Gordon Research Conferences: 1983 Winter Schedule

Alexander M. Cruickshank

The Winter Gordon Research Conferences will be held 10 January to 25 February 1983 at the Holiday Inn, Ventura, California, and 10 January to 4 February 1983 at the Miramar Hotel, Santa Barbara, California.

Purpose: The object and exclusive purpose of the Gordon Research Conferences is to foster and promote education and science by organizing and operating meetings of research scientists with common interests in the fields of chemistry or related sciences for the purpose of discussion and the free exchange of ideas, thereby stimulating advanced thinking in research at Universities, research foundations, and industrial laboratories. This type of meeting is a valuable means of disseminating information and ideas to an extent that could not be achieved through the usual channels of publication and presentation at scientific meetings. In addition, scientists in related fields become acquainted and valuable associations are formed that often result in collaboration and cooperative efforts among 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 subject under discussion. The purpose of the program is 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 scientific research. The review of known information is not desired.

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.

In order to protect individual rights and 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. The recording of lectures by tapes, and so forth, and the photography of slides are prohibited. Scientific publications are not to be prepared as emanating from the Conferences.

Registration and reservations: Individuals interested in attending the Conferences are requested to send their applications to the office of the Director. It is important that you submit your application promptly in order that it may be given early consideration by the review committee. This is particularly necessary for those conferences which are customarily oversubscribed and for which it is often necessary to establish a waiting list.

Applications must be submitted in duplicate on the standard application form which may be obtained from the office of the Director. This procedure is important because certain specific information is required in order that a fair and equitable decision on the application may be made. Attendance at each conference is limited. Only registered conferees are permitted in the meeting room.

The Director will submit the applications of those requesting permission to attend a conference to the chairperson for that conference. The chairperson will review the applications and select applicants so as to distribute the attendance as widely as possible among the various institutions and laboratories represented by the applications.

A registration card will be mailed to those selected. Advance registration by mail is required for each conference and is completed on receipt of the registration card and the full fixed fee which is required in advance of all participants and guests. The advance payment is also required in advance from scientists arriving in the United States from foreign countries and should be payable in U.S. dollars through a U.S. bank. Checks are to be made payable to the Gordon Research Conferences.

The Board of Trustees of the Conferences has established a fixed fee of $300 for all participants (speakers, discussion leaders, and conferees), covering registration fee, double room with bath, City of Ventura or City of Santa Barbara room tax, meals and services for five conference nights. It will not provide for telephone, taxi, laundry, conference photograph, or any other personal expenses. The fixed fee was established to encourage attendance for the entire conference and to increase the Special Fund which is available to each conference chairperson for the purpose of assisting conferees who attend a conference at total or partial personal expense with travel or subsistence expenses or both.

It is to the advantage of all participants to attend a conference for the entire week. *The fixed fee will be charged regardless of the time a participant (speakers, discussion leaders, and conferees) attends a conference—that is for the period of from 1 to 4½ days.* An additional charge of $70 per week will be made for a single room which must be paid in advance to confirm single occupancy.

Special Fund. A Special Fund is provided from the registration fee and is made available to the chairperson for each conference for the purpose of increasing the participation of research scientists who could not otherwise attend and participate because of financial limitations. Its use is not limited to speakers and discussion leaders, but may be granted to any registered conferee by the chairperson. The money is to be used as an assistance fund only and may be used to contribute toward conferees' travel expenses, registration fee, and/or subsistence expenses at the conference location. Total travel and subsistence expenses usually will not be provided.

Cancellation: (i) Conferees: All but $40 of the fixed fee will be refunded if an approved application is canceled not later than 2 weeks prior to the conference. (ii) Guests: The charge for room and meals for guests is $240 for five conference days. Full refund will be made if cancellation is received 2 weeks prior to the conference, otherwise, $40 will be forfeited. Guests are not permitted to attend conference lectures or discussion groups.

Attendance: Requests for applications to the Conferences or for additional information should be addressed to: Dr. Alexander M. Cruickshank, Director, Gordon Research Conferences, University of Rhode Island, Kingston, Rhode Island 02881. Telephone: 401-783-4011 or 401-783-3372.

The author, director of the Gordon Research Conferences, is professor of chemistry, University of Rhode Island, Kingston 02881.

