Minnesota Medical School, Minneapolis 55455)

16-17. **Sensory Evaluation of Materials and Products Conf.**, Committee E-18, American Soc. for Testing and Materials, New Orleans, La. (J. McFadden, Meetings Dept., ASTM, 1916 Race St. Philadelphia, Pa. 19103)

16-17. **Southern Textile Research Conf.**, 14th, American Assoc. of Textile Chemists and Colorists, Hilton Head Island, S.C. (H. B. Goldstein, Sun Chemical Corp., Chester, S.C. 29706)

16-18. **National Conf. on Childhood Cancer**, American Cancer Soc., Dallas, Tex. (S. L. Arje, ACS, 219 E. 42 St., New York 10017)

16-18. **Oklahoma State Medical Assoc.**, Oklahoma City. (D. Blair, OSMA, 601 N.W. Expressway, Oklahoma City 73118)

16-1. **International Congr. on Ophthalmic and Otolaryngic Plastic Surgery**, 6th, Johannesburg, S.A. (R. L. Dicker, 395 W. Blackwell St., Dover, N.J. 07801)

17-18. **American Assoc. of Clinical Urologists**, St. Louis, Mo. (R. H. Bradley, Jr., 33 E. Chestnut Hill Ave., Philadelphia, Pa. 19118)

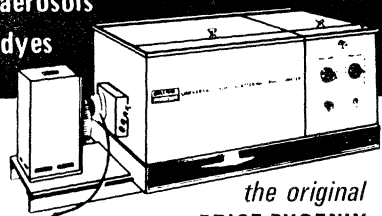
17-20. **National Assoc. of Blue Shield Plans**, San Francisco, Calif. (N. F. Parrish, 211 E. Chicago Ave., Chicago, Ill. 60611)

18-22. **North Carolina Medical Soc.**, Pinehurst. (W. N. Hilliard, 222 N. Person St., P.O. Box 27167, Raleigh, N.C. 27611)

19-22. **American Ophthalmological Soc.**, Hot Springs, Va. (R. W. Hollenhorst, 20

# ANALYZE ANY SOLUTION quickly

proteins  
synthetic polymers  
detergents and soaps  
nucleic acids and viruses  
polymer latexes and emulsions  
polysaccharides and celluloses  
liquids and liquid mixtures  
alcohol-acetate copolymers  
gels and glasses  
aerosols  
dyes



the original  
**BRICE-PHOENIX**  
**LIGHT SCATTERING PHOTOMETER**

now 100% solid state...optional laser  
**ULTRA SENSITIVE and STABLE**

## PARTICLE SIZE

shape, structure, concentration,  
arrangement, fluorescence,  
luminescence, depolarization...

## MOLECULAR WEIGHT

size, anisotropy, shape, dis-  
persion, critical opalescence,  
length in system...

## RATE OF CHANGE

see it-record it. Denaturation  
of proteins, aggregation and dis-  
aggregation of enzymes, nucleic  
acids, copolymers. Crystallization  
rates and effects...

## INTERACTIONS

intra/intermolecular interaction  
in polymers and polymeric  
electrolytes, between protein/  
protein, protein/enzymes, pro-  
tein/detergents. Swelling and  
coiling of molecules in  
solvents...

## KINETICS

nucleation, growth, denatur-  
ization of particles. Ageing and  
gelation, mixing and solution...

...AND MORE!

**dp**  
phoenix precision  
pob L61 instrument  
gardiner, n.y. 12525

First St., SW, Rochester, Minn. 55901)

19-23. American **Urological Assoc.**,  
St. Louis, Mo. (R. J. Hannigan, AVA,  
1120 N. Charles St., Baltimore, Md.  
21201)

19-23. National Conf. on **Social Wel-  
fare**, 101st annual, Natl. Assoc. of Social  
Workers, Council on Social Work Educa-  
tion, and American Public Welfare Assoc.,  
Cincinnati, Ohio. (M. E. Berry, NCSW,  
22 W. Gay St., Columbus, Ohio 43215)

19-24. **Mass Spectrometry and Allied  
Topics**, 22nd annual conf. American Soc.  
for Mass Spectrometry, Philadelphia Pa.  
(F. E. Saalfeld, Naval Research Lab.,  
Code 6110, Washington, D.C. 20375)

19-25. American **Gastroenterological  
Assoc.**, San Francisco, Calif. (C. B. Slack,  
6900 Grove Rd., Thorofare, N.J. 08086)

20-22. **Aerospace Electronics Conf.**,  
Inst. of Electrical and Electronic Engi-  
neers, Dayton, Ohio. (IEEE Dayton Office,  
124 E. Monument Ave., Dayton 45402)

