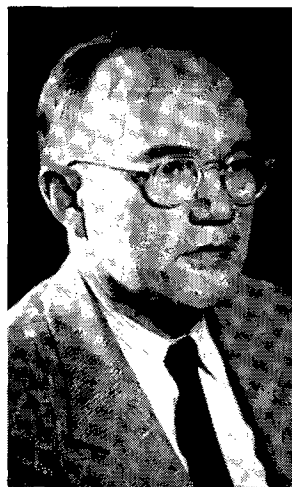


Hold Short Course in Rochester

THE 1961 short course of the American Oil Chemists' Society is definitely set for the University of Rochester, Rochester, N.Y., on July 24-26, according to word from J.C. Cowan, chairman of the Education Committee. Subject will be "Newer Lipid Analyses." Program



J.C. Cowan

chairman will be Raymond Reiser of Texas A & M College, College Station, Tex., and he will welcome suggestions for speakers from Journal readers.

Short courses were started in 1948, and there has been one nearly every year since. Topics have been varied, also locales. Bound reprints of some of these lectures are available for \$4 each: Production and Processing of Edible Fats, Engineering Aspects of Processing Oilseeds, Inedible Fats and Fatty Acids, Analytical Techniques, Unit Processes in the Fatty Oil, Soap, and Detergent Industries, Syndets and Soaps, Drying Oils.

PROCEEDINGS OF THE INTERNATIONAL SYMPOSIUM ON MICROCHEMISTRY, Birmingham (U.K.), August 1958, edited by D.W. Wilson (Pergamon Press, 583 pp., 1960, \$15). This volume contains the 60 papers that were presented at the International Symposium on Microchemistry, which was held at Birmingham University, under the sponsorship of the Society for Analytical Chemistry. The authors, gathered from some 25 different countries, include many of the best-known names in microanalytical chemistry today.

The papers cover almost all branches of microchemistry, broadly defined to include the analysis of macro-size samples for minor constituents as well as the analysis of micro-size samples for major constituents, and a considerable amount of good analytical information that should be applicable to samples regardless of size or content. An idea of the broad scope of the subject matter can be obtained from the following list of section headings (symposia topics): Qualitative Microanalysis, Decomposition of Organic Matter, Weighing, Determination of Elements and Groups, Determination of Physical Constants, Biochemical Methods, Chromatography and Ion Exchange, Polarography, Radiochemical Methods, Spectrochemical Methods, Titrimetry, Complexometry, Industrial Applications of Microchemistry, and Teaching and Apparatus.

As might be expected, the papers vary somewhat in style, approach, and content. Some are fresh reports of current or recently completed work, usually describing the development of new techniques or new applications of established techniques; others are essentially summaries of recent developments in a given field, usually of work done by the author or other workers in the field; while others are general review papers of recent developments in a larger area, e.g., combustion analysis, infrared analysis in microchemistry, etc. All of the papers are well edited and all reflect some of the enthusiasm and excitement that abounds at an international meeting such as this, where workers at the forefront of their fields meet to exchange information, ideas, attitudes, etc. This excitement is especially visible in the accounts of the discussion that follows each paper.

The book should prove interesting, stimulating, and informative to almost any microanalyst who is concerned with keeping up with current developments in the field. It should not however be considered only of value to "micro" chemists since there is much of value to the "macro" analytical chemist also, especially for those who are interested in gaining a perspective of the various branches of analytical chemistry. While there is little specifically devoted to the analysis of

fats and oils, many of the techniques can be adapted for use with these substances.

IRVING B. EISDORFER, Smith, Kline, and French Laboratories, Philadelphia, Pa.

LUBRICATION OF BEARINGS, by E.I. Radzinsky (Ronald Press Company, 338 pages, 1959, \$10). The author gives in the preface the purpose of the book as a text for a one-semester course in lubrication for graduate students and undergraduate students of senior standing. Such a course, the author feels, should thoroughly acquaint the student with the fundamentals of bearing operation and develop his ability to analyze bearings and to apply this analysis to the engineering problems for given bearing-operating conditions. Illustrative examples are given to show the application of theory to basic design problems. Formulas and design criteria used in solving lubrication problems are proved by deriving them from the basic theory upon which they are based.

