

Association Affairs

Sessions for Contributed Papers at the Sixth St. Louis Meeting December 26-31, 1952

CONSISTENT with the spirit of the Arden House Conference, the 119th Meeting of the American Association for the Advancement of Science has a theme: "Contributions of the Sciences and Mathematics to Engineering and Industry"—and will put more emphasis on unity. A number of the Association's 18 sections and subsections will have appropriate panels or symposia. In this meeting, the concluding event of the Centennial of Engineering, it is natural that the physical and industrial sciences will play a prominent part. The other sciences and the needs of individual members to report their researches, however, will not be neglected. Already planned are other important programs—notably in the biological and medical sciences—and there will be ample arrangements for contributed papers.

Participating organizations such as the mathematical societies, the Society of Systematic Zoology, and the science teaching societies, will hold paper-reading sessions throughout the week. In addition, at least ten AAAS sections will provide opportunities for their members to read contributed papers. The 25th Newcomb Cleveland Thousand Dollar Prize (formerly the AAAS Thousand Dollar Prize) will be awarded for a noteworthy, noninvited paper read at a regular session of a participating society or a section. Most of the sessions sponsored by the sections will, it is anticipated, be officially co-sponsored by the societies in their fields.

The following sections are calling for papers; titles and brief abstracts should be sent to the indicated section secretary or program chairman:

- C, Chemistry—Ed. F. Degering, 1860 Colonial Dr., Memphis 7, Tenn.
- E, Geology and Geography—Leland Horberg, Department of Geology, University of Chicago, Chicago 37
- F, Zoological Sciences—Waldo Schmitt, U. S. National Museum, Washington 25, D. C.
- G, Botanical Sciences—Stanley A. Cain, School of Natural Resources, University of Michigan, Ann Arbor
- H, Anthropology—Marian W. Smith, 501 W. 113th St., New York 25
- I, Psychology—Delos D. Wickens, Department of Psychology, Ohio State University, Columbus 10
- M, Engineering—Frank D. Carvin, Illinois Institute of Technology, Chicago 37
- Nd, Dentistry—Russell W. Bunting, School of Dentistry, University of Michigan, Ann Arbor
- Np, Pharmacy—George F. Archambault, U. S. Public Health Service, Washington 25, D. C.
- Q, Education—Dean A. Worcester, University of Nebraska, Lincoln

Gordon Research Conferences June 16-August 29, 1952

W. George Parks

University of Rhode Island, Kingston

THE annual Gordon Research Conferences for 1952 will be held June 16-August 29 at Colby Junior College, New London, N. H., and the New Hampton School, New Hampton, N. H., under the sponsorship of the AAAS.

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 the scheduled lectures and free discussion groups. Sufficient time is available to inspire informal discussions among the members of the conference. Meetings are held mornings and evenings, Monday through Friday, with the exception of Friday evening. The afternoons are available for recreation, reading, resting, or participation in discussion groups, as the individual desires. This type of meeting is a valuable means of disseminating information and ideas that otherwise might not reach the normal channels of publication and scientific meetings. In addition, scientists in related fields become acquainted, and valuable associations are formed that result in collaboration and co-operation among different laboratories.

It is hoped that each conference will extend the frontiers of science by fostering a free and informal exchange of ideas among people 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 as to the latest developments, to analyze the significance of these developments, and to stimulate suggestions as to the underlying theories and effective methods whereby new progress can be made. 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

Those interested in attending the conferences are requested to send in their applications to the director, on or before *May 15*. Each applicant must state the institution or company with which he is associated and the type of work in which he is most interested. Attendance at each conference is limited to 100.

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 requests as widely as possible among the various institutions and laboratories represented. The names selected will be returned by the Conference Committee to the director, who will notify those accepted as soon as possible. A registration card will be mailed with the notice of selection. Advance registration by mail for each conference is required. On receipt of the completed registration card and a deposit of \$25.00 made payable to the Gordon Research Conferences, AAAS, registration will be completed. The deposit of \$25.00 will cover the registration fee of \$15.00 (except for academic individuals and students on personal expense, who may apply for a reduction of \$5.00), the balance being credited against subsistence expenses at the conference. The rates for room and meals are as follows: \$2.50 per night per person in a double room with single beds; \$3.00 per night per person in a single room; \$3.50 per night per person in a single or double room with private bath. Meals served in the dining room are at the rate \$5.75 per day per person. Gratuities are provided for by an additional charge of 10 per cent which is added to each bill. Members attending a conference are expected to live at the conference. If special circumstances warrant living elsewhere, a charge of \$1.00 per day will be made to assist with the financial support of the conferences.

