

# Meetings and Societies

## Program of the Gordon Research Conferences

The Gordon Research Conferences for 1957 will be held from 10 June to 30 August at Colby Junior College, New London, N.H.; New Hampton School, New Hampton, N.H.; and Kimball Union Academy, Meriden, N.H.

**Purpose.** The conferences were established to stimulate research in universities, research foundations, and industrial laboratories. This purpose is achieved by an informal type of meeting consisting of scheduled lectures and discussion groups. Sufficient time is available to stimulate informal discussions among the members of a conference. Meetings are held in the morning and in the evening, Monday through Friday, with the exception of Friday evening. The afternoons are available for recreation, reading, or participation in discussion groups as the individual desires. This type of meeting is a valuable means of disseminating information and ideas that otherwise would not be realized through the normal channels of publication and scientific meetings. In addition, scientists in related fields become acquainted, and valuable associations are formed that often result in collaboration and cooperative efforts between different laboratories.

It is hoped that each conference will extend the frontiers of science by fostering a free and informal exchange of ideas among persons actively interested in the subjects under discussion. The purpose of the program is not to review the known fields of chemistry but primarily to bring experts up to date on the latest developments, to analyze the significance of these developments, and to provoke suggestions concerning the underlying theories and profitable methods of approach for making new progress.

In order to protect individual rights and to promote discussion, it is an established requirement of each conference that no information presented is to be used without specific authorization of the individual making the contribution, whether in formal presentation or in discussion. Scientific publications are not prepared as emanating from the conferences.

**Registration and reservations.** Attendance at the Conferences is by application. Individuals interested in attending the conferences are requested to send

their applications to the director at least 2 months prior to the date of the conference. *All applications must be submitted on the standard application form*, which can be obtained by writing to the office of the director. This procedure is important because certain specific information is required in order to make a fair and equitable decision on the application. Attendance at each conference is limited to approximately 100 individuals.

The director will submit the names of those requesting attendance to the Conference Committee for each conference. This committee will review the names and select the members in an effort to distribute the attendance as widely as possible among the various institutions and laboratories represented. A registration card will be mailed to those selected as soon as possible. Advance registration by mail for each conference is required, and registration is completed on receipt of the card and a deposit of \$15 made payable to the Gordon Research Conferences. The deposit of \$15 will be credited against the fixed fee for the conference if the individual attends the conference for which he has applied. A registration card without the \$15 deposit will not be accepted.

The board of trustees of the conferences voted to establish a fixed fee of \$100 for each conference. This fee was established to encourage attendance for the entire conference and to increase the special fund that is available to each conference chairman to assist academic and government conferees and those individuals who attend a conference at personal expense with travel or subsistence expenses, or both. The fixed fee will be charged regardless of the time a conferee attends the conference, 1 to 4½ days. It is divided as follows: registration fee, \$40 (\$15 administration and \$25 special fund); room and meals, \$60 (including gratuities). For a room with private bath or a single room (limited number available) an additional charge of \$1 per night, per person is made. These rooms will be assigned in the order that applications are received.

Members attending a conference are expected to live at the conference location because the conferences are organized to provide a place for scientists to get together informally. It is to the advantage of all participants to attend a conference for the entire week. If special

circumstances warrant living elsewhere, the conferee will be charged the registration fee of \$40 (academic conferees \$15).

The fixed fee will provide registration, room (except room with private bath or single room), meals, and gratuities. It will not provide for golf, telephone, taxi, laundry, conference photograph, or any other personal expenses.

Academic and government conferees and others on personal expense may request a reduction of \$25 (special fund) in the fixed fee. Application for this special fee (\$75) must be made when the registration card is returned to the director.

Accommodations are available for a limited number of women to attend each conference, and also for wives who wish to accompany their husbands. All such requests should be made at the time of the request for attendance, for these limited accommodations will be assigned in the order that specific requests are received. Children under 12 years of age cannot be accommodated. Dogs or other animals will not be permitted in the dormitories.

**Special fund.** A special fund is provided by the board of trustees from the registration fee to the chairman of each conference to assist scientists from academic and government institutions who cannot attend or participate because of financial limitations. This fund is provided with the object of increasing the participation of research workers of academic and government laboratories; it is not limited to scientists who have been invited by the chairman to attend a conference in order to present a paper. The money is to be used as an assistance fund only and may be used to contribute toward the traveling or subsistence expenses, or both, at the conference. Total travel and subsistence expenses normally will not be available.

**Cancellations.** The cancellation of an approved application for attendance at a conference will cause forfeiture of the \$15 deposit. This deposit will be returned only if an application is not approved.

**Attendance.** Requests for attendance at the conferences, or for any additional information, should be addressed to W. George Parks, Director, Department of Chemistry, University of Rhode Island, Kingston, Rhode Island. From 10 June to 1 September, mail should be addressed to Colby Junior College, New London, N.H.

## Colby Junior College

### Petroleum

Lawrence Flett, *chairman*

P. D. Caesar, *vice chairman*

10 June. *Liquid phase oxidation and antioxidants*, George H. Denison, *chairman*: J. R. Thomas, "Lube oil oxi-

dation"; R. H. Rosenwald, "Gasoline oxidation"; G. S. Hammond, "Mechanism(s) of oxidation and inhibition."

11 June. Cary R. Wagner, *chairman*: Herbert C. Brown, "Directive effects in aromatic alkylation and acylation"; Norman C. Deno, "Application of acidity functions to the reactions of aliphatic hydrocarbons"; Martin Kilpatrick, "Study of aromatic hydrocarbons in highly acidic solvents."

12 June. *Alkylation of isoparaaffins with olefins*, A. R. Goldsby, *chairman*: Ray J. Young, "New developments in propylene alkylation"; A. Schneider, "Secondary reactions in alkylation"; C. D. Slyngstad, "New aspects in alkylation"; Herman S. Bloch, "Chemistry of catalyst degradation." *Petrochemicals—oxidation processes*, A. A. Williams, *chairman*: C. W. Smith; S. D. Cooley.

13 June. *Hydrogen refining*, Alex G. Oblad, *chairman*: D. H. Stevenson, "Process aspects of hydrotreating of petroleum fractions"; F. Braconier, "Acetylene and acetylene compounds."

14 June. *Polyethylene*, Glenn A. Nesty, *chairman*: Michael E. Erchack, "Low molecular weight polyethylene"; Arthur V. Tobolsky, "New polyolefins."

#### Catalysis

R. L. Burwell, Jr., *chairman*  
Vladimir Haensel, *vice chairman*

17–21 June. H. A. Benesi, "Titration of acidic sites on solid surfaces"; J. H. de Boer, "Microporous salt and oxide systems"; J. D. Danforth, "Cracking catalysis"; R. P. Eischens and W. A. Pliskin, "The infrared spectra of chemisorbed molecules"; H. E. Farnsworth, "Adsorption and catalysis on clean surfaces"; M. J. Joncich, "In situ methods for alteration of catalytic activity"; P. W. Selwood, "The mechanism of heterogeneous catalytic hydrogenation"; H. A. Smith, "Kinetics of hydrogenation of organic compounds and of related deuterium exchange reactions"; E. H. Taylor, "The effect of ionizing radiation on heterogeneous catalysts"; I. Wender, "Catalytic properties of metal carbonyls and related complexes"; J. C. Balaceanu, "The determination of kinetic factors in heterogeneous catalysis."

#### Separation and Purification

Karl Kammermeyer, *chairman*  
L. C. Craig, *vice chairman*

24 June. S. Siggia, "Application of separation techniques to analytic problems"; R. C. Binning, "Liquid separation by means of barriers."

25 June. D. Frazier, "Thermal diffusion theory and practice"; E. W. Becker, part I, "Separation of isotopes by nozzles," part II, "Production of heavy water by high pressure-exchange of hydrogen and water in hot-cold columns."

26 June. Noland Poffenberger, "Crystallization"; Julian Phillips, "Separations by fractional crystallization—industrial practice."

27 June. E. F. Williams, "Gas chromatography"; R. A. Dinerstein and L. J. Schmauch, "Thermal-conductivity cells and the Martin gas-density balance"; J. Calvin Giddings, "Theoretical aspects of chromatographic separations."

28 June. R. W. Rivett, "Chromatography in pilot-plant scale—isolation of antibiotics."

#### Polymers

W. E. Cass, *chairman*  
T. G. Fox, *vice chairman*

1 July. H. Mark, "Recent advances in polymer chemistry"; C. Sadron, "Some new developments in the polymer research field at the Centre de Recherches des Macromolecules"; D. W. Fox and E. P. Goldberg, "Aromatic polycarbonates—new high-temperature, high-impact thermoplastic resins"; R. E. Hughes, "Configuration and conformation in crystalline polymers."

2 July. C. G. Overberger, "Some aspects of homogeneous and heterogeneous ionic polymerization"; J. C. Mackey, J. B. Byrne and D. C. Feay, "Ziegler catalytic system"; C. Schuerch, "Application of polymer methods to the lignin problem."