The author has made an effort to maintain a clear understanding of the physical meaning of all mathematical derivations by using only English physical units in all derivations, final equations, and charts.

The book has been divided into 15 chapters. Chapter I is devoted to an introduction and a general discussion of lubricants, types of bearings, and systems for supplying lubricants; Chapter II, entitled Properties of Oil and Equations of Flow, introduces the reader to the physical property of lubricants known as viscosity, its definition and measurement; Chapters III through XII are devoted to the mathematical analysis of bearings and the application of lubrication; Chapter XIII gives examples of various types of bearing construction; Chapter XIV covers the materials of construction; Chapter XV is devoted to a series of examples of bearing analysis. The Table of Contents lists the chapter titles and paragraph subtitles; the principal symbols used in the text are tabulated; a bibliography and an index complete the format.

This book will be of most interest and value to students seriously interested in learning the theoretical principles of bearing design and to engineers whose work in the fields of machine design and lubrication makes a more thorough understanding of bearing design necessary or desirable.

W.J. GOODRUM, Spencer Kellogg and Sons Inc., Buffalo, N.Y.

KOLLOIDCHEMIE, by Stauff (Springer Verlag, Berlin/Göttingen/Heidelberg, 1960, VIII and 744 pp., 294 illustrations, 17 x 23.5 cm., DM69). The author has presented a physical-chemical treatment of the field of colloid chemistry. The book, an advanced treatise, places much emphasis on the mathematical development of the subject-matter. Professor Stauff has conveniently divided the field of colloids into three major classes: dispersion colloids, association colloids, and macromolecules, which are further defined and elaborated upon. The contents of the book are divided into 10 main sections and subdivided into a total of 96 consecutively numbered smaller units, each dealing with a specific topic.

The 10 main sections of the book cover, in addition to a general introduction, physical properties of variable dispersion systems, determination of size, shape, and structure of colloidal particles, interfacial phenomena, electrical phenomena in colloidal systems, variable dispersion systems, dispersion colloids, associated colloids, macromolecules and macro-ions, and gels. The author has devoted a section of the book to association colloids, which deal in part with colloids formed with oils and soaps. The size, shape, and structure of associated colloid systems, colloids formed by soaps in oils, and solubilization by means of soaps are discussed in this section; also of interest to lipid chemists are the chapters discussing macromolecules, macro-ions, and gels.

The book has an appendix which is divided into four sections, as follows: a detailed mathematical treatment of thermodynamics, a mathematical treatment of statistical mechanics, optical methods for determination of threshold concentrations, and an advanced treatment of light-scattering effects of single molecules.

The book is attractively bound and printed in easily legible type on high-quality, hard-finish paper. The equations, formulae, diagrams and illustrations are clearly printed and readable. The author has made extensive use of footnotes for explanatory purposes. References are very numerous and well-documented but are re-numbered consecutively and placed on the bottom of each page of text. This appears to be the only instance of awkward construction. The only index presented is a subject index, but this appears to be very detailed and complete. The book should be of value to chemists in general and would be of particular value to physical chemists dealing with colloids involving oils and soaps.

E.G. PERKINS, Armour and Company, Chicago, Ill.

APPLICATION OF NUCLEAR MAGNETIC RESONANCE SPECTROSCOPY IN ORGANIC CHEMISTRY, by L.M. Jackman (Pergamon Press, 134 pp., 1959, \$5.50). Nuclear magnetic resonance (n.m.r.) has blossomed from the basic discoveries in 1945 of Purcell, Torrey, and Pound at Harvard University and Black, Hansen, and Packard at Stanford University. The passage from this highly theoretical work of the physicist to a working tool of the organic chemist has occurred in less than 15 years!

This small book of Dr. Jackman performs an outstanding service to the organic chemist by gently leading him into this complex area in a nonmathematical fashion. The book introduces the subject by briefly describing the historical background and then proceeding to describe the nuclear resonance phenomenon itself. In sequence are discussed the relaxation process, magnetic shielding of atomic nuclei, electron coupled spin-spin interactions, chemical exchange, and hindered rotation. These subjects are clearly presented, with suitable literature sources for more detailed study, and form the skeleton of the discussion in later chapters on The Correlation of Chemical Shift and Molecular Structure, The Interpretation of Spectra of Complex Organic Molecules, and Diamagnetic

Anisotropy and Stereo-Chemistry. A particular delight is the chapter in which the experimental apparatus and techniques are explored in such a way as to give the organic chemist "a feel" without sinking him in the very real electronic and experimental complexities. The discussion shows how to choose the solvent, to calibrate spectra (with the introduction of the τ -values), and to measure intensities.

