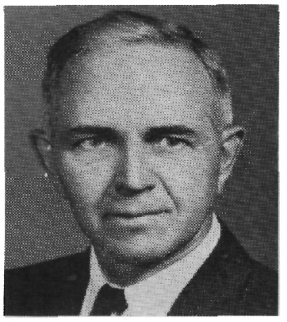
ANALYTICAL CHEMISTRY NEWS

American Chemical Society Award Winners

L. B. Rogers



L. G. Longsworth

J. R. Churchill

CHICAGO. The winners of the 1968 American Chemical Society Awards in analytical chemistry, chromatography and electrophoresis, and chemical instrumentation were announced at the 154th ACS National Meeting just before ANALYTICAL CHEMISTRY went to press. The recipients, their biographies, and their contributions appear below.

Lockhart B. Rogers was named winner of the ACS Award in Analytical Chemistry. This award is sponsored by the Fisher Scientific Co. of Pittsburgh, Pa. Professor Rogers of Purdue University has made outstanding contributions to analytical chemistry. His work has added to knowledge significantly in many areas, such as selective reagents, polarography and other electrochemical methods, spectrophotometry, thermal methods, radioactive methods, reflectance, fluorescence, separation methods, and gas chromatography. In addition to his contributions to the field as evidenced by his many publications, Professor Rogers has shown leadership in the field of analytical chemistry by his dedication as an educator and spokesman for all of analytical chemistry. Professor Rogers has contributed to the revision of the chemistry curriculum both at Massachusetts Institute of Technology and Purdue University, and has been instrumental in keeping analytical chemistry courses in tune with current developments.

Prof. Rogers was born in Manchester, Connecticut, and received his B. A. degree from Wesleyan University in 1939. He then went to Princeton where he received an M. A. in 1940 and a Ph. D. in 1942. Professor Rogers held positions at Stanford University, first as an instructor in 1942–43, and then as an assistant professor, 1943–46. After working as a group leader in analytical research at Oak Ridge National Laboratory from 1946 to 1948, he went to Massachusetts Institute of Technology from 1948 to 1961. Prof. Rogers was then appointed a Professor and head of the analytical division at Purdue University where he maintains a highly active analytical division.

Among his many duties he has been active in the American Chemical Society including the Analytical Division. He has served on the advisory boards of *Talanta* and on the board of ANALYTICAL CHEMISTRY in 1961–63.

Lewis G. Longsworth, professor, The Rockefeller Institute, has been named to receive the ACS Award in Chromatography and Electrophoresis, sponsored by Lab-Line Instruments, Inc. Dr. Longsworth is honored for his extensive contributions in electrophoresis research, and, above all, for his very thorough work on the exact quantitative aspects of the method. He was instrumental in perfecting both the apparatus and the theory of the moving boundary method. This work has resulted in the use of electrophoresis as a routine diagnostic clinical tool and has aided in the understanding of complex biological systems and protein structures. Dr. Longsworth's first papers on electrophoresis of proteins date from 1938 and 1939. In one of these he described the schlieren scanning optics which has become a standard part of all equipment (*J. Am. Chem. Soc.*, 1939).

Lewis Gibson Longsworth was born in Somerset, Ky. He was educated at Southwestern College where he obtained his B. A. degree in 1925, and at the University of Kansas, which awarded him its M. A. and Ph. D. degrees in 1927 and 1928, respectively. Since that time Dr. Longsworth has been continuously associated with the Rockefeller Institute. He joined the staff in 1928 as a National Research Council fellow in chemistry, holding this position until 1930 when he was appointed as assistant (1930–39), associate (1939–45), and an associate member (1945–49). In 1949, he was named a member of the Institute which accorded him the rank of professor when it became a graduate university in 1954.

Dr. Longsworth has contributed numerous articles on chemistry to research journals and holds memberships

in professional and honorary societies, including the National Academy of Sciences, the American Chemical Society, Sigma Xi, the Harvey Society, and others.