Agricultural Science

Opportunities and Strategies for Resolving Problems Associated with Crop Productivity and Protection

Holiday Inn

Donald E. Moreland, chairperson; Elliot Bergman, vice chairperson.

24 January. Introductory remarks: Donald E. Moreland. Past, present and future (Robert Giaquinta, discussion leader): Robert Giaquinta, "Agrichemical transport in plants—discovering the rules"; George R. Waller, "Allelochemical research"; David M. Soderlund, "Synthetic pyrethroids: Progress and prospects"; Elmo M. Beyer, Jr., "Plant growth regulators and growth regulation"; Nickolas J. Panopoulos, "Genetic engineering/biotechnology as related to pest control and plant productivity."

25 January. New chemistry and opportunities for the future (Malcolm Singer, discussion leader): Richard A. Dybas, "Avermectins: Their chemistry and pesticidal action"; Hugh D. Sisler, "Developments in mechanisms of action of fungicides"; Pappachan E. Kolattukudy, "The role of fungal cutinases in plant parasitism"; Lester L. Shipman, "Role of computer graphics in structure/activity modeling."

26 January. Resistance to pesticides (Julius J. Menn, discussion leader): Frederick W. Plapp, Jr., "Biochemical genetics of resistance to insecticides"; Joseph W. Eckert, "Resistance to fungicides"; Vincent Souza-Machado, "Breeding for herbicide resistance"; Christopher F. Wilkinson, "Mechanistic studies on synergists/cytochrome P_{450} interactions"; Bruce D. Hammock, "Disruption of insect endocrinology and control strategies."

27 January. Interactions between organisms and between organisms and the environment (Lawrence Rappaport, discussion leader): Fred W. Slife, "Weed biology and population dynamics and their relation to herbicide usage"; Isao Kubo, "Host plant-insect interactions including attraction and repulsion"; Richard M. Bostock, "Induction of disease resistance factors in potato by fungal elicitors"; David Padwa, "Wall Street looks at agricultural science."

28 January. Interactions between organisms and between organisms and the environment (continued) (Lawrence Rappaport, discussion leader): Milton N. Schroth, "Plant growth as related to root/microbial interactions"; Walter J. Farmer, "The effect of chemical and physical processes on the fate of pesticides in soils."

Chemical Oceanography

Holiday Inn

Frank J. Millero, chairperson; William Sackett, vice chairperson.

31 January. Speciation of elements in ocean waters (D. Burton, session chairperson): M. Whitfield, "Time-scales in speciation studies"; A. Hanson, "Copper speciation and distribution in warm core rings"; M. Andreae, "Organometallic species in sea water." Speciation of metals in ocean waters (M. Branica, session chairperson): S. R. Piotrowicz, "Organometal interactions in seawater"; S. V. Mattigod, "Application of GEOCHEM programme in modeling of trace metal equilibria."

1 February. Metal-organism interactions (John Wood, session chairperson): S. George, "Metal ion accumulation in marine organisms"; F. Morel, "Phytoplankton-metal interactions"; J. Nieland, "Ion transport through cell membranes." Bacterial mediated chemical processes (K. Nealson, session chairperson): M. Lidstrom, "Methane oxidation in aquatic environment"; A. A. Yayanos, "Factors controlling growth and activity of deep sea bacteria."

2 February. Kinetics of organic matter decomposition (R. A. Berner, session chairperson): R. A. Berner, "Kinetic processes in natural waters"; J. Westrich, "A kinetic model for organic matter decomposition in marine sediments"; G. Billen, "Basic processes and modeling of organic matter microbial degradation." Surface chemical processes on carbonates (J. Morse, session chairperson): A. Mucci, "The interaction between magnesium and the surface of calcite"; R. Wollast, "The surface chemistry of carbonates in seawater."

3 February. Oxidation-reduction processes in ocean waters (R. Zika, session chairperson): R. Zika, "Chemical transients involved in oxidation-reduction processes in natural waters"; J. Morgan, "Oxidation and reduction kinetics in the Mn(II)–Mn O_x system"; G. Harvey, "Redox chemistry of marine humus." Chemical processes on surfaces (W. Stumm, session chairperson): G. Sposito, "The conceptual aspects of adsorption by marine particulates"; J. Murray, "Adsorption on surfaces in seawater."