3 July. R. Simha, "The equation of state of liquid hydrocarbons and polymers"; Y. H. Pao, "Theory of flow of polymeric liquids"; U. P. Strauss, "Properties of long-chain polyphosphates."

4 July. B. D. Coleman, "The statistics and time dependence of the creep failure of oriented polymeric filaments"; A. M. Bueche, "The strength of elastomers"; A. N. O'Neill and D. A. I. Goring, "Carageenin."

5 July. E. J. Lawton, "The importance of crystallinity in the cross-linking of polyethylene by high-energy electrons"; D. S. Ballantine, "Radiation initiated graft copolymerization studies."

#### Textiles

H. A. Secrist, *chairman*  
E. I. Valko, *vice chairman*

8 July. W. J. Hamburger, "Yarn torque and its implications in the stability of fabrics"; E. I. Valko and G. C. Tesoro, "Durable finishing of hydrophobic textiles."

9 July. A. B. Thompson, "Strain-induced crystallization in synthetic fibers"; T. B. Lefferdink, "Interpretation of single fibre properties."

10 July. J. J. Press, "The development and structure of felted materials"; C. Harmon, "Nonwoven fabrics."

11 July. K. Weissenberg, "Some new phenomena in the behavior of viscoelastic materials"; E. Pacsu and R. F. Schwenker, "The effect of chemical

modification on the flame- and glow-resistance of cotton cellulose."

12 July. F. Fortess, "Accelerant dyeing phenomena."

#### Corrosion

W. D. Robertson, *chairman*  
J. E. Draley, *vice chairman*

15 July. *Hydrogen absorption and embrittlement*, J. J. Harwood, *chairman*: M. L. Hill, "The solubility and diffusion of hydrogen in steel"; J. O'M. Bockris, "Adsorption of hydrogen on metals with reference to corrosion and embrittlement"; F. de Kazinczy, "Hydrogen absorption and embrittlement"; B. F. Brown, "Delayed fracture and hydrogen absorption."

16 July. *Structure, dependent corrosion, and oxidation*: D. A. Vermilyea, *chairman*: K. R. Lawless, "Structural relationships of oxide and metal in oxidation"; W. E. Tragert, "The structural factors associated with the oxidation of high-purity aluminum in water"; Earl Gulbrandsen, "Structure dependent oxidation processes"; T. N. Rhodin, "Oxidation of niobium binary alloys."

17 July. *Effects of radiation on corrosion*, J. E. Draley, *chairman*: M. T. Simnad, "The effects of nuclear irradiation on metal surface reactions"; G. H. Jenks, "The effect of radiation on the corrosion of zirconium." *Corrosion in water at high temperatures*, E. C. W. Peryman, *chairman*: R. A. U. Huddle, "The proton and aqueous corrosion at high temperatures"; J. E. Draley, "Behavior of aluminum and uranium in water at high temperatures."

18 July. *Corrosion in water at high temperatures* (continued), E. C. W. Peryman, *chairman*: M. W. Burkart, "Corrosion of uranium alloys in high-temperature water"; F. H. Krenz, "Intergranular corrosion of aluminum in high-temperature water." *Stress corrosion cracking of stainless steel*, M. A. Streicher, *chairman*: J. J. Harwood, "Current research and problems associated with cracking failures of stainless steel"; H. H. Uhlig, "Metallurgical factors in the stress corrosion cracking of austenitic stainless steel."

19 July. *Stress corrosion cracking of stainless steel* (continued), M. A. Streicher, *chairman*: Hugh L. Logan, "Research at the National Bureau of Standards on cracking of stainless steels"; A. W. Dana, "Corrosion cracking of stainless steels."

#### Instrumentation

Axel H. Peterson, *chairman*  
N. B. Nichols, *vice chairman*

22–26 July. *Invited papers*. Clifford K. Beck, "Perspective views of reactor instrument systems"; Erik Blomgren, "Some recent trends in instrumentation in Europe with reference particularly to

the application of electronics to electrochemistry"; Charles S. Draper, Sidney Lees, Walter Wrigley, "Inertial instrumentation"; Victor P. Head, "Engineering rheology and instrumentation"; W. Lewis Hyde, "Some comments on instrumentation—illustrated by examples in microscopy"; Marcus O'Day, "Worth-while rediscoveries from 100 years ago"; H. Ziebolz, "Nonlinear and adjustable gain fluid relays."

**Contributed papers.** J. B. Breazeale, "Some new instruments based on magnetic suspension"; Arthur S. Brill, "A fast and sensitive magnetic susceptometer for the study of chemical reactions"; Britton Chance, "Optical measurements inside living cells"; H. R. Hegbar, "A method of achieving AGC in d-c instrument servos"; Harold A. Lamonds, "Interesting features of reactor control systems"; Gerhard Lessman, "The electronic fringe-counting linear measurement interferometer"; Arthur E. MacNeill, "The blood dialyzer viewed as a basic instrument for communication with biological systems"; J. E. McCauley, "A simple photometer for measuring the efficiency of sizing of paper"; Axel H. Peterson, "Recent developments in analytic weighing techniques"; David Z. Robinson, "Application of the evaporograph to determination of temperatures of vacuum-tube envelopes"; Jonathan R. Roehrig, "EFFI—an instrument for measuring the average diameter of wool fibers"; E. W. Silvertooth, "Computer for gas chromatography"; Harry Sohon, "A visual function-display on a digital computer."

#### Elastomers

E. E. Gruber, *chairman*

E. B. Newton, *vice chairman*

29 July. E. R. Erickson, R. A. Berntsen, E. L. Hill, "A study of the reaction of ozone with GR-S rubbers"; John Born, J. A. Glantz, "Effect of gamma radiation on elastomers"; E. M. Dannenberg, M. E. Jordon, "A study of carbon black in cross-linked polyethylene."

30 July. J. V. Hallum, K. A. Burgess, F. Lyon, "Carbon black surface functional groups. Their identification and effects"; Merton Studebaker, "Properties of carbon black recovered from cured rubber stocks"; P. Thirion, "Thermodynamics of rubber during reversible extension. Coefficients at constant pressure and at constant volume."

31 July. J. W. Watson, R. Jarvis, "Free radical mechanism of reinforcement"; John O. Cole, C. R. Parks, "Kinetics of cross-linking of tread stocks"; L. A. McLeod and W. G. Forbes, "The dependence of tack strength on molecular properties."

1 Aug. W. M. Saltman, W. F. Gibbs, Jogiuder Lal, Bernard Wargotz, "Mechanism studies of isoprene polymeriza-

tion of Ziegler type catalysts"; H. E. Adams, "Polymerization of isoprene with aluminum alkyltitanium tetrachloride catalyst"; J. N. Short, Gerard Kraus, Vernon Thornton, "Effect of *cis-trans* ratio on the physical properties of 1,4-polybutadiene."

2 Aug. S. M. Skinner, "An experimental study of the tensile behavior of polyethylene—implications to the general theory of rubber elasticity"; Leon Talalay, Howard S. Smith, Ralph N. Kingsbury, Donald G. Dobay, "Freeze agglomeration of latex."

#### Medicinal Chemistry

K. E. Hamlin, *chairman*

M. B. Chenoweth, *vice chairman*

5 Aug. *Diuretic agents*: Alfred Farah; Robert F. Pitts. *Biochemistry of N-oxides*: Evan C. Horning, J. Mills, I. H. Slater, R. C. Rathbon, "Tranquilizing agents unrelated to phenothiazine."

6 Aug. *Anticholinesterase poisoning*: J. H. Wills; G. M. Steinberg. *Electric activity of single cells in the central nervous system*: Karl Frank; Theodore Bullock.

7 Aug. *Glucuronic acid metabolism*: J. Strominger, "Biosynthesis of glucuronides"; Julius Axelrod, "Physiological aspects of glucuronide conjugation"; J. J. Burns, "Effect of drugs on biosynthesis of free glucuronic acid and ascorbic acid." *Chemistry of borazene*: Harry H. Sisler.

8 Aug. *The "double-blind" test tested*: Walter Modell. *First-hand clinical drug evaluation*: Raymond W. Houde. *Structure-activity relations in antibiotics*: Paul F. Wiley, "Erythromycin"; C. R. Stephens, "Tetracyclines."

9 Aug. *Mechanisms of pharmacological action*: R. C. Park, "Insulin."

#### Vitamins and Metabolism

George W. Kidder, *chairman*

Lemuel D. Wright, *vice chairman*

12 Aug. F. C. Steward, "Biochemistry of growth induction"; H. P. Broquist, "Biochemistry and metabolism of 6-alkyl-8-thiooctanoic acids"; Elizabeth Work, "The metabolism and function of  $\alpha,\epsilon$ -diaminopimelic acid in bacteria"; P. A. Tavormina, "Mevalonic acid in cholesterol biosynthesis."

13 Aug. Virginia C. Dewey, "The metabolism of amino acids by *Tetrahymena*"; C. E. Dalglish, "Aspects of aromatic amino acid metabolism"; M. B. Hoagland, "Intermediate reactions in protein biosynthesis"; M. Sussman, "Some aspects of developmental physiology in cellular slime molds"; D. M. Lilly, "Factors in the growth of some omnivorous ciliates."