Each year a special fund is put at the disposal of the chairmen of the individual conferences by the Management Committee to assist scientists from academic and government institutions who cannot attend or participate at a Gordon Research Conference because of financial limitations. This fund is provided with the object of increasing the participation of research workers of academic and government institutions, and is limited to scientists and graduate students who have been invited by the chairman to attend a conference in order to present a paper or because it is expected that they will make significant contributions during their stay at 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.

A limited number of special grants are available in the amount of \$200.00 each, or as much of this amount as is required, to assist qualified graduate students and postdoctoral fellows to attend a Gordon Research Conference. These students and fellows will be selected, based on the recommendation of their professors, by a committee consisting of the chairman of the conference to be attended, the chairman of the Management Committee and the director of the conferences.

If it is necessary to cancel a reservation, the notice must be received in the office of the director three

weeks prior to the Conference. If such notice is received three weeks in advance of the conference, \$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., EDST. 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.

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 twelve years of age cannot be accommodated. 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, 1952, mail should be addressed to Colby Junior College, New London, N. H.

Program at Colby Junior College

PETROLEUM

E. C. Hughes, *Chairman*; A. H. Batchelder, *Vice Chairman*

June 16: Synthetic Detergents: L. H. Fleet, *Chairman*; A. H. Batchelder, W. K. Griesinger, C. R. Sporek, "Surface Properties of Petroleum Based Detergents;" N. Beverley Tucker, Reginald L. Wakeman, "Quaternary Ammonium Derivatives from Petroleum;" Harold Hart, "The Mechanism of the Nuclear Alkylation of Phenols."

June 17: Syntheses with the Higher Olefins: C. L. Brown, *Chairman*; M. W. Swaney, "Reactions of Olefins with Aldehydes;" C. M. Fontana, "Synthesis of V. I. Improvers with Propylene and Butene-1 and Their Performance in Engines;" W. B. Reynolds, "Elastomers and Plastics from Olefins;" J. D. Kemp, "Alkylation of Olefins with Isoparaffins;" J. N. Wilson, "The Mechanism of Hydrogenation of Propylene and of Butylenes."

June 18: Synthetic Lubricants and Oil Additives: W. A. Zisman, *Chairman*; R. C. Morris, "Some New Organo-Phosphorus Compounds as Potential Lubricants;" H. R. Fife, R. F. Holden, W. J. Toussaint, "Viscosity-Temperature Relations of Certain Polyalkylene Glycols and their Ether and Ester Derivatives;" C. M. Murphy and W. A. Zisman, "Synthetic Lubricants from New Types of Diesters;" T. W. Mastin, "Alkaline Lubricant Additives;" E. C. Knowles, "Combating Engine Deposits with Synthetic Lubricants" (tentative subject).

June 19: Liquid Propellants: A. J. Nerad, *Chairman*; A. J. Nerad, "Liquid Rocket Propulsion and the Research and Development Board;" E. H. Seymour, "Liquid Rocket Motors. Principles and Applications;" C. M. Hudson, "Performance Criteria for Liquid Propellant;" M. P. Dunnam, "Propellant Production Processes and Availability;" A. J. Nerad, "The Future;" Showing of film on V-2, Viking, or some other suitable liquid propellant vehicle. Chemistry and Physics of Detonation in Internal Combustion Engines: L. L. Withrow, *Chairman*; L. L. Withrow, "Introductory Remarks and Review of Some of the Pertinent Phenomena which Affect Adversely the Normal Inflammation Process in the Spark Ignition Engine;" Ellis Rifkin, "Sampling Valve Studies of Preflame Reactions;" P. L. Cramer and Walter Cornelius, "A Comparison of Engine Preflame Reactions with the Low Temperature Tube Oxidation Characteristics of Hydrocarbons;" B. M. Sturgis, "Chemistry of Preflame Reactions."

June 20: Antioxidants: D. R. Stevens, *Chairman*; Robert S. Mesrobian, "Organic Hydroperoxides and the Hydroperoxide Theory of Autoxidation;" Joseph A. Chenicek, "Structures of Efficient Antioxidants and their Effects on Various Petroleum Systems."

CATALYSIS

R. C. Hansford, *Chairman*; P. W. Selwood, *Vice Chairman*

June 23-27:

- I. The Electronic Factor in Metallic Catalysts.
 - A. Modern Theories of the Metallic State.
 1. Resonance Theory.
 2. Electron Band Theory.
 - B. Chemisorption by Metals and Alloys.
 1. Kinetics, Mechanism, and Energetics.
 - C. Catalysis by Metals and Alloys.
 1. Electronic Configuration and Lattice Parameter.
- II. The Electronic Factor in Semiconductor Catalysts.
 - A. Theory of Semiconductivity.
 - B. Chemisorption by Semiconductors.
 1. Kinetics, Mechanism, and Energetics.
 - C. Catalysis by Semiconductors.
 1. Catalysis and Semiconductivity.
- III. Structural Factors in Acid (Ionic) Catalysis.
 - A. Activation Processes in Acid Catalysis.
 1. Mechanism of Activation and Reaction of Hydrocarbons.
 - B. Structure of "Carbonium Ion" Complexes.
 1. Configuration and Reactivity.
- IV. Round-Table Discussion.
 - A. Miscellaneous short contributions.
 - B. General discussion of conference papers.