4 February. Chemical processes in hydrothermal vents (J. Edmond, session chairperson: H. Craig, "Isotopes in the vent waters"; B. Simoneit, "The organic geo-chemistry of vent waters"; K. Von Damm, "Major and trace elements of vent water."

Composite Materials

Miramar Hotel

John L. Kardos, chairperson; Richard J. Farris, vice chairperson.

17 January. Processing science (R. E. Coulehan, discussion leader): George S. Springer, "Modeling the curing of epoxy matrix composites"; Lee McKague, "Critical graphite-epoxy processing parameters." (C. J. Wolf, discussion leader): James C. Seferis, "Mechanical and hygrothermal cycling of epoxies and their carbon fiber composites." Interface and matrix effects (C. J. Wolf, discussion leader): J. Thomas Dickinson, "Fracto-emission from composites."

18 January. (W. C. Bascom, discussion leader): Jack L. Koenig, "Spectroscopic characterization of fiber-matrix interfaces"; Lynn S. Penn, "Roles of molecular attraction, chemical bonding and thermal stresses in interfacial adhesive performance"; Ben A. Lloyd, "Resin-matrix effects on strength in kevlar and graphite composite rocket motors." (J. C. Halpin, discussion leader): Donald F. Adams, "Effects of the matrix and interface on the fracture of unidirectional composites"; Thomas Johannesson, "The influence of resin properties on laminate strength."

19 January. Time-dependent mechanical properties (S. S. Sternstein, discussion leader): Edward M. Wu, "Statistical model identification of composite strength and life data"; Richard A. Schapery, "Modeling of damage growth in viscoelastic composites." (F. P. Gerstle, discussion leader): H. Thomas Hahn, "Fatigue of advanced composites"; Ralph J. Nuismer, "Modeling damage growth in composite materials."

20 January. Short fiber and particulate composites (L. Nicolais, discussion leader): Su-Su Wang, "Fatigue degradation and fracture of short fiber composites"; Michael G. Bader, "The impact performance of short glass fiber reinforced nylon." (R. J. Farris, discussion leader): Ten-minute presentations from conference attendees.

21 January. (K. Jerina, discussion leader): James L. White, "Flow behavior and orientation development in short fiber and particulate filled composites"; Alf de Ruvo, "Elastic properties of paper considered as a short fiber composite."

Electrochemistry

Miramar Hotel

Halina Wroblowa, chairperson; Larry Faulkner, vice chairperson.

24 January. Electrocatalysis (Fred

Anson, session chairperson): Ernest Yeager, "New developments in oxygen electrochemistry"; James D. E. McIntyre, "Electrocatalysis by foreign adatoms on single crystal metal electrodes." Electrochemical synthesis (Manuel Baizer, session chairperson): Tatsuya Shono, "New reactions in organic electrosynthesis"; Francis Goodridge, "Laboratory data requirements for engineering design in electrochemical synthesis"; Raymond Jasinski, "Planning industrial research in electrosynthesis."

25 January. Passivity of metals (Jerome Kruger, session chairperson): Jerome Kruger, "Critical issues in passivation and breakdown of passivation"; Boris Cahan, "Chemiconductor model of passive layers"; Konrad E. Heusler, "Homogeneous and inhomogeneous dissolution of passivating oxide films." Open session (Larry Faulkner, session chairperson): Posters will be exhibited Tuesday through Thursday afternoons.

26 January. Interfacial phenomena. Round table discussion on semiconductor electrode–liquid interface (Allen J. Bard, session chairperson): Heinz Gerischer, "The Schottky junction model and solution Fermi level; charge transfer kinetics"; Mark S. Wrighton, "Fermi level pinning"; Arthur J. Nozik, "Hot carrier effects"; Adam Heller, "Surface states: surface characterization and modification"; John O'M. Bockris, Arthur B. Ellis, Larry Faulkner, Bruce A. Parkinson, discussants.

27 January. Interfacial phenomena (continued). Metal-liquid interface (John O'M. Bockris, session chairperson): Brian E. Conway, "State of ions adsorbed at electrodes and hydrated in solutions"; Robert De Levie, "Electrochemical observations of single molecular events." Energy conversion and storage (A. J. Salkind, session chairperson): Peter C. Hinkle, "The mitochondrial respiratory chain: fuel cell or proton pump"; Michael Berry, "Electrochemistry of metabolism."