20-22. **Physical Therapy Chest Symp.**,  
Inst. of Rehabilitation Medicine, New  
York, N.Y. (J. Goodgold, Room RR 617,  
IRM, 400 E. 34 St., New York 10016)

20-22. American Soc. for **Quality Con-  
trol**, 28th Boston, Mass. (R. W. Shearman,  
ASQC, Room 6197, 161 W. Wisconsin  
Ave., Milwaukee, Wis. 53203)

20-23. **Biology of Cytoplasmic Micro-  
tubules**, New York Acad. of Sciences, New  
York. (G. R. Gruber, NYAS, 2 E. 63 St.,  
New York 10021)

20-25. World Congr. on the **Prevention  
of Occupational Accidents and Diseases**,  
7th, Natl. Industrial Safety Organisation,  
Intern. Social Security Assoc., and In-  
tern. Labour Office, Dublin, Ireland. (P.  
J. Reynolds, Ansley House, Dublin 4)

21-22. Society for **Information Display**,  
San Diego, Calif. (V. J. Fowler, GTE  
Labs. Inc., 40 Sylvan Rd., Waltham, Mass.  
02154)

21-22. Society for **Surgery of the Ali-  
mentary Tract**, San Francisco, Calif. (R.  
Zeppa, P.O. Box 875, Biscayne Annex,  
Miami, Fla. 33152)

21-24. American Inst. of **Industrial En-  
gineers**, New Orleans, La. (J. F. Jericho,  
AIEE, 25 Technology Park/Atlanta, Nor-  
cross, Ga. 30071)

21-24. New Hampshire **Medical Soc.**,  
New Castle. (H. S. Putnam, 4 Park St.,  
Concord, N.H. 03301)

22-23. National **Fire Protection Assoc.**,  
Miami, Fla. (NFPA, 60 Batterymarch St.,  
Boston, Mass. 02110)

22-24. American Inst. of **Chemists**,  
Kansas City, Mo. (J. L. Hickson, AIC,  
7315 Wisconsin Ave., Washington, D.C.  
20014)

22-24. **Compliance with Therapeutic  
Regimens**, Hamilton, Ont., Canada. (D. L.  
Sackett, Room 3H2, McMaster Univ.  
Medical Centre, 1200 Main St. W., Ham-  
ilton L8S 4J9)

22-24. International Symp. on **Rating of  
Nonmetallic Inclusion in Bearing Steels**,  
American Soc. for Testing and Materials,  
Boston, Mass. (H. Hamilton, ASTM, 1916  
Race St., Philadelphia, Pa. 19103)

22-25. American **Proctologic Soc.**,  
Washington, D.C. (H. Gibson, APS, 320  
W. LaFayette, Detroit, Mich. 48226)

23-25. American **Gynecological Soc.**,  
Hot Springs, Va. (T. N. Evans, 275 E.  
Hancock, Detroit, Mich. 48201)

23-26. Canadian **Otolaryngological Soc.**,

Toronto, Ont. (T. D. R. Briant, COS, Box  
8244, Ottawa, Ont. K1G 3H7)

26-31. International Assoc. for the  
**Prevention of Blindness** and the Intern.  
Organization against **Trachoma**, Paris,  
France. (A. Dubois Poulson, 8 Ave. Le-  
seueur, 75007 Paris)

26-1. American Assoc. on **Mental De-  
ficiency**, Toronto, Ont., Canada. (G. So-  
loyanis, AAMD, 5201 Connecticut Ave.,  
NW, Washington, D.C. 20015)

28-30. International Symp. on **Intestinal  
Absorption and Malabsorption**, Lexington,  
Ky. (T. Z. Csaky, Dept. of Pharmacology,  
Univ. of Kentucky Medical Center, P.O.  
Box 24, Lexington 40506)

28-30. Massachusetts **Medical Soc.**,  
Boston. (T. Gephart, 22 The Fenway, Bos-  
ton 02215)

28-31. International **Microwave Power  
Inst. Symp.**, 9th, Inst. of Electrical and  
Electronics Engineers, Milwaukee Chap-  
ter of the Microwave Theory and Tech-  
niques Group and Electron Devices Group,  
Milwaukee, Wis. (T. K. Ishii, Marquette  
Univ., 1515 W. Wisconsin Ave., Milwau-  
kee 53233)

29-31. **Effects of the Energy Shortage  
on Transportation Balance**, intern. symp.,  
Pennsylvania Transportation Center, Fed-  
eral Highway Administration, U.S. Dept.  
of Transportation, University Park, Pa.  
(L. W. Joiner, Research Bldg. B, U.S.  
Dept. of Transportation, University Park  
16802)