J. R. Churchill of Alcoa Research Laboratories, Aluminum Company of America, New Kensington, Pa., has been named recipient of the ACS Award in Chemical Instrumentation, sponsored by E. H. Sargent & Co. Mr. J. Raynor Churchill's award is based on his unique and outstanding achievements in development and mass application of high-speed, precise, and economical methods of spectroscopic analysis. Mr. Churchill invented the microphotometer, or recording densitometer, which is still used in many laboratories today and replaced the previous visual comparison of line intensities. He developed sampling techniques and improved sensitivity by using high inductance in the excitation circuitry. Mr. Churchill consolidated these techniques into the first practical method of spectrographic aluminum analysis, based on a cast metal sample, graphite counter electrode, and high inductance spark discharge. Eventually compact spectrographic laboratories were installed in all aluminum plants and small groups of operators were trained to use them. Further developments have followed so that now Alcoa aluminum has instrumentation which not only excites the sample and records the spectral intensities, but computes the various matrix interactions and actually prints the analytical report showing the percentages of some two dozen constituents. Under Mr. Churchill's direction, an instrument section functions as an integral part of the analytical activities. This group has designed and perfected instrumentation that was not commercially available for the control of products and processes in both Alcoa and customer operations.

John Raynor Churchill was born in Denver, Colo. In 1929 he entered employment at Aluminum Research Laboratories in New Kensington, Pa., and attended Carnegie Institute of Technology night sessions, graduating in 1938 with the degree of B. S. in Chemistry. He advanced to Assistant Chief of the Analytical Division in 1944 and has been Division Chief since 1951. He is an active member in the American Chemical Society, Optical Society of American, American Society for Testing and Materials, International Standards Organization, and Scientific Research Society of America. He has served on the Advisory Board of ANALYTICAL CHEMISTRY.

Eastern Analytical Symposium

The ninth Eastern Analytical Symposium will be held November 8th to 10th, 1967, at the Statler-Hilton Hotel, New York City. The symposium is sponsored by the Analytical Groups of the New York and North Jersey Sections of the American Chemical Society; the Baltimore–Washington, Delaware Valley, New York, and New England Sections of the Society for Applied Spectroscopy; and the American Microchemical Society.

Dr. Edward G. Brame, Jr., E. I. du Pont de Nemours & Co., is Chairman of the Symposium. General information on this meeting may be obtained from Mr. George L. Davis, Dalare Associates, 2300 Locust St., Philadelphia, Pa. 19103.

PROGRAM

Wednesday, Nov. 8

9:30 am

LIQUID–LIQUID CHROMATOGRAPHY

D. C. Locke, Esso Research and Engineering Co., Presiding

Capillary Multi-Column Liquid–Liquid Chromatography of Steroids. P. Vestergaard, Rockland State Hospital

Separation of Polynuclear Aromatic Hydrocarbons by Liquid Chromatography. R. E. Jentoft, T. H. Gouw, Chevron Research Co.

Automated Liquid Chromatography Using Infrared Monitoring of the Column Effluent. C. A. Genge, Hercules, Inc.

Quantitative Analysis by Liquid Chromatography. A. Karmen, Johns Hopkins Medical Institutions

MICRO SAMPLING TECHNIQUES

W. L. Truett, Wilks Scientific Corp., Presiding

Micro Sampling Techniques in NMR and ESR Spectroscopy. R. E. Lundin, Western Regional Research Laboratory

Micro Sampling Techniques in IR Spectroscopy. C. E. Day, E. I. du Pont de Nemours, Inc.

Micro Sampling Techniques in UV Spectroscopy. S. R. Lipsky, Yale University

DEGRADATION AND REACTION GAS CHROMATOGRAPHY

B. F. Dudenbostel, Esso Research and Engineering Co., Presiding

Degradation and Reaction Gas Chromatographic Techniques. M. Beroza, U. S. Department of Agriculture

Further Progress in Photolysis Gas Chromatography. R. S. Juvet, University of Illinois

Pyrolytic Degradation of High Temperature Polymers. R. Connelly, Ohio State University

ANALYSIS OF SMALL VOLUMES

Marvin Margoshes, National Bureau of Standards, Presiding

Spectrochemical Analysis of Small Vol-

umes with the Laser Probe. Marvin Margoshes, National Bureau of Standards

Analysis of Small Volumes by X-Ray Emission. T. C. Loomis, Bell Telephone Laboratories

Mass Spectrometric Analysis of Small Volumes with Spark and Laser Excitation. J. R. Woolston, Radio Corporation of America

Analysis of Small Volumes with the Ion Microprobe Mass Spectrometer. I. Adler, Goddard Space Flight Center

Wednesday, Nov. 8

2:00 pm

LIQUID–LIQUID CHROMATOGRAPHY

D. C. Locke, Esso Research and Engineering Co., Presiding

A High Performance Ultraviolet Spectrophotometric Detector for Liquid Chromatography. J. J. Kirkland, E. I. du Pont de Nemours and Co.