28 January. (Albert R. Landgrebe, session chairperson): Neill Weber, "The sodium heat engine"; G. Brian Street, "Conducting polymers derived from pyrrole."

Immunochemistry and Immunobiology

Holiday Inn

Philippa Marrack, chairperson; Malcolm Gefter, co-chairperson.

21–25 February. Patricia Jones, "MHC genes and products"; Judith Kapp, "T cell receptors"; Howard Grey, "Antigen processing"; Emil Unanue, "Membrane-coated pits and receptors"; Jonathen Sprent, "Lymphocyte interactions and specificity"; Roy Riblet, "Rearrangements and expression of immunoglobulin genes"; Malcolm Gefter, "Antibody structure and variation"; John Farrar, "Nonspecific mediators"; Harvey Cantor, "Suppressor and helper mechanisms."

Chemistry and Physics of Isotopes

Miramar Hotel

John M. Hayes, chairperson; William H. Saunders and A. J. Kresge, co-vice chairpersons.

31 Jaunary–4 February. Condensed-phase isotope effects (D. V. Fenby, W. A. VanHook, and M. Wolfsberg). Isotopic fractionations associated with the analysis of solids by probe techniques (P. Deines, session chairperson): G. J. Wasserburg, "Measurement of isotope ratios by ion microprobe techniques"; N. Shimizu and F. R. Hart, "Isotopic fractionation in secondary-ion mass spectrometry"; K. Purser, "Isotopic ratio measurements with molecular interference elimination by accelerator technology." Theory (W. H. Saunders, session chairperson): Lars Melander, "Isotope effects in reaction mechanisms: The past quarter century."

(Putative) hydride transfer from dihydronicotinamide (Linda Kurz, session chairperson): Maurice Kreevoy, "Isotope effects, structural effects, and the mechanism of hydride transfer between NAD^+ analogs"; Atsuyoshi Ohno, "Mechanism of 'hydride transfer' from dihydropyridine derivatives"; Michael F. Powell, "Single-step versus multistep hydride-equivalent transfer: Evidence for direct hydride transfer in flavin/dihydronicotinamide and other NDH-model systems"; W. Phillip Huskey, "Vibrational analysis of models for transition states for hydride transfer." Isotope effects in concerted versus stepwise reactions (R. L. Schowen, session chairperson): W. W. Cleland, "Use of multiple isotope effects to tell stepwise from concerted reactions"; W. H. Saunders, "Calculated isotope effects for concerted, multiple-proton-transfer reactions"; K. B. Schowen, "Proton-transfer catalysis in mutarotation reactions: Influence of solvent in stepwise and concerted mechanisms"; D. N. Silverman, "Solvent isotope effects on the hydration of CO_2 catalyzed by carbonic anhydrase." Unusual isotope effects (V. P. Vitullo, session chairperson): Joseph L. Kurz, "Some anomalous entering-group isotope effects on methyl transfer rates"; James McKenna, "Beyond kinetic isotope effects: vibrational analysis of the effects of loosely attached ligands on reactivity"; Brian Cox, "Kinetic hydrogen isotope effects on cryptand protonation."

The variable expression of isotope effects as a probe of biogeochemical systems (Part I, D. Kohl and G. Shearer, session cochairpersons): Ted Rees, "Modeling of isotope effects in multistep bacterial conversions"; Roy Krouse, "Biological fractionation of isotopes of sulfur and other elements"; D. Kohl and G. Shearer, "Dentrification: A case study"; Neil Blair, "The stable isotopic expression of the flow of carbon during glucose metabolism by *Escherichia coli*." (Part II, H. R. Krouse, session chairperson): A. Mariotti, "^{15}N enrichment of N_2 fixing nodules"; Eitaro Wada, "The variation in isotope abundance as a clue to food chain dynamics in biogeochemical systems." Isotopic fractionation in plants (G. Farquhar, session chairperson): B. Osmond, "An overview of the isotopic fractionation of carbon, hydrogen, and oxygen in plants"; G. Farquhar, "Physical aspects of the fractionation of the isotopes of carbon, hydrogen, and oxygen in plants."

Kallikrein, Kinins and Other Hypotensive Peptides

Holiday Inn

Oscar A. Carretero, chairperson; Harry S. Margolius, vice chairperson.