29-31. **Frequency Control Symp.**, 28th  
annual, U.S. Army Electronics Technology  
and Devices Lab., Atlantic City, N.J. (J. R.  
Vig, U.S. Army Electronics Command,  
AMSEL-TL-MF, Fort Monmouth, N.J.  
07703)

29-2. International Congr. of **Cytology**,  
5th, Miami Beach, Fla. (A. Meisels,  
ICC, 1050 Chemin Ste. Foy, Quebec 6,  
P.Q., Canada)

30-1. Association for the **Care of Chil-  
dren in Hospitals**, 9th annual, Chicago, Ill.  
(M. Sice, Recreational Therapy Dept.,  
Children's Memorial Hospital, 2300 Chil-  
dren's Plaza, Chicago 60614)

31-2. International Soc. for the **History  
of Behavioral and Social Sciences**, 6th an-  
nual, Durham, N.H. (R. B. Evans, Dept.  
of Psychology, Conant Hall, Univ. of  
New Hampshire, Durham 03824)

31-2. South Dakota State **Medical  
Assoc.**, Aberdeen. (R. D. Johnson, 711 N.  
Lake Ave., Sioux Falls, S.D. 57104)

## June

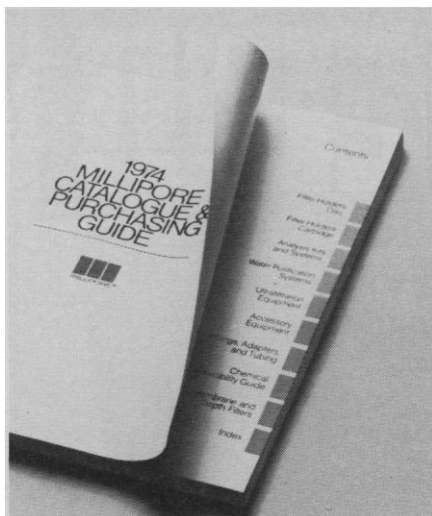
1-10. Southern Pacific **Medical Soc.**,  
Moorea, Tahiti. (C. K. Leiske, 1125 Cherry  
Ave., Long Beach, Calif. 90813)

2-3. **Medical Contact Lens**, 3rd intern.  
symp., Lyons, France (G. P. Halberg, 40  
W. 77 St., New York 10024)

2-5. Society of **Professional Well Log  
Analysts**, 15th, McAllen, Tex. (E. R.  
Blakeman, Superior Oil Co., Houston, Tex.  
77001)

2-6. **Industrial and Commercial Power  
Systems Conf.**, Inst. of Electrical and  
Electronics Engineers, Denver, Colo. (Of-  
fice of Technical Activities Board, IEEE,  
345 E. 47 St., New York 10017)

2-6. **Medical Library Assoc.**, San An-  
tonio, Tex. (J. S. LoSasso, MLA, Suite  
3208, 919 N. Michigan Ave., Chicago, Ill.  
60611)



## Our 20th anniversary gift to filtration

96 pages of filtration products specifications makes this book indispensable to bio-scientists, chemists, pharmacists and others with a need for absolute filtration. Free.



Circle No. 184 on Readers' Service Card

## Best Sellers from AAAS

Energy and the Future (1973; 2nd printing, 1974)	cloth	\$9.95
	paper	4.45
Air Conservation (1965; 3rd printing, 1970),	cloth	8.00
(paper edition, 1973)	paper	4.95
Separation and Depression (1973)		19.95
Oceanography (1961; 5th printing, 1969)		14.75
Ground Level Climatology (1967; 2nd printing, 1970)		12.50
Research for the World Food Crisis (1970)		12.50
Research in the Antarctic (1971)		24.95
Man, Culture, and Animals: The Role of Animals in Human Ecological Adjustments (1965; 3rd printing, 1970)		8.00
Arid Lands in Transition (1970)		15.75
Folk Song Style and Culture (1968; 2nd printing, 1971)		16.75
Agriculture and the Quality of Our Environment (1967; 2nd printing, 1970)		13.50
Science in Japan (1965)		13.00
Biology of the Mouth (1968)		10.00
Environmental Variables in Oral Disease (1966)		8.75
Mechanisms of Hard Tissue Destruction (1963)		8.75
Systems of Units: National and International Aspects (1959)		6.75
Symposium on Basic Research (1959)		3.00
Civil Defense (1966; paper)		4.00
AAAS Science Book List (3rd edition, 1970)		10.00
AAAS Science Book List for Children (3rd edition, 1972)		8.95

Send orders to Dept. W



AMERICAN ASSOCIATION for the  
ADVANCEMENT OF SCIENCE  
1515 Massachusetts Avenue, N.W.  
Washington, D. C. 20005