14 Aug. A. D. Welch, "Studies of the metabolism of pyrimidines and pyrimidine antagonists"; R. Abrams, "Some aspects of guanine nucleotide metabo-

lism"; H. L. House, "The nutritional physiology of the parasitoid dipteran, *Pseudosarcophaga*"; R. W. Newburgh and V. H. Cheldelin, "Carbohydrate metabolism in insects."

15 Aug. M. Silverman, "Metabolic transformations of folic acid"; J. C. Rabinowitz, "The role of tetrahydrofolic acid in formimino transfer"; F. H. Kratzer, "Folic acid, vitamin B<sub>12</sub>, and unidentified factor studies with turkeys"; J. M. R. Beveridge, "The nature of the plasma lipid elevation and depressant factors in dietary fats."

16 Aug. Gladys Emerson, "Amino acid metabolism in rats"; B. Connor Johnson, "Vitamin metabolism in large animals."

#### Food and Nutrition

Harry Spector, *chairman*

Robert H. Silber, *vice chairman*

19 Aug. *Antibiotics in food preservation*, C. L. Wrenshall, *chairman*: H. L. Tarr, "Potential value of antibiotics in preservation of perishable foods"; Charles R. Stumbo, "Relation to canning and other methods of food preservation"; Henry Welch, "Public health and regulatory aspects." *Advances in mineral nutrition*, Alvin Nason, *chairman*: Robert Van Reen, "Recent developments in nutritional aspects of trace-elements metabolism"; Emanuel Epstein, "Mineral nutrition in plants—absorption and transport."

20 Aug. *Fat metabolism and atherosclerosis*, Raymond Reiser, *chairman*: Ralph T. Holman, "The biological interconversion of polyunsaturated fatty acids"; J. B. Brown, "The effect of hydrogenation on the polyunsaturated 'essential' fatty acids." Norman Jolliffe, *chairman*: Hugh M. Sinclair, "The functions of the essential fatty acids and their relationship to atherosclerosis"; Laurance W. Kinsell, "Essential fatty acids and lipid metabolism."

21 Aug. *Advances in protein nutrition*, James B. Allison, *chairman*: Richard J. Block, "Nitrogen requirements of animals and man"; Hans R. Rosenberg, "Supplementation of foods with amino acids." *Nutrition in liver disease*, Klaus Schwarz, *chairman*: Philip K. Bondy, "Carbohydrate metabolism in liver disease"; Charles S. Davidson, "Some aspects of protein utilization and metabolism in liver disease."

22 Aug. *Preservation of food by ionizing radiations*, Bruce H. Morgan, *chairman*: Don E. Young, "Problems and methods of industrial and experimental application"; W. Dexter Bellamy, "Action of ionizing radiations on proteins and enzymes"; A. L. Tappel, "Action of ionizing radiations on fats and vitamins"; Z. I. Kertesz, "Action of ionizing radiations on carbohydrates"; B. S. Schweigert, "Action of ionizing radiations on meats"; Bruce H. Morgan, "Action of

ionizing radiations on other foods"; L. L. Kempe, "Microbiological problems in preserving foods by ionizing radiations"; speaker to be announced, "The wholesomeness of irradiated foods"; B. E. Proctor, "Industrial potential of food preservation by ionizing radiations."

23 Aug. *Operations research*. Bernard E. Proctor, "Operations research. Why? When? How?"; Robert Brown, "Fundamentals of operations research"; Arthur H. Smith, "Applying operations research in the food industry."

#### Cancer

Arthur Kirschbaum, *chairman*

Hans Schlumberger, *vice chairman*

26 Aug. F. Bang, *chairman*: T. C. Hsu, "Mitosis in human cell strains (tissue culture) derived from nonmalignant tissues"; D. Fawcett, "Electron-microscope studies on the Lucké renal adenocarcinoma"; E. A. McCulloch, "Electron microscopy of normal and leukemic cells from human bone marrow." H. Rusch, *chairman*: G. Lester, "Aspects of hormonal control of permeability"; O. Hechter, "Possible role of the cell membrane in the cancer problem."

27 Aug. J. Furth, *chairman*: R. Guillemin, "The hypothalamus in the regulation of anterior pituitary function"; K. Clifton, "Mammatropes in relation to mammary cancer"; R. L. Noble, "Hormone-dependent mammary tumors in the rat." A. Segaloff, *chairman*: R. Hertz, "Endocrine approaches to the cancer problem"; B. J. Kennedy, "The role of the pituitary gland in human breast cancer"; E. D. Murphy, "Cervical carcinogenesis in the mouse: effects of stilbestrol and methylcholanthrene."

28 Aug. W. U. Gardner, *chairman*: P. Talalay, "Enzymatic mechanisms in steroid metabolisms"; C. Villee, "Anti-estrogens"; A. Cohen and E. Bloch, "In vitro assays for function and responsiveness of adrenal tumors." L. W. Law, *chairman*: A. C. Upton, "Induction of myeloid leukemia by x-rays"; H. S. Kaplan, "Role of the thymus in the genesis of experimental lymphoid tumors in mice"; D. Metcalf, "Lymphocytosis factor of the thymus."

29 Aug. A. Kirschbaum, *chairman*: M. Potter, "Biologic characterization of reticular neoplasms of mice"; C. J. Dawe, "Tissue culture of reticular neoplasms of mice"; S. O. Schwartz, "Etiology of leukemia: filterable agents." H. S. Kaplan, *chairman*: W. E. Heston, "Localization of gene effects in carcinogenesis"; J. J. Trentin, "Irradiation, protection by bone-marrow and histocompatibility."

30 Aug. H. Schlumberger, *chairman*: B. Amos, "Immunologic factors in the rejection of tumor homografts"; R. T. Prehn, "Isologous immunity to methylcholanthrene-induced sarcomas."

#### New Hampton School

##### Chemistry and Physics of Liquids Relaxation Phenomena

T. A. Litovitz, *chairman*

Ernest B. Yeager, *vice chairman*

10 June. Malcolm Brachman, "Generalized relationship between absorption and dispersion in linear systems"; Herbert Callen, "Statistical fluctuations and relaxation"; Philip W. Anderson, "Study of molecular motions through the breadth of magnetic resonance lines."

11 June. Bruno Zimm, "Relaxation effects in dilute polymer solutions"; T. A. Litovitz, "Compressional and shear relaxation in liquids"; Karl F. Herzfeld, "Thermal relaxation in liquids"; John Lamb, "Rotational isomeric relaxation in liquids."

12 June. C. P. Smythe, "Dielectric relaxation and structure of liquids"; J. Hoffman, "A barrier model for dielectric relaxation"; R. Cole, "Some problems of dielectric relaxation in liquids"; D. Denney, "Dielectric relaxation in alkyl halides and their solutions in other liquids."

13 June. M. Eigen, "Chemical relaxation in solutions"; A. Patterson, "Equilibrium phenomena as studied by high-field conductance measurements"; Eugene Gross, "General theory of dielectric relaxation."

14 June. H. S. Gutowski, "Nuclear magnetic relaxation in liquids and solids"; R. C. Torrey, "Nuclear relaxation by diffusion."

##### Metals at High Temperatures

Nicholas J. Grant, *chairman*

John Frye, *vice chairman*

17-21 June. *Theories of creep. Strain-induced voids and their effect on creep. Stress-induced cracks and their effect on creep. Mechanisms of void formation by corrosion. Void formation in reactor materials. Void formation in oxidation. Theories of dispersion hardening. Discussions of dispersion hardening. Ceramic-rich alloys. Metal-rich (ceramic-containing) alloys. Multiphase alloy systems. Structure stability and property changes of multiphase systems. Requirements of missile materials.*

#### Coal

John Mitchell, *chairman*

Alfred R. Powell, *vice chairman*

##### Carbonization of Coal and Nature and Structure of Cokes

24 June. *The nature of coking coals and the coking principle*: Petrology and physical fine structure of coking coals. W. Spackman, "The maceral concept in coal petrology"; A. H. Brisse, "Comments on the industrial significance of coal petrography"; J. A. Harrison, "Coal petrography and methods of petrographic

analysis as related to the study of the coking character of coal." Chemical structure of coking coals as disclosed by recent and newly developed methods of investigation: H. E. Blayden, "Molecular weight studies of soluble constituents of coal"; N. Berkowitz, "Study of coal pyrolysis by differential thermal analysis"; B. C. Parks, "Chemical and physical properties and thermal behavior of maceral components of coals."

25 June. Rheological properties of coking coals and their determination: I. A. Breger, "Effects of pile radiation on coal"; E. D. Pierron and O. W. Rees, "Components of coal responsible for the plastic characteristics"; R. J. Friedrich and G. L. Barthauer, "Effect of high rates of heat transfer on the plastic properties of coal." The carbonization process. Primary elements of the carbonization process: H. L. Riley, "Solid complexes of carbon with oxygen, nitrogen and sulfur"; C. G. Thibaut, subject to be announced; B. W. Naugle, "Fluidized low-temperature carbonization: Operating variables affecting yields and quality of tar and its vapor-phase cracking."