14 February. Biochemistry of glandular kallikrein (H. Moriya and J. Pisano, discussion leaders): H. Moriya, "Carbohydrates in human urinary kallikrein"; J. Pisano and J. V. Pierce, "Human urinary prokallikrein"; W. Bode, "Tertiare structure of kallikrein and aprotinin-kallikrein complex." Relationship between glandular kallikrein and related proteases (L. M. Greenbaum and J. V. Pierce, discussion leaders): W. Muller-Esterl, "Human LMW and HMW kininogen"; J. Griffin, "The plasma kallikrein-kininogen system"; R. W. Colman, "Interaction of kallikrein and kininogen with human blood cells."

15 February. Biological actions of glandular kallikrein and related proteases (T. B. Orstavik and M. Schachter, discussion leaders): S. F. Rabito, "Endocrine secretion of glandular kallikrein"; A. J. Barret, "Cathepsines"; G. J. Dietze, "Effects of bradykinin on intermediary metabolism of the isolated perfused rat heart." Vasoactive peptides with kinin-like activity (J. Stewart, discussion leader): S. Said, "VIP: A vasodilator neuropeptide in many organs"; S. Leeman, "Neurotensin stimulation of histamine and serotonin secretion from rat mast cells"; F. Lembeck, "Substance P and the primary afferent neuron"; G. Bertaccini, "Action of amphib-

ian peptides on the digestive system."

16 February. The renal kallikrein-kinin system (A. Nasjletti, discussion leader): O. A. Carretero, "The renal kallikrein-kinin system"; C. I. Johnson, "Role of the kallikrein-kinin system in renal haemodynamics"; M. Schalekamp, "Kallikrein and other proteases in the activation of prorenin by plasma kallikrein and plasmin. Does it occur in vivo?" Kinins biological actions (D. Regoli and R. Furchgott, discussion leaders): D. Regoli, "Receptors for kinins in smooth muscle"; R. F. Furchgott, "The role of endothelial cells in vasodilatation by bradykinin and other peptides"; H. S. Margolius, "Kinins and cell transport process."

17 February. Oligo-peptide catabolism (E. G. Erdos and H. Gavras, discussion leaders): E. G. Erdos, "Kininase one, two, and two and a half"; P. E. Ward, "Vasoactive peptide metabolism by vascular aminopeptidases"; H. Gavras, "New converting enzyme inhibitors." Protease inhibitors (E. N. Shaw and H. Fritz, discussion leaders): P. C. Harpel, "Interaction of plasma kallikrein and its plasma inhibitors"; L. M. Greenbaum, "Paradoxical effect of some antiproteases in vivo."

18 February. Future directions (O. A. Carretero and H. S. Margolius, discussion leaders): J. Shine, "The kallikrein gene"; E. Haber, "Future of immunopharmacology."

Poster discussions, 15 and 16 February: Kinins and glandular kallikrein in plasma and other tissues (A. G. Scicli and K. Nustad, discussion leaders). The renal and other glandular kallikrein-kinin systems in physiological and pathological situations (H. Keiser and N. Levinsky, discussion leaders).

Mode of Action of Opiates

Multiple Opiate Receptors

Holiday Inn

Hans Kosterlitz and Huda Akil, co-chairpersons; Richard Miller, vice chairperson.

31 January. Criteria for multiplicity of receptors (Hans Kosterlitz, session chairperson): Speakers and subjects to be announced. Current evidence: I. Biochemical (Avram Goldstein, session chairperson): Speakers and subjects to be announced.

1 February. Current evidence: II. Pharmacological (Albert Herz, session chairperson): Speakers and subjects to be announced. Multiple receptors and relation to endogenous ligands (Floyd Bloom, session chairperson): Speakers and subjects to be announced.

2 February. Biochemical properties of opiate receptors (Eric Simon, session chairperson): Speakers and subjects to be announced. Post-binding events (Richard Miller, session chairperson): Speakers and subjects to be announced.

3 February. Lessons from other systems (Lars Terenius, session chairperson): Speakers and subjects to be announced. GRC banquet. Speaker and subject to be announced.

4 February. Future directions (Syd Archer, session chairperson): Speakers and subjects to be announced. Summation of conference, E. Costa, chairperson.

The Role of Oxygen Radicals in Biology and Medicine

Holiday Inn

Lester Packer, chairperson; William A. Pryor, vice chairperson.