The latter half of the book discusses the application of n.m.r. to actual chemical systems and shows how it may be used for structural determination, studies on various types of isomerism (geometric, positional, rotational, conformational, . . .), detailed studies of reaction rates, molecular interaction (intra- and inter-), and chemical equilibrium. This impressive array of topics is ably described and is a most cogent argument for the purchase of the book. Emphasis is on the proton spectra of organic molecules both because they form the bulk of "organic chemistry" and because their interpretation is simpler. However the nuclear magnetic resonance spectra of the nuclei of fluorine (F^{19}), phosphorus (P^{31}), carbon (C^{13}), nitrogen (N^{14}), oxygen (O^{17}), and deuterium (H^2) are briefly discussed.

The book should be owned and read by every organic chemist.

JOHN S. SHOWELL, Eastern Regional Research Laboratory, Philadelphia, Pa.

• Received in the Journal Office

"Technical Information and Service Manual for Accutron," a 40-page manual describing a new device for measurement, is available from Carl Bvoir and Associates Inc., 800 Second avenue, New York 17, N.Y.

From France (Secrétariat, 70 Champs Élysées, Paris 8) has been received a 15-page technical booklet entitled "Comité International de la Détergence."

"CVP Resonotes," a quarterly magazine dealing with synthetic resins, is offered by Cray Valley Products Ltd., St. Mary Cray, Kent, England.

Three leaflets from the Commonwealth Scientific and Industrial Research Organization, Australia, treat of these topics: "Fluorescent Marking of Casein Particles," by J.F. Hayes and L.L. Muller; "The Microstructure of Some Non-Dispersible Particles in Milk Powder," by N. King; and "New Zealand and Australian Developments in Casein Manufacture," by L.L. Muller.

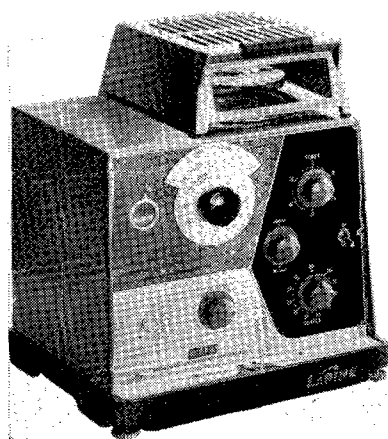
Also from Australia, reprinted from the Australian Journal of Chemistry, is an article entitled "The Chemistry of Sugar-Cane Wax," by J.A. Lamberton and A.H. Redcliffe.

Written in English, except for the introductions, are two scientific bulletins from Académie Polonaise des Sciences. Warszawa, Palac Kultury 1 Nauki, Poland, Vol. VIII, Nos. 6 and 7.

The Danish Academy of Technical Sciences, Copenhagen, Denmark, has contributed a 275-page bulletin for international engineering services on "The Life and Works of A.K. Erlang," by E. Brockmeyer, H.L. Halstrom, and A. Jensen.

Butterworth and Company Ltd., 4-5 Bell yard, Temple Bar, London W.C. 2, England, announces publication of the first issue of a journal entitled Pure and Applied Chemistry. The 185-page volume includes 12 scientific papers as the proceedings of the Radioactivation Analysis Symposium in Vienna, Austria, under the auspices of the International Atomic Energy Agency Joint Commission on Applied Radioactivity. U.S. offices are at 7235 Wisconsin avenue, Washington 14, D.C.

From the Republica Populara Roumania has been received a 450-page bulletin of the Polytechnic Institute of Jassy, Vol. V (IX), 1959, entitled "Institutului Politehnic din Iasi."



READ PERCENT MOISTURE DIRECTLY WITH OHAUS

MOISTURE DETERMINATION BALANCE

Measurements of moisture content accurate within 0.1% can be made on this precision instrument. Sample in drying chamber rests on pan of chain-weight balance. Shadow-type vane indicates balance position. Instrument can be used for any liquid or granular solid that can be safely dried by heat. Samples may be as large as 10 grams. Direct readings of loss may be made periodically for reproducible determinations.