Liquid Phase Chromatography with Hydrogen Flame Ionization Detection. J. E. Stouffer, Baylor University College of Medicine

Micro-Differential Refractometer for Liquid Chromatography. R. S. Levitt, Philips Laboratories

Two New Detectors for Liquid–Liquid Chromatography. L. E. Maley, Waters Associates

THERMOGRAPHY

J. L. Koenig, Case Institute of Technology, Presiding

Multiple Transitions in Ethylene–Propylene Elastomers. J. Mauer, Esso Research and Engineering Co.

Multifunctional Thermal Instrumentation. R. A. Baxter, E. I. du Pont de Nemours and Co.

Calorimetry of Drawn Polymer. J. L. Koenig, Case Institute of Technology

SCANNING ELECTRON MICROSCOPY

Paul Lublin, General Telephone & Electronics Laboratories, Presiding

Theory and Instrumentation. O. C. Wells, International Business Machines

Scanning Electron Microscopy of Fibers. A. Rezanowich, Pulp and Paper Research Institute of Canada

Scanning Electron Microscopy of Biological Materials. R. F. W. Pease, University of California, Berkeley

Examination of Solid State Materials by Scanning Electron Microscopy. D. A. Greene, Westinghouse

AIR POLLUTION

T. H. Levadie, State of Vermont Department of Health, Presiding

Determination of Particulate Matter in the Atmosphere. W. J. Smith, Arthur D. Little

Analytical Problems in Air Pollution. J. P. Pate, J. P. Lodge, Jr., National Center for Atmospheric Research

Thursday, Nov. 9

9:00 am

CURRENT APPLICATIONS OF GEL PERMEATION CHROMATOGRAPHY (GPC)

J. Cazes, Mobil Chemical Co., Presiding

NEWS

Introduction to GPC and Some Applications to Small Molecules. J. Cazes, Mobil Chemical Co.
Applications of GPC to Commercial Polymers. M. Ezrin, De Bell and Richardson
Application of GPC to Coatings. R. Bartosciewicz, Sherwin-Williams Research Center
Preparative-Scale GPC. W. Dark, Waters Associates, Inc.

METHODS OF ENZYME ANALYSIS

G. G. Guilbault, Louisiana State University in New Orleans, Presiding

Electrochemical and Fluorescence Methods. G. G. Guilbault, Louisiana State University in New Orleans
Immobilized Enzyme Systems. G. Hicks, University of Wisconsin
Automation in the Use of Enzymes. H. Pardue, Purdue University
Radioactive Reagents for Enzyme Assay. S. Udenfriend, National Institutes of Health

PHYSICAL MEASUREMENT OF THIN FILMS

E. M. Murt, Philco-Ford Corp., Presiding

Nondestructive Optical Techniques for Thin Film Thickness Measurements. W. A. Pliskin, International Business Machines
A Review of X-Ray Methods for Investigating Thin Films and Platings. E. P. Bertin, Radio Corporation of America
X-Ray Fluorescence and Electron Microprobe Techniques for Determination of Thin Film Thicknesses. J. E. Cline, NASA, Cambridge
Density Determination of Sputtered Tantalum Films by a Beta Backscatter Technique. R. Brown, Bell Telephone Laboratories

PESTICIDE ANALYSIS

D. Berneking, Food and Drug Administration, Presiding

Selective Emission Spectrometric Determination of Phosphorus, Sulfur, and Halogen Containing Pesticide Residues. D. J. Lisk, Cornell University
Multiresidue Determination of Pesticide Chemicals. W. P. McKinley, Food and Drug Directorate, Ottawa, Canada
Electrochemical Determination of Pesticide Chemical Residues. H. P. Burchfield, Public Health Service
Chromatographic Determination of Pesticide Chemical Residues. M. Beroza, U. S. Department of Agriculture