LONGEVITY

W. B. Sawyer, *Chairman*

June 30-July 4: Detailed program to be announced.

HIGH POLYMERS

Paul J. Flory, *Chairman*; Arthur V. Tobolsky, *Vice Chairman*

July 7: H. Mark, "Recent Developments;" P. H. Plesch, "Ionic Copolymerization;" C. S. Marvel, subject to be announced.

July 8: T. G. Fox, Jr., "Popcorn Polymerization;" A. V. Tobolsky, "Rates of Initiation in Vinyl Polymerization;" C. H. Bamford, "Synthetic Polypeptides—Preparation, Structure, and Relationship to Proteins."

July 9: R. S. Stein and S. Krimm, "Crystallization of Polyethylene;" W. H. Cobbs, Jr., and R. L. Burton, "Studies of Rapid Crystallization in Polymers;" R. F. Tuckett and A. B. Thompson, "The Drawing of Terylene."

July 10: F. T. Wall, "Polymer Diffusion and its Measurement;" H. Eisenberg, "Thermodynamics of Polyelectrolyte Solutions;" W. H. Stockmayer, "Light Scattering and Intrinsic Viscosity of Copolymers and Branched Polymers."

July 11: T. W. DeWitt, "Some Physical Properties of Concentrated Solutions of Polyisobutylene;" J. D. Ferry, "Relaxation Distribution Functions of Polymers and their Concentrated Solutions and Gels."

TEXTILES

W. J. Hamburger, *Chairman*; J. Edward Lynn, *Vice Chairman*

July 14: Herman F. Mark, "New Polymers for the Formation and Modification of Textile Fibers;" Bruno R. Roberts, "Influence of Some Colloid Chemical and Physical Factors on Textile Performance of Synthetic Fibers, Especially of the Acrylonitrile Type."

July 15: Kenneth L. Hertel, "Response of Fiber Assemblages to Compression as Influenced by Certain Fiber Properties;" A. G. H. Dietz, "Transmission and Attenuation of Energy in High Polymers."

July 16: Richard O. Steele, "The Relationship between the Chemical Structure and the Mechanical Behavior of Wool;" Turner Alfrey, Jr., "The Relationship between the Chemical Structure and the Mechanical Behavior of Synthetic Fibers."

July 17: Harold P. Lundgren, "Action on Wool of Certain Low Molecular Weight Reagents;" Henry M. Morgan, "Effects of Chemical Treatments on the Mechanical Behavior of Human Hair."

July 18: Orville C. Wetmore, "The Effects of Various Fabric Types on Body Comfort as Measured by Physiological Responses of Human Subjects."

CORROSION

A Critical Appraisal of Measuring Techniques

J. M. Pearson, *Chairman*; Hugh P. Godard, *Vice Chairman*

July 21: R. H. Brown, "Measurements of Characteristic Potential Behavior of a Corroding Electrode as a Function of Applied Current or as a Function of Time." Measurement of Properties of Surfaces. T. P. May, Norman Hackerman, "Measurements of Area by Adsorption of Gases;" D. C. Grahame, "Measurements of Surface Roughness by Electrical Capacity."

July 22: Measurement of Properties of Surfaces. Norman Hackerman, "Radiotracer and Radioautographic Techniques;" Leroy Schultz, "Optical and Electron-

Optical Measurement of Surface Films." Measurement of Changes in Properties of Corroding Metals. Carl A. Zapffe or Frederic Landgraf, "Fractographic Techniques and Tests for Hydrogen Embrittlement;" H. H. Uhlig, "Measurements of Passivity and their Interpretation."

July 23: Measurements of Changes in Properties of Corroding Metals. H. H. Liebhafski, "Techniques for Studying the Oxidation of Metals at High Temperatures;" F. L. LaQue, "Measurement of Damage by Cavitation, Impingement Attack, and High Velocity Erosion;" S. Logan Kerr, "Measurement of Cavitation Erosion and Correlation between Laboratory and Field Observations." Analysis of Corrosion Products and Corrosive Agents. F. N. Alquist, "Measurements of Hydrogen and Oxygen in Boiler Water."

July 24: Analysis of Corrosion Products and Corrosive Agents. C. E. Imhoff, "Analysis by X-Ray or Electron Diffraction Methods;" Armin H. Gropp, "Polarographic Analysis of Corrosion Products and Measurement of Oxygen Consumption." Statistical Treatment of Corrosion Data. O. B. Ellis, "Graphical Multiple Correlations;" V. V. Kendall, "Statistical Tools for Evaluation of Corrosion Measurements."