2-7. American Soc. of **Biological Chemists**, Minneapolis, Minn. (R. A. Harte, ASBC 9650 Rockville Pike, Bethesda, Md. 20014)

2-7. **Biophysical Soc.**, Minneapolis, Minn. (M. O. Dayhoff, Natl. Biomedical Research Foundation, Georgetown Univ. Medical Center, 3900 Reservoir Rd., NW, Washington, D.C. 20007)

3-5. **Oral Biology**, 6th intern. conf., Intern. Assoc. for Dental Research, Toronto, Canada. (A. R. Frechette, IADR, 211 E. Chicago Ave., Chicago 60611)

3-6. **Immunology**, 4th intern. conf., Immune System and Infectious Diseases, Buffalo, N.Y. (F. Milgrom, Dept. of Microbiology, State Univ. of New York, Buffalo 14214)

3-7. **Human Factors in Health Care and Technology Conf.**, Scientific Affairs Div. of the North Atlantic Treaty Organization, Lisbon, Portugal. (R. M. Pickett, Bolt, Beranek and Newman, Inc., 50 Moulton St., Cambridge, Mass. 02138)

4-7. National Conf. on **Measurements of Laser Emissions for Regulatory Purposes**, Div. of Electronic Products, Bureau of Radiological Health, Food and Drug Administration, and Dept. of Health, Education, and Welfare, Rockville, Md. (R. W. Peterson, Chief, Electro-Optics Branch, Div. of Electronic Products, Bureau of Radiological Health (RH-220), 5600 Fishers Lane, Rockville 20852)

5-6. Symposium on the **Toxicity of Metals**, Industrial Health Foundation, Pittsburgh, Pa. (IHF, 5231 Centre Ave., Pittsburgh 15232)

5-7. International Conf. on **Submillimeter Waves and Their Applications**, Inst. of Electrical and Electronics Engineers, Atlanta, Ga. (E. Taylor, Massachusetts Inst. of Technology, Cambridge 02139)

6-7. **Geodesy/Solid-Earth and Ocean Physics**, 7th conf., American Geophysical Union, Defense Mapping Agency, Natl. Aeronautics and Space Administration, Natl. Oceanic and Atmospheric Administration, Ohio State Univ. Dept. of Geodetic Science, and U.S. Geological Survey, Columbus, Ohio. (AGU, 1707 L St., NW, Washington, D.C. 20036)

6-7. **Indepth Study of Non-Human Primates**, Delaware Valley and Metropolitan New York Branches of the American Assoc. for Laboratory Animal, East Brunswick, N.J. (W. H. Mitchell, Products for Animal Management, P.O. Box 70, New Britain, Pa. 18901)

6-7. **Role of Immunological Factors, Infectious, Allergic and Autoimmune Processes**, 8th Miles intern symp., Miles Labs., Inc., Baltimore, Md. (E. G. Bassett, Miles Labs., Inc., Elkhart, Ind. 46514)

6-9. Association for the **Psychophysiological Study of Sleep**, 14th annual, Jackson Hole, Wyo. (D. Foulkes, Univ. of Wyoming, Box 3291, University Station 82071)

6-12. International **Theriological Congr.**, American Soc. of Mammalogists, Moscow, U.S.S.R. (R. S. Hoffmann, Committee on Intern. Relations, ASM, Museum of Natural History, Univ. of Kansas, Lawrence 66045)

7-10. Society of **Biological Psychiatry**, Boston, Mass. (I. F. Small, Larue D. Carter Memorial Hospital., 1315 W. 10 St., Indianapolis 46202)

7-10. Society for **Economic Botany**,

East Lansing, Mich. (H. G. Wilkes, Biology Dept., College II, Univ. of Massachusetts, Boston 02125)

9-11. American Assoc. of **Petroleum Geologists**, Rocky Mountain Section, Casper, Wyo. (W. H. Curry III, P.O. Box 3001, Casper 82601)

9-12. Society for **Developmental Biology**, 33rd annual, Athens, Ga. (W. S. Badman, SDB, P.O. Box 502, Kalamazoo, Mich. 49005)

9-12. **Public Health Hazards of Viruses in Water**, American Public Health Assoc., Mexico City, D.F. (N. R. Bernstein, APHA, 1015 18th St., NW, Washington, D.C. 20036)

9-13. **Special Libraries Assoc.**, Toronto, Ont., Canada. (F. E. McKenna, SLA, 235 Park Ave., S, New York 10003)

9-14. **Geothermal Energy Conf.**, Engineering Foundation, Pacific Grove, Calif. (EF, 345 E. 47 St., New York 10017)