Thursday, Nov. 9

2:00 pm

EDUCATION OF CHEMISTS FOR CAREERS IN ANALYTICAL CHEMISTRY

E. Dunlop, E. I. du Pont de Nemours and Co., Presiding

Undergraduate Curriculum in Analytical

Chemistry. C. N. Reilley, University of North Carolina
Future of Analytical Chemistry in Universities. W. D. Cooke, Cornell University
Creating Industrial Analytical Chemists. J. T. Funkhouser, Arthur D. Little, Inc.
Injecting Applied Aspects into the Teaching of Analytical Chemistry. S. Siggia, University of Massachusetts

Panel Discussion

C. N. Reilley, University of North Carolina
W. D. Cooke, Cornell University
J. T. Funkhouser, Arthur D. Little, Inc.
S. Siggia, University of Massachusetts
W. McCurdy, Jr., University of Delaware
J. M. Miller, Drew University
G. E. Heinze, Johnson and Johnson
E. C. Dunlop, E. I. du Pont de Nemours and Co.

ORIENTATION OF POLYMERS

Z. W. Wilchinski, Esso Research and Engineering Co., Presiding

Infrared Characterization of Orientation in Polymers. J. L. Koenig, S. W. Cornell, Case Institute of Technology
Studies of Orientation of Crystalline Polymers by X-Ray Diffraction and Birefringence. R. S. Stein, C. R. Desper, University of Massachusetts
Characterization of Deformation Mechanisms in Polypropylene Films and Fibers. R. J. Samuels, Hercules, Inc.
Determination of Orientation Parameters and Orientation Distribution by X-Ray Diffraction. Z. W. Wilchinsky, Esso Research and Engineering Co.

ANALYSIS OF THIN FILMS

W. G. Guldner, Bell Telephone Laboratories, Presiding

The Characterization of Solid Thin Films by Electron Microscopy and Diffraction. R. B. Marcus, Bell Telephone Laboratories
The Emission Spectrographic and Atomic Absorption Analysis of Metallic Thin Films. J. D. Nohe, Western Electric Co.
Spark Source Mass Spectrometry for the Analysis of Thin Films. D. L. Malm, Bell Telephone Laboratories
Chemical and Structural Evaluation of Thin Glass Films. W. A. Pliskin, International Business Machines

RAPID ANALYSIS

A. Steyermark, Hoffman-La Roche, Inc., Presiding

Rapid Methods for the Isolation, Fractionation, and Characterization of Complex Mixtures from Natural Products. D. P. Schwartz, U. S. Department of Agriculture
Approach to More Rapid Microdeterminations of Halogens and Sulfur. F. Scheidl, Hoffman-La Roche, Inc.
Rapid Analysis of Organic Fluorocarbons and Fluoronitrogens. P. B. Olson, Minnesota Mining and Manufacturing Co.
Application of a Precision Capillary Dis-

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penser for Rapid Automatic Analysis. S. Natelson, Michael Reese Hospital and Medical Center
Some Approaches to More Rapid Analysis. M. T. Kelley, Oak Ridge National Laboratory

INTERFEROMETRY INFRARED

J. K. Barr, Engineering Dept., E. I. du Pont Nemours, Inc., Presiding

Friday, Nov. 10

9:00 am

ION SELECTIVE ELECTRODE METHODS

J. W. Ross, Orion Research, Inc., Presiding

Significance and Interpretation of Ion Selective Electrodes. M. Frant, Orion Research, Inc.; G. Rechnitz, State University of New York
High Precision Automated Electrode Analysis. H. Dahms, International Business Machines
Stability Constants Determination Using Ion Selective Electrodes. F. Nakayama, U. S. Department of Agriculture

PULSED NMR

A. Allerhand, Johns Hopkins University, Presiding

Spin Echoes in Solids. J. S. Waugh, Massachusetts Institute of Technology
Application of Pulsed NMR to the Study of Molecular Motion in Polymers. D. C. Douglass and D. W. McCall, Bell Telephone Laboratories
Study of Fast Chemical Reactions by Spin Echo Nuclear Magnetic Resonance. R. L. Vold, University of Illinois
Diffusion Measurement by the Pulsed Field Gradient Spin Echo Method. E. Stejskal, Monsanto Co.