July 25: F. W. Fink, H. P. Godard, "Summary of 1952 Corrosion Sessions."

INSTRUMENTATION

Howard Cary, *Chairman*; William A. Wildhack, *Vice Chairman*

July 28: Richard W. Jones, "Developments in Feed-back Controllers for Industrial Processes;" D. P. Campbell, "Instrumentation Methods Applied to Human Affairs."

July 29: J. W. Forrest, "Basic Requirements in Refractometry;" M. G. Jacobson, "Electrochemical Methods for Gas Analysis."

July 30: J. G. Hutton, "Mass Spectrometry;" Robert L. Wallace, "Transistor Circuitry;" Bernard S. Benson, "Trends in Automatic Data Reduction."

July 31: Robert C. Mellors, "Instrumentation for Cytological Analysis;" B. P. Dailey, "Microwave Spectra and Chemical Problems;" Richard Tousey, "Rocket Spectroscopy."

August 1: D. Goldman, "Instrumentation Problems in Biophysical Research."

In addition to the papers listed, the program will include a number of short reports to be contributed by persons attending the conference.

FOOD AND NUTRITION

Z. I. Kertesz, *Chairman*; Bacon F. Chow, *Vice Chairman*

August 4: Fats and Oils: W. O. Lundberg, "The Stability of Fats and Oils. Rancidity and its Prevention;" Fred J. Baur, "Synthetic Fats by Interesterification;" Phillip L. Harris, "Fats in Nutrition;" Paul György, "Nutritional Significance of Rancidity;" M. L. Grossman, "Fat Emulsions in Intravenous Alimentation."

August 5: Protein Nutrition: Bacon F. Chow, Introductory Remarks; Warren M. Cox, "Protein Nutrition in Restricted Caloric Intake;" Henry D. Hoberman, "Tracer Techniques in Protein Nutrition;" Winston Price, "Protein and Nucleic Acid Synthesis;" James B. Allison, "Protein Intake and Enzyme Synthesis."

Fluorine and Fluoridation: Harold C. Hodge, "Mottled Enamel, Dental Caries and Fluorine;" Robert A. Kehoe, "The Toxicology of Fluorine;" C. A. Greenleaf, "Fluorides in Foods;" David B. Ast, "Fluoridation of Water Supplies."

August 6: Food Standards and Regulations: E. M. Nelson, "Nutritional Significance of Food Regulations;" A. J. Lehman, "Criteria for Safety in Foods;" F. L. Southerland, "Food Quality Standards, Their Method of Establishment and Significance;" James R. Wilson, "Therapeutic Foods." Enzymes: A. K. Balls, "Recent Developments in Enzyme Chemistry;" Carl V. Smythe, "Manufacture and Industrial Application of Enzymes;" Mildred Adams, "Enzymes as Analytical Tools."

August 7: Interrelationships between the Endocrine System and Nutritional Processes: Louis Levin, Introductory Remarks; Roy Hertz, "The Participation of Dietary Trace Factors in the Metabolic Effects of Hormones;" Dwight Ingle, "Caloric Intake as an Important Variable in Endocrine Research;" Benjamin H. Ershoff, "The Effects of Vitamin Malnutrition on Resistance to Stress." Food and Feed Production through Culture of Microorganisms: Leslie R. Hedrick, "Fat and Protein Production by Molds and Bacteria;" Simon S. Jackel, "Food and Feed Yeast;" A. W. Fisher, Jr., "Growing Algae for Food."

August 8: Infant Food and Infant Feeding: R. B. Wakefield, "Processed Infant Foods;" L. A. Baur, "Developments in Infant Foods Containing Milk Products;" Victor Najjar, "Recent Developments in Infant Feeding."

VITAMINS AND METABOLISM

Gladys A. Emerson, *Chairman*; B. Connor Johnson, *Vice Chairman*

August 11: B. Connor Johnson, "The Metabolism of Radioactive Nicotinic Acid in the Rat;" Herschel K. Mitchell, "Problems of the Biosynthesis and Degradation of Tryptophan;" Herbert P. Sarrett and Grace A. Goldsmith, "The Metabolism of Nicotinic Acid in Man."

August 12: T. F. Zucker and Lois M. Zucker, "Establishing Criteria for the Selection of Experimental Animals;" W. J. Darby, "Methods of Assaying the Nutritional Requirements of Man;" Grace A. Goldsmith, "Recommended Daily Allowances of Vitamins."

August 13: George W. Kidder and Virginia Dewey, "The Nutritional Requirements of *Tetrahymena*;" Ellsworth Dougherty, "The Nutritional Requirements of the Nematode;" Gerald F. Combs, "Recent Research in Chick Nutrition, Particularly in Reference to the Requirements of the Chick for Unidentified Growth Factors;" J. R. Couch, "Unidentified Factors Required for Hatchability;" Damon Catron, "Newer Aspects of Swine Nutrition."