26 June. Secondary stages of carbonization and the formation of coke: D. J. E. Ingram, "Trapping of electrons and free radicals during the carbonization of coals"; H. L. Riley, "Study of carbonization in a small (20 lb) experimental oven"; Roger Loison, "Mechanism and factors in the fissuring of coke." Effect of kinetics and other operating variables on the nature of coke; effects of special ingredients and of pretreatment of coal: J. B. Gayle, "Effects of operating variables on the coking process"; H. W. Jackman and F. H. Reed, "Influence of coking time on expansion pressure and coke quality"; I. A. Hall, "Additives and pretreatment of coal."

27 June. Nature of coke. Macro- and micro properties of coke; their assessment and their relation to the utilization of coke: R. L. Bond, "Ultrafine capillary structure of carbonized coals"; R. Diamond, "Investigations of certain cokes using new x-ray techniques"; F. L. Shea, "Microscopy of polished coke sections." Reactivity and other chemical properties; their assessment and their relation to the utilization of coke: A. Dahme, "Nature of coke"; K. Hedden for E. Wicke, "Reactivity of graphitic carbon in combustion and gasification."

28 June. M. Mentser, "Absolute reactivity, its relation to the reaction mechanism and physical properties." Summations by section chairmen.

##### Proteins and Nucleic Acids

C. B. Anfinsen, Jr., *chairman*

Paul C. Zamecnik, *chairman-elect*

1-5 July. *Covalent structure of proteins*, William Stein, *chairman*: C. H. W. Hirs, "Structure of ribonuclease";

Roger Herriott and Helen Van Vunakis, "Studies on the structure of pepsin"; C. H. Li, "Current developments in the studies of protein and peptide hormones." *Theoretical and experimental aspects of the tertiary structure of proteins in solution*, J. T. Edsall and J. M. Sturtevant, *chairmen*: J. A. Schellman, "Optical rotation and protein configuration"; Donald Fitts and John G. Kirkwood, "Optical activity of helical molecules"; W. F. Harrington, "Configuration properties of polypeptides"; William Moffett, "On optical rotatory properties"; Harold Scheraga, "Role of tertiary structure in the reactions of several proteins"; P. Doty, C. Tanford, J. T. Edsall, A. Rich, other contributors and discussers. Round-table discussion, K. Linderstrom-Lang, *moderator*: *Structure of proteins in solution. Protein structure in relation to function*, F. Haurowitz and P. Zamecnik, *chairmen*: E. Katchalski, "Biological and biochemical properties of poly-alpha-amino acids"; Hans Neurath and Gordon H. Dixon, "Chymotrypsinogen and trypsinogen: Mechanism of activation and the nature of the catalytic site"; Robert L. Hill and E. L. Smith, "Present information concerning the active site of papain"; Michael Sela and C. B. Anfinsen Jr., "On the structure of ribonuclease activity"; I. J. Harris, "On the structure and activity of melanocyte-stimulating and adrenocorticotrophic polypeptides"; I. I. Geschwind, "Isolation, properties and structure of melanocyte-stimulating hormones of various species"; R. K. Brown, L. Levine and H. Van Vunakis, "Immunochemical properties of ribonuclease in relation to its structure"; G. Perlmann, "Studies on pepsin." Round-table discussion. *Structure in relation to function*: R. R. Porter, "How far may a protein be degraded without losing its specific biological activity?" *Genetic basis of protein structure; Molecular basis of evolution*, F. Zamenhof, *chairman*: Seymour Benzer, "Genetic fine structure"; R. D. Hotchkiss and A. H. Evans, "Genetic control of pneumococcal sulfonamide resistance by specific DNA"; N. H. Horowitz, "Genetic study of proteins."

#### Radiation Chemistry

C. J. Hochanadel, *chairman*  
W. H. Hamill, *vice chairman*

8 July. *Primary processes*, Henry Linschitz, *chairman*: M. Kasha, "Molecular excitation"; G. Porter, "Studies of primary photoprocesses and intermediates in aromatic systems." *Intermediate processes*, Robert Platzman, *chairman*: H. S. W. Massey, "Reactions of gaseous ions"; M. Burton, "Mechanisms of energy transfer."

9 July. *Gaseous ions and their reactions*, Ellison Taylor, *chairman*: Seymour Meyerson, "Hydrocarbon ions in

the gas phase"; F. W. Lampe, "Reactions of gaseous ions"; V. H. Dibeler, "The formation of negative ions by electron impact." *Gas phase reactions*, T. W. Davis, *chairman*: M. Zelikoff, "Recent developments in vacuum ultraviolet photochemistry"; Leon M. Dorfman, "Radiolysis of ethane and other gases: isotopic and scavenger studies."

10 July. *Organic systems I*, Robert H. Schuler, *chairman*: Harold A. Dewhurst, "The radiolysis of branched-chain alkane liquids"; James Caffrey, "Gas yields from hydrocarbons irradiated on solid inorganic adsorbents"; Edgar Collinson, "Radiation effects in nonaqueous solutions." *Organic systems II*, J. G. Burr, Jr., *chairman*: brief reports on recent research on the radiolysis of organic materials.

11 July. *Polymerization and polymers*: A. Henglein, "The effects of various solutes on the radiation-induced degradation of polymethylmethacrylate in solution." *Aqueous systems I*, A. O. Allen, *chairman*: Warren M. Garrison, "Radiation-induced oxidation and reduction in aquoorganic systems." Brief reports on recent research on the radiolysis of aqueous systems.

12 July. *Aqueous systems II*, T. J. Hardwick, *chairman*: T. J. Sworski, "Primary processes in the radiolysis and photolysis of ceric sulfate solutions"; James L. Weeks, "The photochemistry of aqueous systems"; Harold A. Schwartz, "The effect of ionization density on yields in aqueous solutions."

#### Organic Reactions and Processes

Harvey J. Taufen, *chairman*  
Richard T. Arnold, *chairman-elect*

15-19 July. C. K. Bradsher, "New aromatic systems containing quaternary nitrogen"; D. J. Cram, "The stereochemistry of electrophilic aliphatic substitution"; L. Errede, "Preparation and reactions of solutions of *p*-xylylene"; Evan F. Evans, "An ionic polymerization of acrylonitrile"; J. L. Franklin, "Reactions of ions with organic molecules in the gas phase"; C. G. B. Garrett, "Semiconductors in organic and inorganic chemistry"; N. G. Gaylord, "Organic reactions involving complex metal hydrides"; Otto Horn, "Reactions of crotonic aldehyde"; P. R. Johnson, "The development of processes for the production of chloromethanes"; Nathan Kornblum, "The contrasting reactions of silver and alkali metal salts with alkyl halides. The alkylation of ambident anions"; W. B. McCormack, "Reactions of dienes with phosphorus compounds"; F. Weygand, "Syntheses of peptides with the help of N-trifluoroacetylated amino acids and the degradation of peptides with trifluoroacetic anhydride"; J. Whetstone, "A study of the tollens condensation of formaldehyde

with acetaldehyde"; R. W. Young, "Some aspects of the chemistry of alkylthiophosphoric acids and their derivatives."

#### Microbiological Deterioration

A. D. Lohr, *chairman*

22 July. *Structure-activity relationships among antimicrobial substances*, Harold G. Shirk, *chairman*: George L. McNew, "The front-line defense against deterioration of materiel"; Fred E. Hahn, "The role of stereospecificity in structure-activity relations among antimicrobial substances"; A. E. Dimond, *chairman*: D. W. Woolley, "The antimetabolite approach to chemotherapy"; Walter Nickerson, "Pathways of fungus metabolism subject to chemical blocking."

23 July. *Deterioration problems posed by soil microorganisms*, Orville Wyss, *chairman*: O. Wyss, "An introduction to soil microbiology"; Robert L. Starkey, "Some sulfur transformations by soil microorganisms"; E. L. Schmidt, "Cellulose decomposition in the soil"; Arthur M. Kaplan, "Comments regarding soil burial tests for evaluating preservatives"; E. O. Bennett, "Microbial development and control in cutting oils"; William L. Owen, "Microbial deterioration of colloidal additives to drilling fluids."

24 July. *Behavior of fungicides after application*, Saul Rich, *chairman*: Edward Abrams, "Factors influencing the loss of fungitoxics from wood and fabrics"; Colin H. Bayley, "Weathering loss of fungicides applied to textiles"; Saul Rich, "The dynamics of fungicide spray deposits and weathering in the field"; Harry P. Burchfield, "The persistence of fungicidal spray deposits"; John E. Rutzler, Jr., "Surface forces influencing adhesion of fungitoxic materials."

25 July. *Microbiological deterioration problems in the marine environment*, A. P. Richards, *chairman*: Claude E. ZoBell, "Manifestations and methods of measuring microbiological deterioration of man-made structures"; Lloyd Snoke, subject to be announced; Claude E. ZoBell, "Microbial corrosion of iron, steel, concrete and coating materials in the marine environment"; Bryce Prindle, subject to be announced.