10-11. **Microanalysis with the Scanning Electron Microscope Conf.**, EMventions Microanalysis Lab., Rockville, Md. (J. M. Wehrung, EML, 2351 Shady Grove Rd., Rockville 20850)

10-12. Conference on **Laboratory Instruction in Chemistry**, Intern. Union of Pure and Applied Chemistry, Troy, N.Y. (R. L. Strong, Dept. of Chemistry, Rensselaer Polytechnic Inst., Troy 12181)

10-12. American **Neurological Assoc.**, 99th annual, jointly with Assoc. of British Neurologists, Boston, Mass. (S. A. Trufant, Cincinnati General Hospital, Cincinnati, Ohio 45229)

10-13. **Quantum Electronics**, 8th intern. conf., American Inst. of Physics and the Inst. of Electrical and Electronics Engineers, San Francisco, Calif. (D. Edgar, Courtesy Associates, Suite 700, 1629 K St., NW, Washington, D.C. 20006)

10-14. **Mathematical Research Conf. on Special Functions**, Natl. Science Foundation, Blacksburg, Va. (J. A. Cochran, Dept. of Mathematics, Virginia Polytechnic Inst. and Virginia Univ., Blacksburg 24061)

11-13. **Astronomical Soc. of the Pacific**, Bishop, Calif. (L. E. Salanave, ASP, 75 Southgate Ave., Daly City, Calif. 94015)

11-14. **Electrodynamics of Substorms and Magnetic Storms**, American Geophysical Union, Bayse, Va. (AGU, 1707 L St., NW, Washington, D.C. 20036)

11-14. **Endangered and Threatened Species of North America**, Wild Canid Survival and Research Center, Washington, D.C. (WCSRC, Wolf Sanctuary, P.O. Box 16204, St. Louis, Mo. 63105)

11-14. American Soc. of **Mechanical Engineers**, New Orleans, La. (R. B. Finch, ASME, 345 E. 47 St., New York 10017)

11-14. Society of **Nuclear Medicine**, San Diego, Calif. (M. Glos, SNM, 305 E. 45 St., New York 10017)

12-14. **Endocrine Soc.**, Atlanta, Ga. (M. M. Branch, Suite 319, 1411 Classen Blvd., Oklahoma City, Okla. 73106)

12-14. International **Microwave Symp.**, Inst. of Electrical and Electronics Engineers, Atlanta, Ga. (E. B. Joy, School of Electrical Engineering, Georgia Inst. of Technology, Atlanta 30332)

12-14. Canadian **Psychological Assoc.**, 35th annual, Windsor, Ont. (M. Bunt, Univ. of Windsor, Windsor II, Ont.)

12-14. Society of **Research Administra-**

tors, Northeastern section, New York, N.Y. (L. Lasker, New York Medical College, Fifth Ave. at 106 St., New York 10029)

12-15. **Analysis of Lipids and Lipoproteins**, American Oil Chemists' Soc., Washington, D.C. (E. G. Perkins, Dept. of Food Science, Burnside Research Lab., Univ. of Illinois, Urbana)

12-24. **Adaptability of the Cardiac Muscle**, International Soc. of Cardiology, Prague, Czechoslovakia. (F. Kolbel, Third Clinic for Internal Medicine, Unemocnice 1, 120 00 Prague 2)

13-15. **Midwestern Conf. of Parasitologists**, annual, Ann Arbor, Mich. (J. H. Greve, Dept. of Veterinary Pathology, Iowa State Univ., 50010)

13-16. **Society of Biological Psychiatry**, Boston, Mass. (I. F. Small, 1315 W. 10 St., Indianapolis, Ind. 46202)

16-19. **International Communications Conf.**, Inst. of Electrical and Electronics Engineers, Minneapolis, Minn. (A. Cohen, Inst. of Technology, Univ. of Minnesota, Minneapolis 55455)

16-20. **Canadian Anesthetists Soc.**, St. John's, Newfoundland. (CAS, 178 St. George St., Toronto, Ont., M5R 2M7)

16-20. **Medicinal Chemistry**, 14th symp., American Chemical Soc., Durham, N.H. (R. E. Lyle, Dept. of Chemistry, Parson Hall, Univ. of New Hampshire, Durham 03824)

16-20. **Photochemistry Conf. Honoring Prof. Francis E. Blacet**, Nashville, Tenn. (T. W. Martin, Box 1506/B, Vanderbilt Univ., Nashville 37235)

16-21. **American Inst. of Biological Sciences**, Tempe, Ariz. (J. R. Olive, AIBS, 3900 Wisconsin Ave., NW, Washington, D.C. 20016)

16-21. **Botanical Soc. of America**, Tempe, Ariz. (B. F. Palser, Dept. of Botany, Rutgers Univ., New Brunswick, N.J. 08903)