August 14: L. J. Reed, "The Isolation and Chemical Nature of Lipoic Acid;" I. C. Gunsalus, "Biological Functions of Lipoic Acid;" E. L. R. Stokstad, "The Isolation and Properties of Protogen;" L. D. Wright and D. E. Wolf, "Studies with Bioeytin;" Harry Waisman, "Metabolic Studies in Acute Leukemia Treated with Antagonists."

August 15: V. Cheldelin, "Bound Forms of Pantothenic Acid;" E. E. Snell, "*Lactobacillus bulgaricus* Factor;" W. W. Westerfeld and D. A. Richert, "The Xanthine Oxidase Factor."

MEDICINAL CHEMISTRY

Charles A. Winter, *Chairman*; Jackson P. English,
Vice Chairman

August 18: J. A. Wells, "An Experimental Approach to Shock;" Robert Pennell, "Plasma Extenders;" H. J. White, "A Screening Test for Antituberculous Activity in Mice;" Edmund Mayer, "Experimental Embolic Pulmonary Tuberculosis in Mice."

August 19: Hubert Bloch, "Virulence Factors in Tuberculosis;" Dr. Nissen-Meyer, "BCG in Tuberculosis Control;" Robert J. Schnitzer, "Laboratory Evaluation of Antitubercular Drugs;" Irvin J. Selikoff and Edward H. Robitzek, "Therapy of Human Tuberculosis with Hydrazine of Isonicotinic Acid and its Derivatives."

August 20: Brian Hutchings, "Chemistry of Aureomycin;" Coy Waller, "Chemistry of Aureomycin;" James H. Boothe, "Chemistry of Aureomycin;" Speaker to be announced, "Antibiotic Chemistry;" Speaker to be announced, "Antibiotic Chemistry."

August 21: Emanuel Schoenbach, "Current Clinical Status of Antibiotics;" Werner K. Maas, "Studies on the Biochemical Mechanism of Bacterial Resistance to Drugs;" D. L. Tabern, "The Use of Radioisotopes in Medicinal Chemistry."

August 22: Maurice S. Raben, "Chemistry and Biology of the Growth Hormone;" R. B. Woodward, "Total Synthesis of Sterols."

CANCER

G. Burroughs Mider, *Chairman*; Alfred Gellhorn,
Vice Chairman

August 25: Georgiana Bonser, "A Study of the Aromatic Amines in Relation to Carcinogenesis with Special Reference to β -naphthylamine;" C. Lenore Simpson, "Trypan Blue Induced Tumors in Rat Liver;" Arthur Vorwald, "Pulmonary Cancer Induced by Beryllium Compounds Deposited in the Lungs of White Rats;" Joseph Beard, "Avian Leucosis, A Template for Cancer Research."

August 26: George Palade, "Recent Progress in the Study of Cell Structure;" Cyrus Barnum, "Some Aspects of the Chemical and Metabolic Heterogeneity of Cytoplasm;" Alexander Dounce, "Chemistry of the Nucleus and Nucleolus;" J. Murray Luck, "The Incorporation of Labelled Amino Acids by Liver Histone—in vitro and in vivo Studies;" Henry Hoberman, "Studies on the Kinetics of Formation of Nuclear Proteins."

August 27: Charles Heidelberger, "Studies of Nucleic Acid and Protein Biosynthesis in Tumor-Bearing Rats;" Leon Miller, "Studies in Protein Synthesis in Experimental Tumors;" Henry Lemon, "Comparison of Proteins in Human Neoplasms and Homologous Tissues of Origin. (a) Acid Phosphomonoesterases, (b) Desoxyribose Nucleoproteins." The evening session will be a round-table discussion.

August 28: Arthur Walpole, "Association Among Growth-Inhibitory, Carcinogenic and Mutagenic Activity of Ethyleneamine Derivatives;" Erich Hirschberg, "Studies on the Mechanism of Action of 8-Azaguanine, Cortisone and Nitrogen Mustard;" Joseph Leiter, "The Action of Compounds Derived from Podophyllin on Tissue Function and Metabolism;" Alice Moore, subject to be announced; Joseph Ross, "The Mechanism of Anemia Associated with Neoplastic Disease."

August 29: Leon Jacobson, "Evidence for a Humoral Factor (or Factors) Concerned in Recovery from Radiation Injury;" Arthur Kirshbaum, "Host Factors in Resisting the Development in Radiation Induced Neoplasms and Radio Resistance of Experimental Lymphomas."