26 July. Milton Goll, *chairman*: Arthur M. Kaplan, "Preservatives used for the prevention of deterioration of materiel—a summation of the current position."

#### Statistics in Chemistry and Chemical Engineering

John C. Whitwell, *chairman*  
Frank Wilcoxon, *vice chairman*

29 July. C. Daniel, *chairman*: H. M. Hulburt, "Designing experiments to test the form of chemical rate equations." C.

Holloway, Jr., *chairman*: E. J. Williams, "Experimentation to test complex chemical hypotheses."

30 July. D. B. DeLury, *chairman*: M. B. Wilk, "Selecting proper mathematical models." S. L. Crump, *chairman*: W. G. Cochran, "Combining information from several experiments."

31 July. O. A. Kempthorne, *chairman*: D. R. Cox, "Events occurring haphazardly in time." H. C. Sweeny, *chairman*: B. Epstein, "Life testing and extreme values."

1 Aug. R. Bechhofer, *chairman*: F. J. Anscombe, "Transformations." Panel discussion: "Problems of the scientist and statistician," F. Wehrfritz, *moderator*.

2 Aug. J. S. Hunter, *chairman*: G. E. P. Box, "Iterative experimentation."

#### Steroids and Related Natural Products

J. Fried, *chairman*

G. Stork, *vice chairman*

5-9 Aug. S. Bernstein, "Recent work in the field of 16-hydroxylated corticoids"; G. Ourisson, subject to be announced; V. Prelog, subject to be announced; J. N. Shoolery, "Applications of NMR to problems in natural products chemistry"; H. Schmid, subject to be announced; R. Tschesche, " $C_{21}$ -steroids in the plant kingdom"; F. Weisenborn, "Recent synthetic work in the field of *Rauwolfia* alkaloids"; W. C. Wildman, "Recent studies in the field of Amaryllidaceae alkaloids"; speaker to be announced, "The chemistry of gibberellic acid."

#### Analytical Chemistry

E. W. Balis, *chairman*

Louis Gordon, *vice chairman*

12 Aug. Alan R. Powell, "The preparation of ultrapure metals"; Frank A. Bovey, "The physical and chemical analysis of polymers and polymerizing systems."

13 Aug. F. H. Stross, "Gas-liquid partition chromatography"; M. J. O'Neal, "Analytic mass spectrometry of heavy organic molecules"; H. A. Laitinen, "Microelectrode techniques in fused-salt electrochemistry."

14 Aug. V. A. Fassel, "Emission spectrometric determination of oxygen, nitrogen, and hydrogen in metals and analytic spectroscopy of the newer metals"; H. A. Liebhafsky, "X-ray absorption and emission in chemical analysis."

15 Aug. James I. Hoffman, "Inorganic wet analysis." Open discussion.

16 Aug. Charles A. Horton, "The analysis and chemistry of fluorides."

#### Inorganic Chemistry

S. Y. Tyree, Jr., *chairman*

H. B. Jonassen, *vice chairman*

19 Aug. *Crystal field theory applied to metal coordination compounds*, R. G. Pearson, *chairman*: L. E. Orgel, "Crys-

tal field theory applied to spectra of complexes"; D. S. McClure, "Thermodynamic aspects of crystal field theory"; F. A. Cotton, "Structural aspects of crystal field theory"; J. S. Griffith, topic to be announced.

20 Aug. *Mechanisms of substitution reactions of coordination compounds*, F. Basolo, *chairman*: A. W. Adamson, "Photocatalyzed reactions of metal complexes"; D. S. Martin, Jr., "Reactions of square complexes"; F. P. Dwyer, "Synthesis and reactions of ruthenium complexes"; R. G. Wilkins, "Exchange reactions of coordination compounds."

21 Aug. *Applications of physical methods to inorganic chemistry*, C. F. Callis, *chairman*: C. F. Callis, "High-resolution nuclear magnetic resonance spectroscopy in structural and kinetic studies in phosphorus chemistry"; Ralph Livingston, "Applications of paramagnetic resonance and nuclear quadrupole spectroscopy to inorganic chemistry"; Ellis Lippincott, "Raman and infrared spectroscopy"; J. R. VanWazer, "Determination of bond types by various physical techniques."

22 Aug. *High-temperature chemistry*, P. W. Gilles, *chairman*: speakers and subjects to be announced.

23 Aug. *High temperature chemistry*, P. W. Gilles, *chairman*: speakers and subjects to be announced.

#### Adhesion

D. K. Rider, *chairman*

G. W. Koehn, *vice chairman*

26 Aug. T. W. DeWitt, "Rheology of polymer solutions"; W. W. Riches, "Titanium esters as adhesion promoters."

27 Aug. J. J. Chessick, "Adhesion of monolayers to solids"; W. K. Asbeck, "Adhesion of organic coatings."

28 Aug. C. S. Schildknecht, "Polymer structures in relation to adhesion." *Bonding of difficult adherends*: H. Peters, "Polyethylene"; C. M. Hobson, Jr., "Fluoroethylene polymers."

29 Aug. T. G. Fox, "Viscoelastic behavior of amorphous polymers"; A. T. Spencer, "Adhesion to oxide films on copper."

30 Aug. C. S. Maxwell, "The adsorption of melamine resin colloid by cellulose."

#### Kimball Union Academy

##### Lipide Metabolism

Warren M. Sperry, *chairman*

10 June. *Chemistry and structure of lipoproteins*: Frank R. N. Gurd, "Composition and physical properties of lipoproteins"; Frank Lindgren, "Preliminary concepts of low-density lipoprotein structure"; Joel Avigan, "Some properties of the lipoprotein complex." *Absorption of fat*: F. H. Mattson, "The absorption of fat"; Raymond Reiser, "Interesterification of glycerides during fat digestion and absorption."

11 June. *Lipid transport I*: Jules M. Weiss, "Some electron microscopic observations on the transport of fat across the duodenal absorption cell of the albino mouse"; Donald Zilversmit, "Turnover and transport of blood triglycerides"; Joseph H. Bragdon, "The fate of chylomicra." *Lipid transport II*: Richard Havel, "Serum lipoproteins and fatty acid transport"; Robert S. Gordon, Jr., "Recent studies of metabolism of unesterified fatty acids in normal human subjects."

12 June. *Unsaturated fatty acids and fat metabolism*: Henrik Dam, "The interrelationship of various kinds of fats with essential fatty acids and cholesterol"; Edward Ahrens, "Influence of unsaturated fatty acids on human blood lipids"; James Mead, "The essential fatty acids—metabolism and mechanism of action." *Fat synthesis I*: Salih J. Wakil, "Studies on the mechanism of fatty acid synthesis by soluble enzyme systems"; Phillip Hirsch, "Synthesis of triglycerides."

13 June. *Fat Synthesis II*: A. T. James, "The synthesis of lipids by the human red cell"; Felix Hausberger, "The regulation of growth and metabolism of adipose tissue by dietary and hormonal factors"; John Van Bruggen, "Lipogenesis: Interpretation of tracer data." *Phospholipid metabolism*: Roger Rosser, "Metabolism of phosphotides *in vitro*"; Donald J. Hanahan and John C. Dittmer, "Certain aspects of fatty acid metabolism."

14 June. *Cholesterol metabolism*: Carleton R. Treadwell and others, "Absorption of cholesterol via lymphatic pathways"; David Kritchevsky, "Effect of various dietary components on cholesterol metabolism."

#### Cell Structure and Metabolism

A. W. Pollister, *chairman*

M. J. Moses, *vice chairman*

17 June. *Metabolism of chromosomes*: G. Rudkin, "Nucleoprotein composition of puffs of salivary chromosomes of *Diptera*"; P. M. B. Walker, "Studies of DNA synthesis in single cells"; J. H. Taylor, "Autoradiographic studies of chromosome metabolism."

18 June. *Metabolism of the interphase nucleus*: L. Goldstein, "Autoradiographic studies on nuclear transplantation in *Amoeba*"; H. H. Swift, "The nuclear membrane region in growing cells"; A. K. Laird and A. D. Barton, "Biochemical studies of isolated nuclei"; V. Allfrey, "Protein synthesis in isolated cell nuclei."

19 June. *Protein and nucleic acid synthesis in the cytoplasm*: J. Brachet, "Relation of ribonucleic acid metabolism to protein synthesis"; G. Palade, "Interrelations of cytoplasmic structures in protein synthesis"; J. Scott, "Synthesis and interrelations of RNA in the cytoplasm."



20 June. *Structure and metabolism of chloroplasts*: R. Sager, "Chloroplast structure and photosynthesis in *Chlamydomonas*"; F. Ruch, "Microspectrophotometric studies of chloroplasts"; D. I. Arnon, "The chloroplast as a synthetic unit."

