

financial sacrifices. This fund is provided with the object of increasing the participation of academic and government research men or women in the conferences, and is limited to individuals who have been invited to attend because of the significant contributions they may be able to make, and who will be available for participation in the discussions during the conference.

It is the responsibility of each chairman and the director of the conferences to use this fund effectively in meeting the individual needs of the academic and government participants. It may be used to contribute toward traveling and/or subsistence expenses at the conference, but the money is to be used as an assistance fund only. Total travel and subsistence expenses normally will not be paid.

If it is necessary to cancel a reservation, notice must be received in the office of the director three weeks prior to the conference, whereupon \$20.00 will be refunded from the \$25.00 deposit. No refund will be made for cancellations received within the three-week period.

The first meeting of each conference is held on Monday at 9:00 A.M., EDT. The morning sessions, through Friday, are scheduled from 9:00 A.M. to 12:00 noon. The second session of each day is held in the evening from 7:30 to 10:00 P.M., Monday through Thursday. Conference members are expected to release their rooms not later than Sunday morning unless they have made a reservation for the next conference.

The public lectures, sponsored jointly by the college and the Gordon Research Conferences, will be organized on Sunday evening preceding several conferences. Conference members usually arrive on Sunday afternoon preceding the conference because it is not possible to obtain public transportation Monday morning in time to arrive for the opening meeting. The schedule of these lectures has not been completed. The tentative dates on which it is hoped to have available an outstanding speaker on a subject of general interest are stated in the program.

Accommodations are available for a limited number of women to attend each conference and for wives who wish to accompany their husbands. All such requests should be made at the time of the request for attendance, because accommodations will be assigned in the order that specific requests are received. Children under eight years of age cannot be accommodated at Colby Junior College; children four years of age and older can be accommodated at the New Hampton School. Rooms are available at several inns and hotels in both New London and New Hampton if reservations are made in advance. Information on these inns and hotels will be supplied by the director on request. No dogs or other animals will be permitted in the dormitories.

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, R. I. From June 15 to September 1, 1951, mail should be addressed to Colby Junior College, New London, N. H.

## PROGRAM AT COLBY JUNIOR COLLEGE<sup>1</sup>

### CATALYSIS

#### Otto Beeck Memorial Conference

A. Farkas, *Chairman*; R. C. Hansford, *Vice Chairman*

June 18: H. S. Taylor, "Evaporated Films and Tech-

<sup>1</sup>Conference programs that are incomplete in this announcement may be obtained from the Director, University of Rhode Island, Kingston, R. I.

nical Catalysts;" B. A. Fries, "The Hydroforming Reaction: Studies with Carbon-labeled Methylcyclohexane;" P. W. Selwood, "The Structure and Catalytic Activity of Some Amorphous Solids."

June 19: Hugh M. Hulburt, "Electronic Structure and Properties of Oxidation and Hydrogenation Catalysts;" W. A. Weyl, "Surface Chemistry and Heterogeneous Catalysis."

June 20: G. L. Simard, "Studies on Vanadium Oxides as Oxidation Catalysts;" W. J. Kirkpatrick, "The Mechanism of Oxidation of Sulfur Dioxide over Vanadium Pentoxide-Silica-Potassium Pyrosulfate Catalyst;" F. G. Ciapetta, "The Isomerization of Saturated Hydrocarbons by Hydrogenation-Cracking Catalysts."

June 21: R. P. Eischens, "Isotopic Exchange Reactions in the Study of Surface Properties of Iron Catalysts;" L. J. E. Hofer, "The Mechanism of the Carburation of Iron;" R. B. Anderson, "The Preparation of Nitride, Carbonitride and Carbide of Iron and their Behavior in the Fischer-Tropsch Synthesis;" Hartley C. Eckstrom, "Catalyst Composition in Hydrocarbon Synthesis."

June 22: Round-table discussion.

### PETROLEUM

Robert W. Schiessler, *Chairman*; E. C. Hughes, *Vice Chairman*

June 25: V. Haensel, "Platforming of Pure Hydrocarbons;" J. S. Ball, "Sulfur Compounds in Petroleum."

June 26: R. L. Burwell, Jr., "Action of Sulfuric and Chlorosulfonic Acids on Hydrocarbons;" H. L. Lochte, "Nitrogen and Oxygen Compounds in Petroleum."

June 27: H. Pines, "Mechanism of Isomerization of Cycloparaffins;" R. A. Van Nordstrand, "The Structure of Petroleum Waxes."

June 28: B. L. Evering, "Hydrocarbon Isomerization Using Aluminum Chloride and Sulfuric Acid Catalysts;" evening session to be announced.

June 29: To be announced.