Program at New Hampton School

ORGANIC COATINGS

R. W. Quarles, *Chairman*; Henry Grinsfelder,
Vice Chairman

June 16: L. E. Hoag, "Properties of Very Thin Coatings;" H. H. Uhlig, "Chemistry and Physics of Metal Surfaces."

June 17: H. Rosenbloom, "Chemistry of Wash Primers;" W. M. Bright, "Adhesion and the Adhesive Action of Thermoplastic Films."

June 18: F. W. Reinhart, "Deterioration of Polymeric Coatings;" S. C. Horning, E. B. Fitzgerald, "Deterioration of Alkyd and Oleoresinous Coatings."

June 19: W. K. Asbeck, J. T. Bergen, "Flow Properties of Pigmented Systems;" E. I. Stearns, "Measurement of Color and Appearance of Coatings."

June 20: F. Schofield, "Test Methods and Testing of Coatings."

NUCLEAR CHEMISTRY

Glenn T. Seaborg and C. D. Coryell, *Co-Chairmen*

June 23: M. Goldhaber and G. Scharf, "Nuclear Physics for Nuclear Chemists;" G. T. Seaborg, N. Sugarman, L. Marquez, J. M. Miller, I. Perlman, A. L. Thompson, A. L. Turkevich, E. O. Wiig, "High Energy Nuclear Reactions."

June 24: G. T. Seaborg, N. Sugarman, L. Marquez, J. M. Miller, I. Perlman, A. L. Thompson, A. L. Turkevich, E. O. Wiig, "High Energy Nuclear Reactions;" I. Perlman, C. D. Coryell, G. T. Seaborg, T. P. Kohman, "Decay Energetics and Systematics."

June 25: C. D. Coryell, L. E. Glendenin, R. W. Spence, N. Sugarman, A. L. Turkevich, "Nuclear Fission;" J. W. Kennedy, G. E. Boyd, A. W. Adamson, R. W. Dodson, "Tracers, Exchange Reactions (including report from the A.C.S. Notre Dame Conference)."

June 26: J. E. Willard, R. R. Edwards, W. H. Hamill, R. R. Williams, Jr., "Hot Atom Chemistry;" G. Friedlander, C. J. Borkowski, A. Ghiorso, "Techniques."

June 27: J. J. Katz, B. B. Cunningham, J. C. Hindman, "Heavy Element Chemistry."

ELASTOMERS

J. D. D'Ianni, *Chairman*; Maurice Morton,
Vice Chairman

June 30: Emulsion Polymerization Variables. E. J. Meehan, "Some Fundamentals of Emulsion Polymerization;" M. Morton, "Locs in Emulsion Polymerization." Physical Properties of Latex. E. G. Cockbain, "Colloidal Stability of Rubber Lattices;" S. H. Maron, "Determination of Synthetic Latex Particle Size and its Distribution."

July 1: Dynamic Properties—Effect of Molecular Weight and other Parameters. I. L. Hopkins, "Shear Dynamics in the Rubbery State;" T. W. DeWitt, "Some Dynamic Studies on Fractions of Diene Polymers;" R. M. Pierson, "Effect of Free End Fraction of Vulcanizate on Resilience Properties."

July 2: Crystallization Phenomena and Structural

Effects. W. B. Reynolds, "Hydrogenated Polymers;" F. M. Rugg, "Infrared Structural Studies on Polyethylene and Changes in Oxidation;" W. S. Richardson, "The Influence of Polymerization Conditions on the Structure of Diene Polymers;" B. M. G. Zwicker, "Plasticizers for Polyvinyl Chloride."

July 3: Chemistry of Vulcanization. B. C. Barton, "Mechanism of Sulfur Vulcanization of Rubber;" H. E. Adams, "Cross-Linking in Natural Rubber Vulcanizates;" I. Auerbach, "Radioactive Sulfur in Vulcanization Studies."

July 4: Degradation Studies. R. Simha, "Free Radical Mechanism of Degradation;" E. G. Cockbain, "Cold Mastication of Natural Rubber;" E. K. Gladding, "Oxidation of Neoprene."

ION EXCHANGE

K. A. Kraus, *Chairman*; W. Juda, *Vice Chairman*

July 7: Round-table discussion on new ion exchange materials, properties, and techniques. Discussion: I. M. Abrams, C. Calmon, W. E. Katz, R. Kunin, R. Wheaton. H. Deuel, P. Smit, "Ion Exchange in Europe."

July 8: Applications. P. Smit, S. M. Cantor, "Carbohydrate Purification;" G. W. Busby, "Glycerin Purification;" R. G. Denkwalter, "Streptomycin Preparation;" D. M. Surgenor, "Blood Treatment."

July 9: H. Deuel, "Selective Reactions of Ion Exchangers;" H. Deuel, "Cation Exchange of Organic Derivatives of Clays;" H. C. Thomas, "Chromatography and Adsorption Isotherms;" N. K. Hiester, "Counter Current Ion Exchange Systems;" B. A. Soldano, "Ion Exchange Kinetics."