Heating chamber is designed to remove vapor rapidly and evenly. Powerful infrared heater (650 watts) is adjustable in height above sample, also in percentage output. Built-in timer automatically shuts off heat at any setting from 1 to 60 minutes. Glass window in heating chamber enables observation of sample. Pan is easily accessible and remains stable even when loaded off center or with liquids. Disposable pan liners (aluminum foil) save cleaning time.

No. OC11-77—Moisture Determination Balance (Ohaus Model No. 6000) complete with 25 disposable liners, each . . . \$295.00

LAPINE ARTHUR S. LAPINE and COMPANY 4001 SOUTH KNOX AVENUE
CHICAGO 29, ILLINOIS, U.S.A.
MANUFACTURERS & DISTRIBUTORS
LABORATORY SUPPLIES • EQUIPMENT • REAGENT AND INDUSTRIAL CHEMICALS
In the East: Tensco-Lab, Inc. • Irvington-On-Hudson, New York • Phone LYric 1-8900

From Berlin, Germany, has been received a little paper-bound book in 308 pages, entitled "Qualitative Analyse" by Helmut Hofmann and Gerhart Jander.

Two scientific bulletins from the Institute of Physical Chemistry, Polish Academy of Sciences, Warsaw, entitled "L' Academie Polonaise des Sciences." Vol. 8, Nos. 4 and 5, are written in German and English.

A small paper-bound booklet of 61 pages provides abstracts of the 81 papers presented at the Symposium on Proteins at the Central Food Technological Research Institute, Mysore, India, under the auspices of The Chemical Research Committee and the Society of Biological Chemists.

The Laboratório Bromatológico, Rio de Janeiro, Brazil, has contributed No. 2, Vol. VI, July-Dec. 1958, and No. 1, Vol. VII, Jan.-June 1959, of Arquivos de Bromatologia.

The Bulgarian Academy of Sciences, Sofia, sends a 108-page booklet (8x11 in.) "Abstracts of Bulgarian Scientific Literature" printed in English.

Two pamphlets from the Danish Fat Research Institute, Copenhagen, Denmark, treat these topics: "Polyenoic Fatty Acids and Cholesterol in Blood, Heart, and Liver of Chicks Fed on Hydrogenated and Unhydrogenated Arachis Oil," by Gunhild Holmer, Gunhild Kristensen, E. Sondergaard, and H. Dam; and "The Effects of Diets with No Fat or with Hydrogenated or Unhydrogenated Fat on Growth and Tissue Pathology of Rats," by J. P. Funch, A. Jart, and H. Dam.

The July 1960 issue of Parfumerie and Kosmetik, published by Dr. Alfred Huthig Verlag GmbH, Frankfurt am Main and Heidelberg, Germany, has been received.

The 42nd edition of the "Handbook of Chemistry and Physics" containing the current scientific data in mathematics, physics, and chemistry, is now available from the Chemical Rubber Company, 2310 Superior avenue, Cleveland 14, O.

• Industry Items

R.S. Corcoran Company, Joliet, Ill., announces the 1800V Series, three types of vertical mounted centrifugal corrosion-resistant pumps for close quarters.

A low-capacity metering pump designed for flexibility in industrial applications is available from Wallace and Tiernan Inc., 25 Main street, Belleville 9, N.J.

Scientific Glass Apparatus Company Inc., Bloomfield, N.J., brings out Burd-Watcher II for automating, programming, monitoring, and controlling reactions and distillations of any size.

The 1961 Titrimeter with two models, Model 35 for manual titration and Model 36 for automatic titration, is announced by Fisher Scientific Company, 717 Forbes avenue, Pittsburgh 19, Pa.

Bellows Differential Pressure Transmitter, Specification S 230-1, is described in a four-page brochure by Minneapolis-Honeywell Regulator Company, Wayne and Windrim avenues, Philadelphia 44, Pa.

Barber-Coleman Company, Wheelco Industrial Instruments Division, Rockford, Ill., brings out two new products: a 3-Dial Spin and Zero Recorder, also an Automatic Extended Range Recorder.