### ELASTOMERS

Albert W. Meyer, *Chairman*; J. D. D'Ianni, *Vice Chairman*

July 2: Monomers and Polymerization Conditions: F. R. Mayo, Discussion; Maurice Morton, "Quantitative Studies of Emulsion Polymerization;" Polymerization Conditions: Round-table discussion; F. R. Mayo, *Leader*.

July 3: Polymer Structure and Composition vs. Physical Properties and Performance in Service: P. J. Flory, A. W. Meyer and others, "Relationships between Polymer Structure and Properties;" W. O. Baker, "Mechanical Properties of Molecules in Solution;" T. W. DeWitt, "Dynamic Behavior of Polyisobutylene as a Function of Frequency and Temperature;" Robert A. Marvin, "Nonlinear Aspects of Dynamic Properties of Elastomers;" S. D. Gehman, "Effect of Compounding Variables on Dynamic Properties;" J. W. Liska, "Correlations of Dynamic Properties with Service Performance."

July 4: Mechanism of Reinforcement: W. R. Smith and R. L. Zapp, Discussion; John Rehner, Jr., "Thermodynamics of Filler Reinforcement;" B. A. Mrowca, "Study of Reinforcement by Nuclear Magnetism;" E. M. Dannenberg, "Polymer Structure and Response to Reinforcement."

*July 5: Vulcanization Reactions:* David Craig, Discussion; R. L. Zapp, "The Stoichiometry of Vulcanization;" Geoffrey Gee, "The Present State of Knowledge in the Field of Sulfur Vulcanization;" David Craig, "New Data Concerning TMTD and Sulfur Vulcanization—Effects of Hydrogen Sulfide." *Aging Phenomena:* B. S. Biggs, Discussion; J. Crabtree, "Rubber and the Ozone Effects;" A. V. Tobolsky, "Some Aspects of Physical and Chemical Changes Occurring during Degradation of Elastomers."

*July 6: Aging Phenomena (cont.):* J. Reid Shelton, "Oxygen Absorption Studies on Rubber and Related Materials." *Silicone Elastomers:* E. G. Rochow and others, Discussion.

*July 8:* Public lecture, 8:00 P.M. Subject and speaker to be announced.

#### POLYMERS

Turner Alfrey, Jr., *Chairman*; Paul J. Flory, *Vice Chairman*

*July 9:* H. Mark, "Survey of Advances during the Last Year;" W. O. Kenyon, "Chemistry of Derived Polymers of the Vinyl Series."

*July 10:* W. T. Miller, "Fluoropolymers;" E. M. Fettes, "Structure and Properties of Polysulfides."

*July 11:* G. B. B. M. Sutherland, "The Use of Infrared Spectroscopy in the Study of High Polymers;" R. S. Marvin, "Report on NBS Dynamic Testing Program;" B. Maxwell, "Tensile Impact Properties of Polymers."

*July 12:* R. S. Spencer, "Fundamental Analysis of Injection Molding;" H. M. Spurlin and W. H. Markwood, "Residual Stresses and Strains in Molded Plastics."

*July 13:* S. G. Cohen and H. Haas, "Structure and Properties of Cellulose Ethers."

#### TEXTILES

J. H. Brant, *Chairman*; W. J. Hamburger, *Vice Chairman*

*July 16:* T. Waller George, "Localized Plastic Flowing in Filamentous Solids;" Lyman Fourn, "Obtaining and Measuring Luster in Cotton."

*July 17:* Eugene Paeu, "A Critical Discussion of the Structural Problem of Cellulose;" W. E. Roseveare, "The Structure and Reactivity of Cellulose."

*July 18:* L. P. Herrington, "The Physiology of Clothing;" J. R. Whinfield, "Terylene."

*July 19:* Milton Platt, "Some Factors Affecting the Translation of Fiber Properties into Yarn Systems;" Ralph G. H. Siu, "Practical Implications of Studies on the Biochemical Mechanism of Cellulose Breakdown by Microorganisms."

*July 20:* James Wakelin and Herbert Haller, "Research Studies and Processing Trials on Various Wools."

*July 22:* Public lecture, 8:00 P.M. Subject and speaker to be announced.

#### CORROSION

F. W. Fink, *Chairman*; J. M. Pearson, *Vice Chairman*

(*Tentative Program*)

*July 23-27:* Effect of Minor Constituents on the Corrosion Mechanism Symposia: Harold Robinson, "Light Alloys;" Carl L. Bulow, "Copper-Base Alloys;" C. P. Larrabee, "Low-Alloy Steels;" E. M. Mahla, "Stainless Steels." Summary, R. B. Hoxeng. Thomas May, "Effect

of Nickel as a Minor Constituent on Corrosion;" Julius Harwood, "Stress Corrosion and Minor Constituents." Research Papers: Armin H. Gropp, "Polarography in Corrosion;" L. Holzworth, "Solid Solubilities Effects and Knife-Line Corrosion of Stabilized 18 Cr-8 Ni Steels;" Milton Stern, "Corrosion of Aluminum Alloys in Carbon Tetrachloride;" Bruce Dunnington, "A Metallographic Study of High-Temperature Oxidation of Iron."