July 10: G. Scatchard, "Ion Exchange Electrodes;" R. A. Plane, "Cation and Anion Exchange of Metal Complexes;" M. R. J. Wyllie, W. A. McRae, "Electrochemistry of Natural and Synthetic Ion Exchange Membranes."

July 11: W. C. Bauman, "The Economics of Ion Exchange."

CHEMISTRY AND PHYSICS OF METALS

David Turnbull, *Chairman*; Thor N. Rhodin, Jr., *Vice Chairman*

July 14: J. H. Hollomon, "Formal Theory for the Kinetics of Phase Transformations;" Clarence Zener, "Atomic Mobility in Solids;" Henry Eyring, "Application of Absolute Rate Theory to Phase Transformations."

July 15: N. Cabrera, "Mechanism of Crystal Growth;" A. H. Geisler, "Crystallographic Relations in Phase Transformations;" Bruce Chalmers, "Kinetics of Solidification and Dendrite Formation."

July 16: F. N. Rhines, "Nucleation and Growth Mechanism of Order-Disorder Transitions;" B. E. Warren, "Kinetics of Order-Disorder Transitions of the Second Kind;" J. C. Fisher, "Theory for the Size, Shape, and Rate of Formation of Precipitates from Solid Solutions."

July 17: B. L. Averbach, "Nature of Solid Solutions Prior to Precipitation;" Charles A. Wert, "The Application of Anelasticity to the Study of Precipitation;" Morris Cohen, "Kinetics of Martensite-Type Transitions."

July 18: T. A. Read, "Kinetics of Allotropic Transformations in Certain Alloys;" L. J. E. Hofer, "Re-

actions of Carbides of Iron, Cobalt, and Nickel;" I. E. Campbell, "Kinetics of Metal Deposition."

July 21-25: Separation and Purification Processes: John R. Bowman, *Chairman*.

STATISTICS

Conduct of Experimental Investigation

W. J. Youden, *Chairman*

July 28: The Nature of Experimental Investigations: W. J. Youden, *Chairman*; E. K. Carver and George E. Kimball, "Philosophy of Experimentation;" G. M. Cox, *Chairman*; E. B. Wilson, "Some Aspects of Scientific Methods;" D. B. DeLury, "Limitations of Statistics."

July 29: Increasing the Sensitivity of Experiments: Westman, *Chairman*; S. L. Crump, "Sensitivity of Experiments;" Hugh Smallwood, "An Example of Fractional Replication;" Boyd Harshbarger, *Chairman*; R. J. Monroe, "The Purpose of Experimental Designs;" David Frazier, "Example of Incomplete Blocks."

July 30: Increasing the Sensitivity of Experiments (*continued*): Cuthbert Daniel, *Chairman*; G. A. Bennett, "Increasing Precision of Measurements;" Jerome Cornfield, "Determination of Sample Size;" Forman Acton, "Fitting Straight Lines." Interaction of Experimental Factors: T. A. Bancroft, *Chairman*; G. W. Wernimont, "Meaning of Interaction;" R. L. Anderson, "Philosophy of Interaction;" H. C. Batson, "Factorial Chi Square."

July 31: Evaluation of Test Methods: Matthews, *Chairman*; O. D. Peakes, "Fundamentals of a Test Method;" Shreve, "Evaluation of Analytical Methods." Hugh Smallwood, *Chairman*; Questions and Answers.

August 1: Presentation of Experimental Results: F. Wilcoxin, *Chairman*; J. A. Anderson, "Presentation of Experimental Results;" W. J. Dixon, "Rejection of Observations."

STEROID CHEMISTRY

Carl Djerassi, *Chairman*

August 4: Plant Steroids. M. E. Wall, M. M. Krider, E. S. Rothman, and C. R. Eddy, "Isolation and Characterization of Steroidal Sapogenins and Saponins;" T. D. Fountaine and H. M. Doukas, "Recent Chemical Work on Plant Steroids;" A. Hunger and T. Reichstein, "Recent Work on Cardiac Glycosides;" O. Wintersteiner and J. Fried, "Jervine."

August 5: Biochemical Methods. H. Levy and A. S. Meyer, "Chemical Transformations of Steroids by Adrenal Perfusion;" A. Zaffaroni, "Biochemical Oxidation of Steroids;" J. Schneider, "Metabolism of Adrenocortical Hormones."

August 6: Total Synthesis. S. Swaminathan, D. Perry, and M. S. Newman, "Total Synthetic Approaches to Cortisone;" W. S. Johnson, "Total Synthesis of Steroids."

August 7: Partial Synthesis. A. Dreiding, "Transformations of Ring A;" T. F. Gallagher, "Recent Chemical Work on Adrenal Steroids;" P. L. Julian, "Partial Synthesis of Adrenal Steroids."