DATA ACQUISITION

G. D. Dupre, Esso Research and Engineering Co., Presiding

Computer Applications to Infrared Spectroscopy. L. R. Cousins, Gulf Research and Development Co.
An Integrated Computer–Gas Chromatographic System. H. Felton, E. I. du Pont de Nemours and Co.
Collection and Analysis of Analytical Data on an IBM 1800. R. A. Sparks, Syntex Corp.
Use of a Real Time Monitoring Computer for Gas Chromatography and Mass Spectrometry Analysis. E. B. Harris, J. F. Hickerson, M. W. Morgan, Humble Oil and Refining

ELECTRON PROBE ANALYSIS OF BIOLOGICAL TISSUES

A. J. Tousimis, Biodynamics Research Corp., Presiding

TOXICOLOGY

K. W. Earle, Neuropathology Research, Walter Reed Hospital, Presiding

Friday, Nov. 10

2:00 pm

THIN- AND THICK-LAYER CHROMATOGRAPHY

M. Karl Brandt, Brandt Associates, Inc., Presiding

Recent Advances in TLC and TLE Analysis of Air Pollutants. E. Sawicki, Robert A. Taft Sanitation Engineering Center

Identification and Estimation of Chlorpromazine Metabolite in Tissues. A. Post, Smith, Kline and French, J. A. Bobbitt, University of Connecticut

Quantitative Thin-Layer Chromatography. M. Karl Brandt, Brandt Associates, Inc.

NEW DEVELOPMENTS IN EMISSION SPECTROSCOPIC EXCITATION

(DEDICATED TO WILLIAM FREDERICK MEGGERS)

B. Scribner, National Bureau of Standards, Presiding

Dr. William F. Meggers—A Dedication. B. F. Scribner, National Bureau of Standards

Volatilization of Materials in Spectroscopic Light Sources. H. Kaiser, Institute Für Spektrochemie und Angewandte Spektroskopie

Innovations in the Spectral Excitation of Solid and Molten Samples. V. A. Fassel, Iowa State University

Line Shape as a Function of Matrix and Gaseous Atmosphere. J. L. Jones, M. F. Hasler, Hasler Research Laboratory

MASS SPECTROMETRY OF LOW VOLATILITY MATERIALS

A. G. Sharkey, U. S. Bureau of Mines, Presiding

Mass Spectral Analysis of Very High Molecular Weight Hydrocarbons and Related Materials. T. Aczel, R. J. Pancirov, Esso Research and Engineering Co.

A Simple Direct Vaporization Mass Spectrometer Inlet System. C. R. Maxley, N. F. Kerr, J. G. Larson, Gulf Research and Development Co.

Aromatic Hetero Compounds in Petroleum Gas Oils by High Resolution Mass Spectrometry. H. E. Howard, L. R. Snyder, Union Oil Company of California

ANALYTICAL CHEMISTRY OF VOLATILE COMPONENTS OF PACKAGING MATERIALS

S. G. Gilbert, Rutgers University, Presiding

Introduction—The Prevention of Adverse Effects on Packaged Foods by Migration of Components from the Packaging Material. S. G. Gilbert, Rutgers University

The Measurement of Solvents Retained in Films. W. C. Deans, E. I. du Pont de Nemours and Co.

Volatile Components of Polymers. Samsel, Dow Chemical Co.

Correlation Between Organoleptic and Gas Chromatographic Measurements of Volatile Materials Transferred to Foods. R. Wilks, Jr., Rutgers University

Scheduled Courses in Analytical Techniques

Sept. 29 to Oct. 2—ACS Short Course on Molecular Characterization of Polymers. Buffalo, N. Y. *Contact:* Education Office, American Chemical Society, 1155 Sixteenth St., N. W., Washington, D. C. 20036. (Tel: 202-737-3337).

Oct. 2 to 4—Gas Chromatography. Cincinnati, Ohio. *Contact:* Varian Aerograph, 205 West Touhy Ave., Park Ridge, Ill.

Oct. 2 to 4—ACS Short Course on Interpretation of NMR Spectra. Providence, R. I. *Contact:* Education Office, American Chemical Society, 1155 Sixteenth St., N. W., Washington D. C. 20036. (Tel: 202-737-3337).

Oct. 2 to 13—Industrial Use of the Polarizing Microscope. Chicago, Ill. *Contact:* Mrs. Miriam L. Fallert, Registrar, McCrone Research Institute, 451 E. 31st St., Chicago, Ill. 60616.