21 June. *Mitochondria and Golgi apparatus*: A. J. Dalton, "Structure and chemical composition of the Golgi apparatus"; B. Chance, "Respiratory enzymes of cell particles"; B. C. Pressman, "Dynamic relationships between intra- and extramitochondrial relationships."

#### Nuclear Chemistry

Earl K. Hyde, *chairman*

Nathan Sugarman, *vice chairman*

24-28 June. *Present evidence for the electronic structure of the actinide elements from spectroscopy, magnetic susceptibility, paramagnetic resonance, and so forth. Radiochemical studies of high-energy nuclear reactions. Machine Monte Carlo calculations of the nuclear cascade in high-energy reactions. Recent experimental and theoretical work on the fission reaction. Radiochemical techniques. Absolute counting methods.* Speakers and detailed program, including possible additional topics, to be announced.

#### Solid-State Studies in Ceramics

H. O. Thurnauer, *chairman*

M. L. Kronberg, *vice chairman*

1 July. J. B. Wachtman, "Sonic measurements on ceramic oxides at high temperatures"; J. H. Westbrook, "The temperature dependence of hardness of refractory compounds"; Earl Parker, "The ductility of ceramics."

2 July. C. E. Marshall, "Cation exchange of feldspar and other mineral surfaces"; A. S. Michaels, "Studies of the mechanism of peptization of kaolinite by polyphosphates"; Hakon Flood, "Equilibria studies between Fe(II) and Fe(III) in a mixed solid oxidic phase."

3 July. C. E. Birchenall, "Diffusion in oxides"; V. K. LaMer, "Nucleation"; J. O'M. Bockris, "Structures of molten silicates"; W. L. Roth, "Structures of magnetic solids."

4 July. S. S. Cole, "The chemistry of titanium oxides"; E. J. Huibregtse, "Electromechanical properties of single crystals of barium titanate." Panel discussion, *Dielectrics*, E. C. Henry, *chairman*.

5 July. A. Von Hippel, "Ferroelectrics and ferromagnetics."

#### Chemistry and Physics of Metals

A. S. Nowick, *chairman*

E. S. Machlin, *vice chairman*

8 July. *Visual observation of dislocations*, B. Chalmers, *chairman*: P. Hirsch, "Electron optical studies of the arrangement and movement of dislocations in thin films"; J. J. Gilman, "Visual measurements of the mobility of dislocations

in lithium fluoride crystals." Panel discussion, *Observation of dislocations*, J. C. Fisher, *chairman*: W. C. Dash, F. W. Young, Jr., M. Abrahams, J. Washburn, panel members.

9 July. *Irradiation effects I*, H. B. Huntington, *chairman*: G. H. Vineyard, "Theory of irradiation displacements"; R. Smoluchowski, "Irradiation effects in the alkali halides." *Irradiation effects II*, K. G. McKay, *chairman*: K. Lark-Horovitz, "Irradiation effects in semiconductors"; J. H. Crawford, Jr., "Irradiation effects in nonmetallic crystals."

10 July. *Irradiation effects III*, C. Wert, *chairman*: J. A. Brinkman, "Comparison of existing models for defect production and migration in metals"; A. Sosin and C. J. Meechan, "Electron irradiation of metals"; M. D. Fiske, "Electron irradiation of metals." *Irradiation effects IV*, G. J. Dienes, *chairman*: T. H. Blewitt, "Recent irradiation experiments on metals at Oak Ridge"; R. W. Balluffi, "Recent irradiation experiments on metals at Illinois."

11 July. *Properties of dislocations*, W. T. Read, Jr., *chairman*: A. Seeger, "Some recent developments in dislocation theory"; K. Lucke, subject to be announced; D. O. Thompson, "Irradiation effects on Young's modulus and internal friction of copper crystals." A. S. Nowick, *chairman*: W. Dekeyser, "Recent work on lattice imperfections at Ghent."

12 July. Panel discussion, *Interaction between point defects and dislocations*, R. Thomson, *chairman*: J. E. Bauerle, A. E. Roswell, R. Maddin, R. R. Coltmann, panel members.

#### Chemistry, Physiology, and Structure of Bones and Teeth

D. Harold Copp, *chairman*

D. Dziewiatkowski, *vice chairman*

15 July. *Fine structure of bones and teeth*, Robert A. Robinson, *chairman*: Isidore Gersh, "Fine structure of connective tissue." William F. Neuman, *chairman*: M. J. Dallemagne, "Radiocalcium studies of bones and teeth *in vitro*."

16 July. *Parathyroids and regulation of blood calcium*, Franklin C. McLean, *chairman*: Roy V. Talmage, "Calcium regulation in the rat studied by intraperitoneal lavage"; Gordon S. Stewart, "The role of parathyroids in calcium homeostasis"; D. Harold Copp, "Regulation of blood calcium in the dog." Wallace D. Armstrong, *chairman*: Bertil Lindquist, "Studies on calcium and phosphorus kinetics in man."

17 July. *Radiotroutium metabolism*, William P. Norris, *chairman*: Cyril L. Comar, "Comparison of the biological behavior of calcium and strontium." Hermann Lisco, *chairman*: Janet Vaughan, "Radiation effects on bone."

18 July. *Effect of hormones on the*

*skeleton*, Ann Budy, *chairman*: Marshall R. Urist, "The transport of calcium in the blood of the estrogenized fowl"; C. Willett Asling, "Changes in skeletal tissues induced by pituitary growth hormone"; Isaac Schour, "The effects of hormones on teeth." Edward C. Reifensstein, Jr., *chairman*: Charles E. Dent, "Studies on metabolic bone disease."

19 July. *General topics*, Harold C. Hodge, *chairman*: selected short papers.

#### Chemistry at Interfaces

Charles G. Dodd, *chairman*

Stephen Brunauer, *vice chairman*

22 July. *Contributions of solid-state physics to surface chemistry*, Donald Graham, *chairman*: Thomas J. Gray, "The role of lattice defects in chemical reactions on solid surfaces"; Walter L. Brown, "The interaction of a semiconductor with its surface"; David Turnbull and Gert Ehrlich, "Effects of solid structure on surface behavior."

23 July. *Monolayers*, Herman E. Ries, Jr., *chairman*: Hans J. Trurnit, "Critical review of monolayer research and recent developments"; B. Roger Ray, "Denaturation of protein monolayers at the air-water interface; spreading and radiation effects"; Frederick M. Fowkes, "Monolayers at the oil-water interface"; Herman E. Ries, Jr., "The structure and collapse of monolayers at the air-water interface."

24 July. *Capillarity and fluid flow in porous media*, Irving Fatt, *chairman*: E. A. Flood, "The flow of fluids through activated carbon rods"; A. J. Gordon Allan, "Contact angles and wettability"; R. L. Chuoke, "Capillarity and viscous fluid flow"; P. C. Carman, "Molecular mobility in physically adsorbed films."

25 July. *Calorimetry in surface chemistry*, Norman Hackerman, *chairman*: K. J. Laidler, "Surface studies with the Calvet microcalorimeter"; W. Conway Pierce, "Heats of wetting of carbon blacks"; J. W. Whalen, "Heat of wetting measurements on petroleum reservoir rocks"; Norman Hackerman and A. C. Makrides, "Thermodynamic properties of quartz-water and quartz-hydrocarbon interfaces."

26 July. Recapitulation and general discussion.

#### Biochemistry and Agriculture

A. G. Norman, *chairman*

29 July. *Biochemistry of soil-plant relationships*, C. H. Wadleigh, *chairman*: D. P. Peters, "Water movement in plant roots"; C. E. Hagen, "Movement of inorganic nutrients into plant roots"; speaker to be announced, "Role of organic entities in the biochemistry of soil-plant relationships"; R. L. Starkey, "Role of microorganisms in the biochemistry of soil-plant relationships."

30 July. *Biochemistry of plant growth*

and growth control, F. C. Steward and A. G. Norman, *cochairmen*: R. B. Withrow, "Photocontrol of plant growth by red light"; A. R. Schrank, "Polarity implications in plant tropisms"; E. M. Shantz and F. C. Steward, "Naturally occurring substances inducing cell division in plants"; F. C. Steward and E. M. Shantz, "Relationships between chemical structure and activity in stimulation of cell division"; A. W. Naylor, "The significance of auxin destruction for the control of growth"; A. W. Galston, subject to be announced.

31 July. *Biosynthesis and postharvest changes*, P. K. Stumpf, *chairman*: David Hackett, "Energetics of respiration and its coupling to biosynthesis"; A. C. Neish, "Biosynthesis of cell-wall components"; R. U. Byerrum, "Biosynthesis of heterocyclic ring structures in higher plants"; P. K. Stumpf, "Enzymic synthesis and breakdown of long-chain fatty acids in higher plants"; H. K. Pratt, "Physiological approach to postharvest problems"; J. B. Biale, "Biochemical approach to postharvest problems."

1 Aug. *Biochemistry of action of biocides*, G. L. McNew, *chairman*: J. L. Mullins, "Contrasts between physical and chemical modes of action of insecticides and herbicides"; L. P. Miller, "Uptake of fungicides by spores and their effects on cell membranes"; Virgil H. Freed, "The metabolism of aryloxy acids and related herbicidal compounds in plants"; C. W. Kearns, "Biochemical explanations for the cause of resistance to newer insecticides."