16-21. **American Fern Soc.**, Tempe Ariz. (T. R. Webster, Biological Sciences Group, Univ. of Connecticut, Storrs 06268)

16-21. **International Conf. on Microscopy**, McCrone Research Inst., Chicago, Ill. (W. C. McCrone, 2820 S. Michigan Ave., Chicago 60616)

16-21. **Mycological Soc. of America**, Tempe, Ariz. (C. T. Rogerson, New York Botanical Garden, Bronx, N.Y. 10458)

16-21. **American Soc. of Plant Taxonomists**, Tempe, Ariz. (D. E. Stone, Dept. of Botany, Duke Univ., Durham, N.C. 27706)

16-21. **American Rheumatism Assoc.**, Toronto, Ont., Canada (L. Bonfiglio, ARA, 1212 Ave. of the Americas, New York 10036)

16-22. **World Confederation for Physical Therapy**, 7th intern. congr., Montreal, P.Q., Canada. (WCPT, Brigray House 20/22, Mortimer St., London W.1, England)

16-24. **American Physical Therapy Assoc.**, Montreal, P.Q., Canada. (R. Noland, APTA, 1156 15th St., NW, Washington, D.C. 20005)

17-19. **Recent Advances in the Analytical Chemistry of Pollutants**, 4th symp., American Chemical Soc. and U.S. Environmental Protection Agency, Basle, Switzerland. (D. M. Hercules, Dept. of Chemistry, Univ. of Georgia, Athens 30602)

## RIA's are so much easier and accurate with a Brinkmann Dilutor.

RIA sample processing becomes a simple matter with the Brinkmann Digital Dilutor; it mixes sample and reagent additively, precisely and automatically at the touch of a button. Outstanding accuracy and reproducibility is made possible by an electronic digital volume setting system combined with two precision cylinder and piston assemblies, each having only 2 moving parts.

Liquids contact only glass and PTFE components. Operating range is 1.0 to 5,000  $\mu$ l for reagent, adjustable in steps of 1.0  $\mu$ l.

Choice of two sample ranges: 0.1 to 500  $\mu$ l, adjustable in steps of 0.1  $\mu$ l (Model I), or 1.0 to 5,000  $\mu$ l, in steps of 1.0  $\mu$ l (Model II). For literature write: Brinkmann Instruments, Cantiague Road, Westbury, New York 11590.

In Canada: Brinkmann Instruments (Canada) Ltd., 50 Galaxy Blvd., Rexdale (Toronto), Ont.



**Brinkmann**



Circle No. 167 on Readers' Service Card

...one  
resource  
you can't  
use up.



## Chemical Information

We are reminded daily that unless we work to conserve our resources we'll soon use them up. At Chemical Abstracts Service (CAS), we supply a resource that you can't use up—chemical information.

The CAS Information System produces printed, microform and computer-readable files by combining three elements into a variety of chemical information services: ABSTRACTS—to describe the documents that report the world's chemical research. INDEXES—exhaustive and comprehensive, with a variety of starting points such as subject matter, author names and molecular formulas. BIBLIOGRAPHIC CITATIONS—complete and accurate, to direct you to the original publication.

Contact us for more information:

**Chemical Abstracts Service,**

Department **[4-C]**

The Ohio State University,  
Columbus, Ohio 43210 U.S.A.

Circle No. 164 on Readers' Service Card



17-19. **Velikovsky and the Recent History of the Solar System**, Student Academic Freedom Forum, Hamilton, Ont., Canada. (S. L. Talbott, Ed., *Pensee Magazine*, P.O. Box 414, Portland, Ore. 97207)

17-20. American Soc. for **Engineering Education**, Troy, N.Y. (L. B. Williams, ASEE, Suite 400, 1 Dupont Circle, NW, Washington, D.C. 20036)

17-20. American Soc. of **Plant Physiologists**, Ithaca, N.Y. (W. H. Klein, Smithsonian Radiation Biology Lab., 12441 Parklawn Dr., Rockville, Md. 20852)

17-20. Canadian **Public Health Assoc.**, 65th annual, St. John's, Newfoundland. (C. D. Noble, CPHA, 1255 Yonge St., Toronto, Ont., M4T 1W6)

17-20. European Congr. on **Thermography**, European Thermographic Assoc. with the collaboration of the American Thermographic Soc., Amsterdam, Netherlands. (M. Gautherie, Organisatie Bureau Amsterdam N.V., P.O. Box 7205, Amsterdam)

17-21. American Assoc. for the **Advancement of Science** (Pacific Div.), Irvine, Calif. (R. T. Orr, California Acad. of Sciences, Golden Gate Park, San Francisco 94118)