#### INSTRUMENTATION

H. W. Washburn, *Chairman*; Howard Cary, *Vice Chairman*

*July 30:* Van Zandt Williams, "Recent Advances in Infrared Instrumentation;" Robert C. Mellors, "Microspectrophotometry;" Bruce Billings, "Interference Filter Spectroscopy."

*July 31:* J. W. Forrest, "Refractometry;" John Strong, "Instrument Art and Experimental Science;" George W. Downs, "Magnetic Amplifiers."

*August 1:* P. W. Selwood, "Magnetic Measurements in Physical Chemistry;" W. A. Wildhack, "Instrumentation Research at the Bureau of Standards;" E. C. Miller, "Process Control Instrumentation."

*August 2:* John Hipple, "Mass Spectrometry of Solids;" Speaker to be announced, "Automatic Mass Spectrometer Process Control;" Speaker to be announced, "Mass Spectrometer for Aqueous Samples."

*August 3:* Speaker to be announced, "Microwave Refractometry;" Speaker to be announced, "Neutron Spectroscopy."

#### FOOD AND NUTRITION

Bernard L. Oser, *Chairman*; Zoltan I. Kertesz, *Vice Chairman*

*August 6:* Antibiotics as Food Preservatives: Harold S. Olcott, "Functional Role of Antibiotics in Food Processing;" Edwin J. Cameron, "Criteria of Acceptability for Antibiotics in Food Processing." Antibiotics as Nutrients: James McGinnis, "The Effect of Antibiotics on Animal Growth, Nutritional Requirements and Intestinal Microflora;" Damon Catron, "Effects of Antibiotics in Swine Nutrition."

*August 7:* Therapeutic Nutrition: Herbert Pollack, "The Increased Metabolic Demands Induced by Injury Response and the Modification of Therapeutic Diets to Satisfy these Requirements;" Stanley M. Levenson, "Some Metabolic and Nutritional Problems Associated with Thermal and Radiation Injury;" Sidney C. Werner, "A Clinical Study of the 'Stress' Response to Operation, Trauma and Disease and Some Consequent Parenteral Nutritional Considerations;" Frank L. Engel, "Experimental Studies on the Relation of the Adrenal Cortex to the Metabolic Reaction to Injury."

*August 8:* Health Aspects of Exposure to Radioactivity: Howard E. Skipper, "Hazards Involved in Investigations with C<sup>14</sup>;" L. W. Tuttle, "The Question of Radioactive Contamination of Foods." Marine Nutrition: Denis L. Fox, "The Chemical Nature, Measurement and Distribution of Marine Colloidal Matter and its Role in the Nutrition of Animals;" Arthur M. Phillips, Jr., "The Nutrition of Fish with Particular Reference to Vitamin Requirement and Carbohydrate Utilization."

*August 9:* Geriatric Nutrition: Anthony A. Albanese and Reginald A. Higgons, "Protein Requirements of Old Age;" Agnes Fay Morgan, "Caloric Requirements of Old Age;" Tom S. Hamilton, "Calcium Utilization in

Early and Late Adult Life;" Roy G. Hoskins, "Physiological and Endocrinological Aspects of Aging."

August 10: Chemistry and Metabolism of Polysaccharides: Ralph W. Kerr, "The Action of Amylases on Starch;" Walter Lyon Bloom, "The Intravenous Injection of Polysaccharides."

August 12: Public lecture, 8:00 P.M. Subject and speaker to be announced.

#### VITAMINS AND METABOLISM

(Preliminary)

W. J. Darby, *Chairman*; Gladys A. Emerson,  
*Vice Chairman*

August 13: A. F. Morgan, "Adrenal, Pantothenic Acid, and Riboflavin Relationships;" Roy Hertz, "The Endocrine Aspects of the Avidin-Biotin Problems;" Charles May, "Relationship of Ascorbic Acid to Metabolism of Folic Acid;" J. H. Burchenal, "Studies of Aminopterin and Citrovorum Factor in the Human."

August 14: Ezra Greenspan and E. B. Schoenbach, "Aminopterin and Citrovorum Formation;" Vincent du Vigneaud, "Transmethylation and Biological Synthesis of Labile Methyl Groups;" D. B. Sprinson, "Some Aspects of the Formation of Methyl Groups."

August 15: J. Loosli, "Role of Vitamin B<sub>12</sub> and Cobalt in Ruminants;" E. E. Bartley, "Antibiotics in Calf Nutrition;" F. Lipmann, "Chemistry of Coenzyme A;" V. H. Cheldelin and T. E. King, "Chemistry of Bound Pantothenic Acid."