Oct. 5—One-Day Workshop on Internal Reflection Spectroscopy. South Norwalk, Conn. *Contact:* Wilks Scientific Corp., 140 Water St., South Norwalk, Conn. 06856. (Tel: 203-838-4537).

Oct. 5 to 7—Gas Chromatography. Indianapolis, Ind. *Contact:* Dr. R. M. Brooker, Dept. of Chemistry, Indiana Central College, Indianapolis, Ind. 46227.

Oct. 6 to 8—ACS Short Course on Interpretation of NMR Spectra. Institute, W. Va. *Contact:* Education Office, American Chemical Society, 1155 Sixteenth St., N. W., Washington, D. C. 20036. (Tel: 202-737-3337).

Oct. 9 to 11—Gas Chromatography. Pittsburgh, Pa. *Contact:* Varian Aerograph, 2095 U. S. Route 22, Union, N. J.

Oct. 9 to 11—The Use of Operational Amplifiers in Instrumentation. Oakland, Calif. *Contact:* Richard G. McKee, McKee-Pedersen Instruments, P. O. Box 322, Danville, Calif. 94526. (Tel: 415-837-9349).

Oct. 9 to 13—Two Separate Workshops: Thin Layer Chromatography; Gas Chromatography. Madison, Wis. *Contact:* University of Wisconsin, University Extension, Engineering Dept., 432 North Lake St., Madison, Wis. 53706.

Oct. 9 to 13—Basic Techniques of Infrared Spectroscopy. Philadelphia, Pa. *Contact:* Sadtler Research Laboratories, Inc., 3316 Spring Garden St., Philadelphia, Pa. 19104. (Tel: 215-382-7800).

Oct. 16 to 20—Direct Reading Emission Spectrometry. Monrovia, Calif. *Contact:* T. R. Garrett, Consolidated Electrodynamics Corp., 1500 S. Shamrock, Monrovia, Calif.

Oct. 16 to 20—Fiber and Polymer Microscopy. Chicago, Ill. *Contact:* Mrs. Miriam L. Fallert, McCrone Research Institute, 451 31st St., Chicago, Ill. 60616.

Oct. 16 to 20—Infrared Spectroscopy. Philadelphia, Pa. *Contact:* Sadtler Research Laboratories, Inc., 3316 Spring Garden St., Philadelphia, Pa. 19104. (Tel: 215-382-7800).

Oct. 21 to 22—ACS Short Course on Infrared Spectroscopy. Cleveland, Ohio. *Contact:* Education Office, American Chemical Society, 1155 Sixteenth St., N. W., Washington, D. C. 20036. (Tel: 202-737-3337).

Oct. 23 to 27—Gas Chromatography. Philadelphia, Pa. *Contact:* Sadtler Research Laboratories, Inc., 3316 Spring Garden St., Philadelphia, Pa. 19104. (Tel: 215-382-7800).

Oct. 27 to 28—ACS Short Course on Thin-Layer Chromatography. Washington, D. C. *Contact:* Education Office, American Chemical Society, 1155 Sixteenth St., N. W., Washington, D. C. 20036. (Tel: 202-737-3337).

Oct. 30 to 31—ACS Short Course on Solvent Extraction. Atlanta, Ga. *Contact:* Education Office, American Chemical Society, 1155 Sixteenth St., N. W., Washington, D. C. (Tel: 202-737-3337).

Nov. 2 to 3—ACS Short Course on Solvent Extraction. Rochester, N. Y. *Contact:* Education Office, American Chemical Society, 1155 Sixteenth St., N. W., Washington, D. C. (Tel: 202-737-3337).

Nov. 2 to 4—ACS Short Course on Thermal Methods of Analysis. Anaheim, Calif. *Contact:* Education Office, American Chemical Society, 1155 Sixteenth St., N. W., Washington, D. C. 20036. (Tel: 202-737-3337).

Nov. 3 to 5—ACS Short Course on Spectrometric Identification of Organic Compounds. Detroit, Mich. *Contact:* Education Office, American Chemical Society, 1155 Sixteenth St., N. W., Washington, D. C. 20036. (Tel: 202-737-3337).