17-22. American Soc. of **Ichthyologists and Herpetologists**, Ottawa, Ont., Canada. (R. Highton, Dept. of Zoology, Univ. of Maryland, College Park 20742)

17-22. **Phycological Soc. of America**, Tempe, Ariz. (M. J. Wynne, Dept. of Botany, Univ. of Texas, Austin 78712)

19-20. **Problem Solving Through Information Management**, Univ. of Pittsburgh, Pittsburgh, Pa. (Director of Continuing Education, 418 Cathedral of Learning, Univ. of Pittsburgh, Pittsburgh 15260)

19-21. **Biological Motivated Automata Theory Conf.**, McLean, Va. (M. A. Arbib, Dept. of Computer and Information Science, Univ. of Massachusetts, Amherst 01002)

19-22. Idaho **Medical Assoc.**, Sun Valley. (A. L. Bird, 407 W. Bannock St., Boise, Idaho 83702)

20. Symposium on the **Systems Approach: Key to Successful Computer Applications**, Assoc. for Computing Machinery, Gaithersburg, Md. (Z. Ruthberg, Natl. Bureau of Standards, Washington, D.C. 20234)

20-21. Society for **Vascular Surgery**, Chicago, Ill. (J. A. DeWeese, SVS, 260 Crittenden Blvd., Rochester, N.Y. 14642)

20-22. American Assoc. of **Physics Teachers**, Boone, N.C. (A. A. Strassenburg, AAPT, Drawer AW, Stony Brook, N.Y. 11790)

21-23. Society for **Investigative Dermatology**, Chicago, Ill. (J. S. Strauss, Boston Univ. Medical Center, 80 E. Concord St., Boston, Mass. 02118)

23-26. American Soc. of **Agricultural Engineering**, 67th annual mtg., Stillwater, Okla. (J. L. Butt, ASAE, 2950 Niles Rd., St. Joseph, Mo. 49085)

23-26. American **Dairy Science Assoc.**, Guelph, Ont., Canada. (C. Cruse, ADSA, 113 N. Neil St., Champaign, Ill. 61820)

23-27. American Soc. of **Heating, Refrigerating, and Air-Conditioning Engineers**, Montreal, P.Q., Canada. (A. T. Boggs, ASHRAE, 345 E. 47 St., New York 10017)

23-27. American **Medical Assoc.**, Chicago, Ill. (E. B. Howard, AMA, 535 N. Dearborn St., Chicago 60610)

23-28. American Soc. of **Medical Technologists**, New Orleans, La. (S. B. Friedheim, ASMT, Suite 200, 5555 W. Loop, Bellaire, Tex. 77401)

23-28. American **Nuclear Soc.**, Philadelphia, Pa. (O. J. DuTemple, ANS, 244 E. Ogden Ave., Hinsdale, Ill. 60521)

24-25. **Role of Immunological Factors—Infectious, Allergic and Autoimmune Process**, 8th Miles intern. symp., Miles Labs., Inc., London, England. (E. G. Bassett, Miles Labs., Inc., Elkhart, Ind. 46514)

24-26. **Computers in the Undergraduate Curricula**, 5th, Natl. Science Foundation and Washington State Univ., Pullman. (O. W. Rechard, Computer Science Dept., Washington State Univ., Pullman 99163)

24-26. **Mass Spectrometry in Biochemistry and Medicine**, 2nd intern. symp., Milan, Italy. (A. Frigerio, Istituto di Ricerche Farmacologiche "Mario Negri," via Eritrea 62, 20157 Milan)

24-27. World Congr. on **Intensive Care**, London, England. (A. Gilston, Natl. Heart Hospital, Westminster, London W1M 8BA)

24-27. International Conf. on **Liquefied Natural Gas**, 4th, Intern. Gas Union, Intern. Inst. of Refrigeration, and Inst. of Gas Technology, Algiers, Algeria. (S. E. Booth, Inst. of Gas Technology, 3424 S. State St., Chicago, Ill. 60616)

24-28. **Chemistry of Natural Products**, 9th intern. symp., Intern. Union of Pure and Applied Chemistry, Ottawa, Ont., Canada. (M. K. Ward, Natl. Research Council of Canada, Ottawa K1A 0R6)

24-28. American Soc. of **Limnology and Oceanography**, Seattle, Wash. (G. W. Saunders, P.O. Box 853, Gaithersburg, Md. 20760)

24-28. International Symp. on **Recent Advances in the Assessment of the Health Effects of Environmental Pollution**, U.S. Environmental Protection Agency and World Health Organization, Paris, France. (J. Smeets, Health Protection Dir., CEC, 29 rue Aldringen, Luxembourg, Grand Duchy)