7 February. Chemistry of oxygen radicals (William A. Pryor, chairperson): H. A. O. Hill, "Chemistry and detection of oxygen radicals"; B. Bielski, "Chemistry of HO_2/O_2^-"; J. Groves, "Biochemistry of oxy-radicals"; K. Ingold, "Peroxide reaction mechanisms." Chemistry of oxygen radicals (Chris Foote, chairperson): R. L. Willson, "Peroxy and other electrophilic radicals"; J. Butler, "Some recent pulse-radiolysis investigations on iron complexes, quinones and antioxidants"; W. H. Koppenol, "Thermodynamic aspects of oxygen radicals"; N. Porter, "Peroxidation."

8 February. Biological oxidations (Trevor Slater, chairperson): O. Hayaishi, "Overview: Biological oxidations"; I. Fridovich, "Overview: Superoxide dismutase"; R. Cutler, "Oxidations and aging"; L. Ernster, "DT diaphorase." Biochemistry of oxygen radicals (Norman Krinsky, chairperson): D. Borg, "ESR studies of radical detection"; V. Ullrich, "Mechanisms of oxygen activation"; P. McCay, "Drug transformations/spin trapping."

9 February. Antioxidants (A. L. Tappel, chairperson): A. Quintanilha, "Vitamin E—membrane effects"; A. Tappel, "Measurement of and antioxidant protection from in vivo lipid peroxidation"; B. Ames, "Uric acid"; A. Diplock, "Antioxidant protection: Interaction of Vitamin E with other factors." Biological impacts—prostaglandin/inflammation (K. E. Arfors, chairperson): B. Samuelsson, "Prostaglandin synthesis/chemistry of lipid"; S. Hammarström, "Synthesis of leukotrienes"; M. Carpenter, "Microsomal chemistry—prostaglandin"; R. W. Estabrook, "The role of cytochrome of P-450 as a lipogenase in the metabolism of arachidonic acid."

10 February. Biological impacts—cancer/aging (Joe McCord, chairperson): T. Galeotti, "Oxygen toxicity in cancer cells"; P. A. Riley, "Radicals in malignant melanomas"; W. Lown, "Oxygen radical generating drugs." Special lecture (Lester Packer and Irwin Fridovich, chairpersons): Christian de Duve, "Hydrogen peroxide metabolism and functions of the peroxysome."

11 February. Blood (Paul Hochstein, chairperson): B. M. Babior, "NADPH oxidase of neutrophils: biochemistry of O_2 production in phagocytes"; R. Baehner, "Vitamin E/blood"; A. Autor, "NADPH: Oxygen oxidoreductase of pulmonary macrophages."

Physicochemical Aspects of Photosynthesis

Holiday Inn

Paul A. Loach, chairperson; Richard Dilly, vice chairperson.

The general plan for the Conference will follow a poster format in which all participants will be invited to contribute posters. The posters will be organized into six groups which are outlined below. At the beginning of each session there will be a short presentation by a person who is quite active in the field. Their assignment is to focus attention on particularly new and interesting information, questions to be asked, and problems that exist. Poster viewing will then ensue, followed by discussion. Each discussion period will be conducted by two discussion leaders whose task will be to focus the discussion on the main advances that have been made in the last 2 years and maximize participation.

7 February. I. Photosynthetic units; protein components, three-dimensional relationships, and distribution in the membrane: P. Loach, "Overview of antenna and reaction center complexes"; (G. Feher and J. Anderson, discussion leaders). M. Okamura, "Overview of membrane topology, three-demensional relationships and reconstituted systems"; (J. Breton and C. J. Arntzen, discussion leaders).

8 February. II. Primary photochemical events: W. Parsons, "Comparison of status of bacteria, algae, and plant systems"; (J. Norris and P. Mathis, discussion leaders). C. A. Wraight, "Primary quinone and iron components and gating"; (A. Trebst and R. van Grondelle, discussion leaders).

9 February. III. Secondary electron and proton transfer reactions: G. Hauska, "Comparison of bc_1 type complexes"; (P. L. Dutton and B. Velthuys, discussion leaders). IV. Model systems and theoretical aspects for the primary photochemical events and secondary

electron transport: J. Fajer, "Insights on in vivo RC's from studies of model systems"; (R. Pearlstein and D. Mauzerall, discussion leaders).