August 16: E. E. Snell, "Purification, Synthesis and Biological Activity of Pantethine and Related Forms of the *Lactobacillus bulgaricus* Factor;" F. C. Steward, "Coconut Milk Factor;" Mary Quaife and P. L. Harris, "Vitamin E in Relation to Acute Physiologic Stress."

August 17: R. W. Vilter, "Desoxypyridoxine-induced Pyridoxine Deficiency in Man;" J. F. Rinehart, "Pathology of Pyridoxine Deficiency."

August 19: Public lecture, 8:00 P.M. Subject and speaker to be announced.

#### MEDICINAL CHEMISTRY

Otto K. Behrens, *Chairman*; C. A. Winter,  
*Vice Chairman*

August 20: Robert E. Olson, "The Enzymology of the Normal and Failing Heart;" Rene Wegria, "Pharmacology of Coronary Drugs;" Robert W. Wilkins, "Etiology of Hypertension: A Survey of Current Theories;" George A. Perera, "Criteria for Evaluation of Hypertensive Vascular Disease and its Treatment."

August 21: Josef Fried, "The Chemistry of the Veratrum Alkaloids;" Selby B. Davis, "Control of Renal Blood Flow: An Approach to the Chemotherapy of Hypertension;" Mark Nickerson, "The Pharmacology of Antihypertensive Drugs;" W. C. Hueper, "The Etiologic Factors and Causative Mechanisms in Arteriosclerosis."

August 22: John W. Gofman and Frank Lindgren, "The Role of Lipoproteins in Atherosclerosis with Comments on the Effect of Diet and Various Drug Agents on the Blood Lipoprotein Levels;" Julius Pomeranze, "The Effect of Therapeutic Agents on Serum Lipids and Atherosclerosis;" Karl H. Beyer, "The Relationship of Structure to the Inhibitory Effects of Compounds on Renal Transport Mechanisms;" William P. Boger, "Clinical Status of Agents Influencing Conjugative Mechanisms and Renal Tubular Secretion."

August 23: Klaus R. Unna, "Recent Advances in the Pharmacology of the Myoneural Junction;" Arthur P. Richardson, "The Pharmacology of Drugs Affecting Synaptic Transmission;" Alfred E. Wilhelmi, "Chemical Investigations on the Anterior Pituitary;" Vincent du Vigneaud, "Chemical Investigations on the Posterior Pituitary."

August 24: William J. Haines, "Studies on the Biosynthesis of Adrenal Cortex Hormones;" W. W. Umbreit, "Relation of the Adrenal Cortex to Tissue Enzymes, with Special Reference to Cortisone."

#### CANCER

M. J. Shear, *Chairman*; G. B. Mider, *Vice Chairman*

August 27-31: General subjects: Components of Tumor Cells, Mechanism of Tumor Genesis, Progress in Chemotherapy, Polysaccharides.

(Speakers and detailed program will be announced later.)

#### PROGRAM AT NEW HAMPTON SCHOOL<sup>2</sup>

##### ORGANIC COATINGS

R. H. Kienle, *Chairman*; R. W. Quarles,  
*Vice Chairman*

June 18: G. M. Powell, "Coatings from Organosol and Plastisol Dispersions;" D. Todd, "Some Rheological Aspects of Vinyl Plastics."

June 19: O. R. McIntire, "Coatings Properties of Synthetic Lattices;" W. Bosch, "Coatings from Styrene-Butadiene-Drying Oil Emulsions."

June 20: J. D. Ferry, "Properties of Films and Coatings of Biological Origin;" R. Grinsfelder, "Strength of Surface Coatings."

June 21: T. W. Dakin, "Electrical Measurements of Organic Films and Their Interpretation;" S. Gusman, "Studies of the Mechanism of Crater Formation in Baked Surface Coatings."

June 22: S. W. Reinhart, "Theories of Adhesion."

##### COAL

George D. Creelman, *Chairman*

June 25-29: Fundamental Research on Composition, Properties, and Reactions.

(Speakers and detailed program will be announced later.)

##### MICROBIOLOGICAL DETERIORATION

J. Leutritz, *Chairman*; G. A. Greathouse,  
*Vice Chairman*

July 2: Wood and Paper.

July 3: Textiles and Cordage; Leather; Lacquers, Paints and Varnishes.

July 4: Rubber, Resins, Plastics, Waxes, etc.; Chemical Constitution and Biological Effect.

July 5: Organisms and their Metabolism; Preservatives and Fungicides.

July 6: Round-table discussion on Government Specifications for Fungus and Moisture Proofing.

(Speakers and detailed program will be announced later.)

<sup>2</sup> Conference programs that are incomplete in this announcement may be obtained from the Director, University of Rhode Island, Kingston, R. I.