24-28. **Sex Education**, 2nd intern. symp., Israel Assoc. for Sex Education and American Assoc. of Sex Educators and Counselors, Tel Aviv, Israel. (E. Chigier, ISSE, P.O.B. 16271, Tel Aviv)

25-28. Canadian Federation of **Biological Societies**, 16th, Hamilton, Ont., Canada. (D. T. Armstrong, CFBS, Room 90F6, University Hospital, London, Ont., N6G 2K3)

25-28. Institute of **Navigation**, San Diego, Calif. (R. E. Freeman, IN, Suite 832, 815 15th St., NW, Washington, D.C. 20005)

25-29. American Assoc. of **Bioanalysts**, Washington, D.C. (AAB, Suite 805, 411 N. 7th St., St. Louis, Mo. 63101)

26-28. **Drug Information Assoc.**, Chicago, Ill. (C. R. McDonnell, Johnson and Johnson Research Center, New Brunswick, N.J. 08903)

27-29. **Gene Regulation in Mammals**, 45th symp., Jackson Lab., Bar Harbor, Maine. (A. A. Kandutsch, Jackson Lab., Bar Harbor, Maine 04609)

27-29. **Sickle Cell Disease**, Natl. Insti-

tutes of Health, Washington, D.C. (J. I. Hercules, Sickle Cell Disease Branch, Bldg. 31, Room 5A-03, Natl. Heart and Lung Inst., Bethesda, Md. 20014)

30-5. National **Education Assoc.**, Minneapolis, Minn. (T. Herndon, NEA, 1201 16th St., NW, Washington, D.C. 20036)

30-6. **Research Paradigms and Priorities for Social Psychology: Transnational Perspectives Conf.**, Scientific Affairs Div., North Atlantic Treaty Organization, Ottawa, Ont., Canada. (L. H. Strickland, Dept. of Psychology, Carleton Univ., Ottawa K1S 5B6)

## July

1-2. National Symp. on **Water Resources Problems Related to Mining**, American Water Resources Assoc. and Colorado School of Mines, Golden. (D. T. Snow, Geology Dept., Colorado School of Mines, Golden 88040)

1-5. British Council for **Rehabilitation of the Disabled**, 5th intern. seminar and exhibition, London, England. (I. R. Henderson, REHAB, Tavistock House (South), Tavistock Sq., London, WC1H 9LB)

2-8. National **Education Assoc.**, Minneapolis, Minn. (S. M. Lambert, NEA, 1201 16th St., NW, Washington, D.C. 20036)

3-5. European **Chemoreception Research Organization**, 1st congr., Paris-Orsay, France. (ECRO, Collège de France, 11 Place Marcelin Berthelot, 75231 Paris Cedex 05, France)

7-9. **Gamma Sigma Delta**, Brookings, S.D. (K. R. Keller, Agricultural Experiment Sta., 104 Patterson Hall, North Carolina State Univ., Raleigh 27607)

7-11. **Health Physics Soc.**, 19th annual, Houston, Texas. (W. H. Parr, Physical Agents Branch/NIOSH, 1014 Broadway, Cincinnati, Ohio 45202)

7-12. **Neuropsychopharmacology**, 9th intern. congr., Paris, France. (J. R. Boissier, 2 rue d'Alesia, F75014 Paris)

7-13. American **Library Assoc.**, New York, N.Y. (D. H. Clift, ALA, 50 E. Huron St., Chicago, Ill. 60611)

7-13. American College of **Chest Physicians**, London, England. (A. Soffer, ACCP, 112 E. Chestnut St., Chicago, Ill. 60611)

8-11. **Circumpolar Health**, 3rd intern. symp., Yellowknife, N.W.T., Canada. (O. Schaefer, Charles Cammell Hospital, Edmonton, T5M 3A4, Alberta, Canada)

8-12. International Conf. on **Electron Lifetimes in Metals**, Natl. Science Foundation and U.S. Atomic Energy Commission, Eugene, Ore. (D. H. Lowndes, Dept. of Physics, Univ. of Oregon, Eugene 97403)

9-12. Conference on **Inter-Relation of Structure, Properties and Applications of Polymers**, Inst. of Physics, Nottingham, England. (Mtgs. Officer, IP, 47 Belgrave Sq., London, SW1X 80X, England)

14-19. Institute of Electrical and Electronics Engineers, **Power Engineering Soc.**, summer mtg. and energy resources conf., Anaheim, Calif. (S. H. Gold, IEEE Energy Resources Conf., 345 E. 47 St., New York 10017)

14-19. **Illuminating Engineering Soc.**, New Orleans, La. (P. C. Ringgold, IES, 345 E. 47 St., New York 10017)