August 8: Speakers and subjects to be announced.

CURRENT TRENDS IN ANALYTICAL CHEMISTRY

Organic Analysis

J. J. Lingane, *Chairman*; Harry Levine, *Vice Chairman*

August 11-15: L. T. Hallett, "Elemental Analysis;"

E. W. D. Huffman, "Elemental Analysis;" R. H. Müller, "Instrumentation of Paper Chromatography;" John Sease, "Chromatography;" J. Mitchell, "Determination of Functional Groups by Karl Fischer Reagent;" S. Siggia, "Current Aspects of Functional Group Analysis;" S. Wawzonek, "Organic Polarography;" P. J. Elving, "Determination of Compounds as Compounds;" N. Coggeshall, "Spectroscopic Functional Analysis;" Paul Kirk, "Ultra-Micro Techniques;" T. Higuchi, "Metal Hydrides in Organic Analysis."

INORGANIC CHEMISTRY

Therold Moeller, *Chairman*; Eugene O. Brimm, *Vice Chairman*

August 18: A. N. Holden, Discussion Leader. New Research Tools as Applied to Inorganic Chemistry. S. H. Bauer, "Diffraction."

August 19: New Research Tools as Applied to Inorganic Chemistry. S. Freed, "Spectroscopy."

August 20: J. J. Katz, "Non stoichiometric Compounds."

August 21: E. L. Zebroski, "Solvent Extraction in Inorganic Chemistry."

August 22: Summary and discussion.

COAL

Coal Combustion and Gasification

G. D. Creelman, *Chairman*; A. C. Fieldner, *Vice Chairman*

August 25: J. W. Gartland, "X-Ray Studies of Coal and Carbon During Conversion;" J. I. Yellott, "Combustion Reactions."

August 26: Properties and Reactions of Coal Ash. E. G. Bailey, "Practical Aspects;" R. C. Corey, "Theoretical Aspects."

August 27: M. A. Elliott, E. Gorin, A. A. Orning, C. C. Wright, "Kinetics and Mechanisms of Gasification and Combustion Reactions."

August 28: M. A. Elliott, E. Gorin, A. A. Orning, C. C. Wright, "Kinetics and Mechanisms of Gasification and Combustion Reactions."

August 29: Round Table. Significance of Fundamental Studies of Combustion and Gasification.

Laurentian Hormone Conference

Gregory Pincus

The Worcester Foundation for Experimental Biology

THE Laurentian Hormone Conference of the AAAS will hold its 1952 meeting at Mont Tremblant Lodge, Mont Tremblant, Que., during the period September 7-12. The Committee on Arrangements invites applications for attendance from interested investigators and from specialists in the hormone field. Since accommodations at the hotel necessarily limit the attendance, application must be made to the Committee on Arrangements, 222 Maple Ave., Shrewsbury, Mass. In order to be considered, application blanks must be received by the committee by June 5.

The following program has been arranged:

I. CHEMISTRY AND BIOCHEMISTRY OF ADRENOCORTICOSTEROIDS

"Synthesis of 11-Oxygenated Adrenal Hormones from Plant Steroids," G. Rosenkrantz; "Hydrolysis and Extraction of Corticoids and 17-Ketosteroids from Body Fluids," E. H. Venning; "Micro-methods for the Analysis of Adrenocorti-

cal Steroids," A. Saffaroni; "The Bioassay of Adrenocorticosteroids," R. I. Dorfman.

II. ADRENOCORTICAL PHYSIOLOGY

Symposium on Diseases of Adaptation

"The Diseases of Adaptation," H. Selye; "Some Experimentally Produced and Some Naturally Occurring Pathologic Changes in the Rat," D. J. Ingle, B. L. Baker; "Studies on Adrenal Cortical Function in Man," G. W. Thorn; "The Adaptation Concept in Relation to Connective Tissue Disease," W. Bauer; "The Adrenal in Cancer," C. Huggins, D. M. Bergenstal.

III. PHYSIOLOGY OF REPRODUCTION

"Progesterone Metabolism in the Human Female: Its Significance in Relation to Reproduction," H. S. Guterman; "The Biochemistry of Relaxin," E. H. Frieden, F. L. Hisaw; "Problems of Fetal Endocrinology: Gonadal and Hypophyseal Hormones," A. Jost; "The Influence of Steroids on Uterine Metabolism," C. Szego, S. Roberts.

IV. GROWTH HORMONE AND METABOLISM

"Growth and Diabetes," F. G. Young; "The Effects of Anterior Pituitary and Adrenal Cortical Hormones on Carbohydrate Metabolism," R. C. deBodo; "The Biosynthesis of Lipids *in vitro* and its Hormonal Control," S. Gurin, R. O. Brady.