2 Aug. *Biochemistry of action of biocides*, G. L. McNew, *chairman*: V. K. Rowe, "Toxicological aspects associated with the development of agricultural chemicals"; Roger G. Young, "The biochemistry of insecticide activity"; John E. Casida, "Effect of organic phosphates on metabolic processes of insects and plants."

#### Ion Exchange

W. J. Sloan, *chairman*

K. S. Spiegler, *vice chairman*

5 Aug. G. J. Crits, "Making good ion-exchange tests"; D. W. Breck, "Ion exchange in crystalline zeolites"; J-P. Cornaz, "Kinetic approaches"; J. A. Patterson, "Resin porosity—exchange rates."

6 Aug. L. Lapidus, "Packed bed studies"; C. W. Hancher, "Comparison of fixed and moving beds"; J. E. Salmon, "Ion exchange in the study of some inorganic complexes formed in solution"; J. H. B. George, "Electrolytic regeneration."

7 Aug. *Liquid ion-exchange media*: A. F. Preuss, "Anion exchange"; C. A. Blake, "Cation exchange"; A. C. Reents, "Unusual ion-exchange applications"; P. C. Carman, "Desalting water by ionic membrane cells—South Africa."

8 Aug. W. Rieman, III, "Chromato-

graphic separation of organic compounds with salt eluants"; F. Bruder, "Decolorizing resins"; Th. Bersin, "Properties of bioexchangers"; O. F. Garrett, "Applications of ion-exchange principles to the processing of milk."

9 Aug. J. A. Patterson, "Exchange based on energy-level difference."

#### Toxicology and Safety Evaluations

Norton Nelson, *chairman*

John A. Zapp, *vice chairman*

12 Aug. *Interpretation of chronic toxicity studies*, Robert Eckhardt, *chairman*: Arnold Lehman, "The relation between the duration of toxicity studies and the information yielded"; James R. M. Innes, "Clinically silent and incidental lesions in animals commonly used for experiment." *The hazards of radioactive fallout*, Merrill Eisenbud, *chairman*: John Bugher, "The public health implications of strontium-90 in radioactive fallout."

13 Aug. *Physiological and functional measures of toxicity*, John A. Zapp, *chairman*: Mary Amdur, "Toxic effects in relation to respiratory function"; Edward P. Radford, "Toxic effects in relation to renal and cardiovascular function." *Toxicity and enzymes*, Harold Hodge, *chairman*: Sir R. A. Peters, subject to be announced.

14 Aug. *A practical approach to dietary carcinogens*, W. H. Maguigan, *chairman*: W. C. Hueper, subject to be announced. *Dietary carcinogens*, C. Boyd Shaffer, *chairman*: James A. and Elizabeth C. Miller, "Mechanisms in dietary carcinogenesis."

15 Aug. *Potentiation as a factor in toxicological assessments*, Dorothy B. Hood, *chairman*: Karl Beyer, "Pharmacological interactions"; Kenneth P. Dubois, "Potentiation of the toxicity of cholinergic organic phosphates." *Sources of toxicological information*, Seymour D. Silver, *chairman*: Harry W. Hays, "NRC Toxicological Information Center"; Edward Press, "Poison-control centers."

16 Aug. Bernard L. Oser, *chairman*: Philip L. Harris, "Reproduction and lactation defects attributable to malnutrition"; Oscar Bodansky, "Effects of cytotoxic agents on blood levels of some tissue enzymes."

#### Organic Coatings

E. G. Bobalek, *chairman*

E. R. Mueller, *cochairman*

19 Aug. C. W. Gary, "Resin forming reactions of new diepoxides"; D. F. Koenecke, "Some applications of reflectance infrared methods in coatings research."

20 Aug. N. M. Wiederhorn, "Special aspects of the chemistry of soluble nylons"; W. W. Reynolds, "Solubility factors which influence the properties of alkyd solutions."

21 Aug. A. H. Loranger, "Syntheses

and evaluation of uniform particle size latexes"; J. F. Vitkuske, "Recent developments in the mechanism of emulsion polymerization"; G. L. Brown, "Formulation of films from polymer dispersions."

22 Aug. R. J. Wirshing, "A new approach to the study of the degradation of organic films"; F. L. Browne, "Swelling of paint films in water."

23 Aug. L. R. Brantley, "Morphology and rheology of organic coatings from adherometerhesion measurements."

#### Glass

T. H. Davies, *chairman*

*Rate Processes in Glass*

26 Aug. *General introduction*: G. J. Dienes, "Rate studies in solids." *Mass transport*: R. Lindner, "Tracer studies of diffusion in crystalline and glassy oxides and silicates"; F. J. Norton, "Helium permeation through glass"; K. B. McAfee, "Stress-enhanced diffusion of gases through glass"; J. M. Lambert, "Complications in ionic diffusion arising from surface or near surface conditions"; S. D. Stookey and R. D. Maurer, "Kinetics of nucleation and crystal growth in glass."

27 Aug. *Viscous flow*: A. B. Bestul, "Structural interpretations of viscosity data"; J. O. Bockris, "Flow properties and structure of liquid silica"; subjects and speakers to be announced.

28 Aug. *Dielectric and mechanical relaxation*: M. Goldstein, "The relaxation of oriented chains in phosphate glasses"; speakers and subjects to be announced.

29 Aug. *Annealing of structural defects induced in glass*: H. Szymanski, W. Primak, D. Keifer, "Kinetics of annealing of radiation damage in vitreous silica"; Paul Levy, "Kinetics of radiation induced coloration in glass."

30 Aug. Summary discussion of conference; overflow papers; business meeting.

W. GEORGE PARKS

Department of Chemistry, University of Rhode Island, Kingston

#### AAAS Laurentian Hormone Conference

The 1957 Laurentian Hormone Conference of the AAAS will be held at Mont Tremblant Lodge, Mont Tremblant, Quebec, during the period 1-6 Sept. Investigators interested in attending this conference should make application to the Committee on Arrangements of the Laurentian Hormone Conference, 222 Maple Ave., Shrewsbury, Mass., at an early date and in any event no later than 10 May.

A conference rate of \$12 per person per day is extended to all invited participants. Attendance is limited to invitations issued by the Committee on Ar-



rangements. The following program has been arranged.

**Hormone Structure and Function:** "The chemistry and biological activities of 16-hydroxylated steroids," Seymour Bernstein, Lederle Laboratories, 1 Sept. (evening); "Structure and hormonal activity of some new steroids," Victor Drill and Byron Riegel, G. D. Searle and Company, 2 Sept.; "Relation of molecular structure of phenanthrene derivatives to growth," Charles Huggins and Elwood V. Jensen, University of Chicago, 2 Sept.; "Studies on the mechanism of action of estrogen," Gerald C. Mueller, University of Wisconsin, 2 Sept.

**Hormones in Growth and Development:** "Hormones and protein metabolism," J. A. Leatham, Rutgers University, 3 Sept.; "Effects of hormones on growth in fattening and meat production potential of livestock (of domestic animals)," F. X. Gassner, E. C. Reifensstein, Jr., John W. Algeo, and W. E. Mattox, Colorado Agricultural Mechanical College, 3 Sept.; "The hormonal control of mammary growth and lactation," William Lyons, University of Southern California, 3 Sept.

**Aspects of Reproduction:** "Cytological tests of chromosomal sex in relation to sexual abnormalities in man," M. L. Barr and Melvin Grumbach, University of Western Ontario and Columbia University, 4 Sept.; "Clinical aspects of sexual abnormalities in man," Robert Greenblatt, University of Georgia, 4 Sept.

**Hormones and Metabolism:** "Effects of hormones on human serum lipoproteins," Howard Eder, Albert Einstein College of Medicine, 5 Sept.; "Effect of hormones on connective tissue metabolism," Albert Dorfman and Sara Schiller, University of Chicago, 5 Sept.; "Hormonal influences on connective tissue changes in aging," Harry Sobel and Jessie Marmorston, Cedars of Lebanon Hospital, 5 Sept.

**Neurohumors:** "Distribution and metabolism of adrenergic neurohumors in axones and tissues," U. S. von Euler, Stockholm, Sweden, 6 Sept.; "The excretion of epinephrine and norepinephrine under stress," Fred Elmadjian, Justin M. Hope, Edwin T. Lamson, Worcester Foundation for Experimental Biology, 6 Sept.

## Sanitary Engineering

The tenth Municipal and Sanitary Engineering Conference will be held on the campus of the University of Florida, 9-20 Mar. The meeting is to be centered around the theme "The impact of industrial expansion on man and his environment."

A program has been arranged for the benefit of sanitary engineers, local gov-

ernment and public health officials, industrial representatives, and legislators. Some of the subjects on which papers will be presented include factors in plant location, water resources, liquid waste disposal, health problems, industrial hygiene, air pollution, and industrial application of nuclear energy.