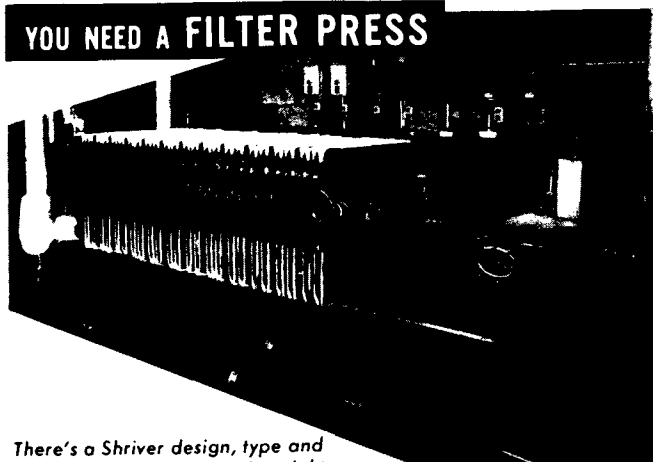
A Threaded-Glass Needle Valve, which provides fine fluid control and permits continuous visual observation of flow, is introduced by the Glass Products Division, Fischer and Porter Company, 720 Jacksonville road, Warminster, Pa.

The Beckman Zeromatic pH Meter, a line-operated, drift-free instrument for making precise pH or millivolt measurements, is described in a bulletin by Beckman, Scientific and Process Instruments Division, 2500 Fullerton road, Fullerton, Calif.

Smith, Winters, Mabuchi Inc., 130 W. 57th street, New York 19, N.Y., announces Schlumberger Analyzer for solid analysis of pigment slurry.

WHEN YOU REQUIRE FILTRATION

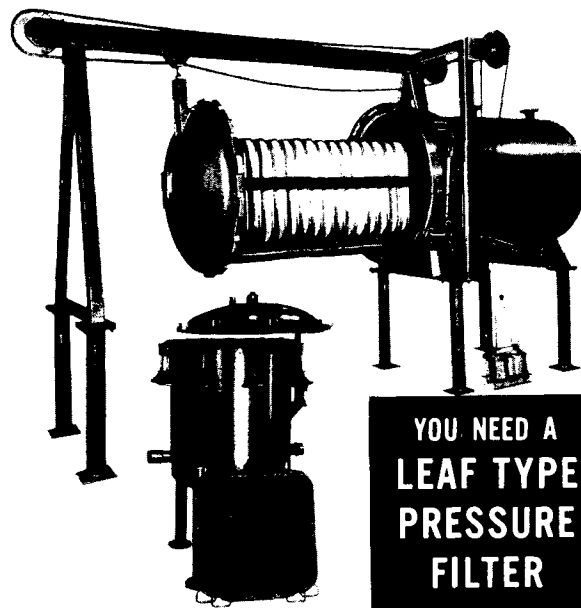
- That is versatile and flexible in operation,
- Over a wide range of pressures,
- For recovery of filtrate and of uniform, dense filter cake,
- With effective washing or extraction of cake.
- No left-over slurry at end of run.
- Clarification of viscous or hard-to-filter slurries.
- Use of a wide range of filter media —



There's a Shriver design, type and size that fits your process just right. Catalog 59 gives complete details.

WHEN YOU REQUIRE FILTRATION

- Of slurries with a low percentage of compressible and disposable solids or
- Of slurries with up to 15 percent of solids, with either or both filtrate and solids to be recovered.
- Where continuous filter aid additions are required to maintain a permeable filter cake.
- Where residual solids may be reslurried with water for disposal.
- Where an enclosed tank is needed to avoid leakage.
- With one-man operation for sluicing, cleaning and preparation for the next cycle —



**YOU NEED A
LEAF TYPE
PRESSURE
FILTER**

The Shriver vertical leaf filter is available in vertical tank and horizontal tank types, in a wide range of leaf and tank sizes. New Bulletin 150 tells the story.

FILTERS AND COMPLETE
FILTER STATIONS TO
MEET YOUR EXACT
PROCESSING NEEDS

T. Shriver & Company, Inc.

822 HAMILTON STREET • HARRISON, N. J.
Sales offices in principal cities