Nov. 6 to 8—Gas Chromatography. Sydney, N. S. W., Australia. *Contact:* Varian Pty. Ltd., 38 Oxley St., Crows Nest, Sydney, S. S. W., Australia.

Nov. 6 to 10—Infrared Spectroscopy. Los Angeles, Calif. *Contact:* Sadtler Research Laboratories, Inc., 3316 Spring Garden St., Philadelphia, Pa. 19104. (Tel: 215-382-7800).

Nov. 10 to 12—ACS Short Course on Spectrometric Identification of Organic Compounds. Indianapolis, Ind. *Contact:* Education Office, American Chemical Society, 1155 Sixteenth St., N. W., Washington, D. C. 20036. (Tel: 202-737-3337).

Nov. 13 to 15—Gas Chromatography. Melbourne, Vic., Australia. *Contact:* Varian Pty. Ltd., 38 Oxley St., Crows Nest, Sydney, N. S. W., Australia.

Nov. 13 to 17—Two Separate Courses: Gas Chromatography; Infrared Spectroscopy. Philadelphia, Pa. *Contact:* Sadtler Research Laboratories, Inc., 3316 Spring Garden St., Philadelphia, Pa. 19104. (Tel: 215-382-7800).

Nov. 15 to 17—Gas Chromatography. Denver, Colo. *Contact:* Varian Aerograph, 2700 Mitchell Dr., Walnut Creek, Calif.

Nov. 18 to 19—ACS Short Course on Thin-Layer Chromatography. Cleveland, Ohio. *Contact:* Education Office, American Chemical Society, 1155 Sixteenth St., N. W., Washington, D. C. 20036. (Tel: 202-737-3337).

Nov. 26 to 28—ACS Short Course on Interpretation of NMR Spectra. Baltimore, Md. *Contact:* Education Office, American Chemical Society, 1155 Sixteenth St., N. W., Washington, D. C. 20036. (Tel: 202-737-3337).

Nov. 30 to Dec. 2—ACS Short Course on Interpretation of NMR Spectra. Cincinnati, Ohio. *Contact:* Education Office, American Chemical Society, 1155 Sixteenth St., N. W., Washington, D. C. 20036. (Tel: 202-737-3337).

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III Polish Analytical Conference

The III Polish Analytical Conference, organized by the Commission of Analytical Chemistry of the Polish Academy of Sciences under the auspices of the International Union of Pure and Applied Chemistry, will be held in Warsaw, Poland, Sept. 10 to 15, 1968.

The main subjects to be covered at the meeting are:

Basic problems of analytical chemistry; new reagents, ionic equilibria, accuracy and precision, etc.
Analytical methods in inorganic industry
Analytical methods in organic industry
Techniques of analytical chemistry: new apparatus, automation, standards, sampling, etc.

Those wishing to present papers at the meeting should send an abstract before January 15, 1968, to Dr. Adam Hulanicki, Warszawa 22, ul. Pasteura 1, Poland. Further information and applications for attending the conference may also be obtained from Dr. Hulanicki.

Industry Items

Analtech, Inc., Wilmington, Del., manufacturer of thin-layer chromatography equipment and custom chemicals, has announced the sale of its Environmental Science Laboratory division. The division, purchased by M. Karl Brandt, will continue its services under the name of **Brandt Associates.** Location of the new company is 3617 Kirkwood Hwy., Wilmington, Del.

Bausch & Lomb, Rochester, N. Y., announced an agreement to acquire the **Houston Instrument Co.,** Houston, Texas. Bausch & Lomb is a leader in the optical, electronic, and scientific instrument field; Houston Instrument manufacturers a line of Omnigraphic recorders.

Calbiochem, Los Angeles, producer of biochemicals for research, plans to purchase the **American Agar and Chemical Co.,** makers of agar, a gelling and stabilizing agent used by the *foods industry and in research laboratories.*

Fisher Scientific Co., Pittsburgh, Pa., has acquired **Kurland Glass Laboratories, Inc.,** of Montclair, N. J. Kurland will function as an auxiliary plant of the Fisher Glass Apparatus Division and will add new products and glass-working skills to the division.

Union Carbide Corp. has created an instrument department within its Electronics Division, White Plains, N. Y., which will market environmental pollution monitoring instruments and special industrial analyzers.