All who are interested are invited to attend. A registration fee of \$8 includes a ticket to the banquet and a copy of the conference proceedings when published. Further information may be obtained from the conference chairman, Dr. E. R. Hendrickson, College of Engineering, University of Florida, Gainesville, Fla.

## N.Y.U.-Bellevue Convocation

The New York University-Bellevue Medical Center Convocation in commemoration of the Diamond Jubilee of University Hospital will be held 4-5 Mar. and will have as its theme, "The hope of mankind—health and peace." Prominent scientists and statesmen have been invited to participate in the 2-day program, which has been planned to honor one of the first hospitals in the country to specialize in postgraduate instruction and training of physicians. The convocation panels will be concerned with medicine and the role it serves in man's struggle for a better and happier way of life.

University Hospital had its origin in 1882 when it was organized as the New York Post-Graduate Medical School and Hospital as the result of the efforts of a group of New York physicians who realized that a lag existed between general medical practice and the latest developments in medicine and surgery. A number of these physicians had been associated with the medical faculty of New York University but left because they wished to devote all their efforts to the continuing training of practicing physicians.

In December 1948, New York Post-Graduate Medical School and Hospital merged with the newly formed New York University-Bellevue Medical Center and thereby became known as NYU Post-Graduate Medical School and University Hospital. Today, more than 1000 physicians are on the hospital staff. In the past year approximately 38,000 patients made 142,000 clinic visits; 10,000 inpatients received 110,000 days of care; 18,000 regular x-rays were examined; 8000 anesthetics given; 14,000 microbiological specimens were examined; there were 7000 pathological examinations and 1200 cases carried by the Social Service Department.

The proposed union of the Post-Graduate Medical School and Hospital was made possible by Rush H. Kress, then vice president of the Samuel H. Kress

Foundation and a member of NYU-Bellevue Medical Center board. The foundation contributed more than \$8 million to the development of the medical center and has given continuing support to postgraduate training.

The hospital is a part of a multi-million-dollar medical center development program. To date, three buildings are completed and in full operation: the Institute of Physical Medicine and Rehabilitation; the Henry W. and Albert A. Berg Institute for Experimental Physiology, Surgery and Pathology; and the Medical Science Building. The students' Hall of Residence was placed in operation this month and Alumni Hall and lecture rooms will be opened in September 1957. The new 20-story hospital to replace the present University Hospital, will complete the medical center development program.

## Forthcoming Events

### April

1-2. Industrial Engineering Conf., West Lafayette, Ind. (K. E. Glancy, Div. of Adult Education, Purdue Univ., West Lafayette.)

1-4. American Assoc. of Petroleum Geologists, 42nd annual, St. Louis, Mo. (R. H. Dott, AAPG, Box 979, Tulsa, Okla.)

1-4. International Anesthesia Research Soc., cong., Phoenix, Ariz. (A. W. Friend, Wade Park Manor, Cleveland 6, Ohio.)

1-4. Society of Economic Paleontologists and Mineralogists, annual, St. Louis, Mo. (C. P. Ellison, Jr., Dept. of Geology, Univ. of Texas, Austin.)

1-5. Assoc. of American Geographers, annual, Cincinnati, Ohio. (B. W. Adkinson, Reference Dept., Library of Congress, Washington 25.)

2-3. Future Developments in Food Preservation, symp., Kansas City, Mo. (Food Symposium, Midwest Research Inst., 425 Volker Blvd., Kansas City 10.)

4-5. Dietary Fats—Helpful or Harmful, 3rd annual nutrition conf., Detroit, Mich. (A. H. Smith, Wayne State Univ. College of Medicine, Detroit 7.)

4-6. American Mathematical Soc., New York, N.Y. (J. H. Curtiss, AMS, 190 Hope St., Providence 6, R.I.)

4-6. American Rocket Soc., spring, Washington, D.C. (A. G. Haley, 1735 De Sales St., NW, Washington 6.)

7-10. Pan American Assoc. of Ophthalmology, 4th interim cong., New York, N.Y. (B. F. Payne, 17 E. 72 St., New York 21.)

7-12. American Chemical Soc., Miami, Fla. (A. H. Emery, ACS, 1155 16 St., NW, Washington 6.)

8. Phi Lambda Upsilon, Miami, Fla. (T. B. Cameron, Dept. of Chemistry, Univ. of Cincinnati, Cincinnati 21, Ohio.)

8-10. American Soc. of Mechanical Engineers, spring, Birmingham, Ala. (C. E. Davies, ASME, 29 W. 39 St., New York 18.)

8-12. Food Bacteriology, internatl. symp., Cambridge, England. (Dr. Mossel,

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□ **DIFFERENTIAL EQUATIONS APPLIED IN SCIENCE AND ENGINEERING**, by HAROLD WAYLAND, *California Institute of Technology*. About 448 pages, probably \$6.50.

□ **VISCOUS FLOW THEORY**, by SHIH-I PAI, *Institute for Fluid Dynamics and Applied Mathematics, University of Maryland*. Volume II—Turbulent Flow. About \$7.50.

□ **INTRODUCTION TO LOGIC AND SET THEORY**, by PATRICK SUPPES, *Center for Advanced Study in Behavioral Sciences, Stanford University*. Coming in May.

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T.N.O., Catharijnesingel 61, Utrecht,  
Netherlands.)

8-12. Surface Activity, 2nd world cong.,  
London, England. (Congress Secy., 14  
Belgrave Sq., London, S.W. 1.)

9-10. Industrial Electronics Education  
Conf., annual, Chicago, Ill. (E. A. Roberts,  
Armour Research Foundation, Illinois  
Inst. of Technology, Chicago 16.)

10-12. Nuclear Instrumentation Conf.,  
natl., Atlanta, Ga. (H. Kindler, Instru-  
ment Soc. of America, 313 Sixth Ave.,  
Pittsburgh, Pa.)

10-13. Conference on Embryology and  
Experimental Morphology, Cambridge,  
England. (D. R. Newth, Dept. of Zoology,  
University College London, Gower St.,  
London W.C. 1.)

11-13. American Assoc. of Pathologists  
and Bacteriologists, annual, Washington  
D.C. (E. A. Gall, Cincinnati General  
Hospital, Cincinnati 29, Ohio.)

11-13. Southwestern Inst. of Radio En-  
gineers Conf. and Electronics Show, 9th  
annual, with 2nd National Simulation  
Conf., Houston, Tex. (F. C. Smith, Jr.,  
Box 13058, Houston 19.)

12-13. Colorado-Wyoming Acad. of  
Science, annual, Fort Collins, Colo. (O.  
W. Olsen, Colorado A.&M. College, Fort  
Collins.)

12-13. Eastern Psychological Assoc.,  
annual, New York, N.Y. (G. G. Lane,  
Dept. of Psychology, Univ. of Delaware,  
Newark.)

12-13. New Orleans Acad. of Sciences,  
New Orleans, La. (A. Welden, Dept. of  
Biology, Newcomb College, New Orleans.)

12-14. American Assoc. for Cancer Re-  
search, Chicago, Ill. (H. J. Creech, Inst.  
for Cancer Research, Fox Chase, Phila-  
delphia 11, Pa.)

12-14. American Assoc. of Physical  
Anthropologists, annual, Ann Arbor,  
Mich. (J. H. Spuhler, Dept. of Human  
Genetics, Univ. of Michigan Medical  
School, Ann Arbor.)

12-14. American Soc. of Human Ge-  
netics, annual, Ann Arbor, Mich. (E. J.  
Gardner, Dept. of Zoology, Utah State  
College, Logan.)

12-14. National Speleological Soc.,  
Natural Bridge, Va. (Mrs. M. McKenzie,  
1407 Hickory Ct., Broyhill Park, Falls  
Church, Va.)

13. Society for the Scientific Study of  
Religion, spring, New York, N.Y. (W. C.  
Clark, Hartford School of Religious Edu-  
cation, Hartford 5, Conn.)

13. South Carolina Academy of Science,  
annual, Columbia (Miss M. Hess, Box 114,  
Winthrop College, Rock Hill, S.C.)

14-16. Telemetry Symposium, natl.,  
Philadelphia, Pa. (A. S. Westneat, Jr.,  
Applied Science Corp., Box 44, Prince-  
ton, N.J.)

14-20. American Physiological Soc.,  
Chicago, Ill. (M. O. Lee, APS, 9650 Wis-  
consin Ave., NW, Washington 14.)

15-17. American Soc. of Lubrication  
Engineers, annual, Detroit, Mich. (W. P.  
Youngclaus, Jr., ASLE, 84 E. Randolph  
St., Chicago 1, Ill.)

15-17. Molecular Mechanism of Rate  
Processes in Solids, Faraday Soc. discus-  
sion, Amsterdam, Netherlands. (Faraday  
Soc., 6 Gray's Inn Sq., London, W.C.1.)

(See issue of 15 February for comprehensive list)

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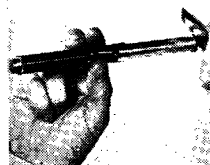
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