10 February. V. Energy coupling reactions: D. Ort, "Overview of problems and possibilities"; (W. Junge and W. Cramer, discussion leaders). Discussion of ATPase complexes: (B. Feldman and M. Baltcheffsky, discussion leaders).

11 February. VI. O_2 evolution: G. Babcock, "Intermediate states and isolatable components"; (G. Renger and B. Andersson, discussion leaders).

Chemical Aspects of Plant-Herbivore Interactions

Holiday Inn

Jerry W. McClure and Larry Gilbert, co-chairpersons.

10 January. Defensive plant metabolites (A. Bell, session chairperson): E. Haslam, "New polyphenols for old tannins"; G. H. N. Towers, "Phototoxic defenses of plants"; A. Waiss, "Multiplicity of plant defenses"; J. Langenheim, "Patterns of variation in plant defensive compounds."

11 January. Sequestering, detoxifying and digesting defensive chemicals (M. Martin, session chairperson): G. Rosenthal, "Biochemical insights into insect detoxification of L-canavanine"; E. Bernays, "Postingestinal processing of plant phenols by insects"; J. Seiber and L. Brower, "Sequestration of cardenolides by insects"; A. Hagerman, "Biochemical effects of dietary tannins on herbivorous vertebrates"; P. Price, "Chemical linkages between plants, herbivores and their predators"; Evening discussion (M. Blum, discussion leader).

12 January. Impact of plant chemicals on animal behavior (B. Visser, session chairperson): P. Prokopy, "Variation in host preference patterns among herbivorous insects"; J. Nielsen, "Host plant discrimination by cruciferous-feeding flea beetles"; S. Vinson, "Influence of plant chemistry on parasitism"; M. Boppré, "Utilization of pyrrolizidine alkaloids by insects"; V. Dethier, "Sensory and CNS diversification in relation to feeding behavior"; Evening discussion (E. Städler, discussion leader).

13 January. Ecological aspects of plant-herbivore interactions (W. Zucker, session chairperson): M. Berenbaum, "Impact of plant chemistry on habitat partitioning"; P. Barbosa and J. Saunders, "Indirect effect of plant chemistry on herbivory"; E. Haukioja, "Induced host resistance and insect population dynamics"; J. Bryant and P. Reichardt, "Hare and shrub interactions in the Arctic"; J. B. Harborne, "Herbivory and chemical patterns in plants"; Evening discussion (D. Jones, discussion leader).

14 January. Evolutionary aspects of plant-insect interactions (D. Futuyma, session chairperson): F. Chew, "Coevolution of Pierid butterflies and their food plants"; W. Herrebout, "Role of plant chemistry in *Yponomeuta* moths"; P. Ehrlich, "Plant-herbivore coevolution: some speculations based on *Euphydryas*."

Scheduled poster sessions will be coordinated with the formal program. All participants are invited to present a poster related to their current work. Please include the title of your poster, the applicable program session, and a brief outline or abstract with your conference application.

Participants are encouraged to prepare to participate in the open discussion periods noted in the program.

Polymers

Miramar Hotel

Dale J. Meier, chairperson; William M. Prest, Jr., vice chairperson.

10 January. (H. L. Snyder, session chairperson): J. Klein, "Interaction between polymer-bearing surfaces"; T. Hashimoto, "The superlattice of microdomains in block copolymer solutions." (E. Passaglia, session chairperson): D. A. Tomalia, "A new class of polymers: 'starburst'/dendritic macromolecules"; J. V. Crivello, "Photoinitiated cationic polymerization."

11 January. (H. Coll, session chairperson): H. K. Hall, Jr., "Tetramethylene zwitterion biradicals: Novel initiators for vinyl polymers"; H. Ito, "Chemical amplification in positive resist applications." (H. D. Keith, session chairperson): L. R. Brown, "Two-dimensional NMR for conformational analysis"; S. L. Cooper, "Application of EXAFS in polymer science."

12 January. (D. W. Schaefer, session chairperson): P. G. de Gennes, "Semilocal motions in polymer melts"; R. A. Pethrick, "Dynamic behavior of polymer molecules in solution." (W. Hart, session chairperson): Y. Papir, "The chemistry and physics of new processible conductive polymers"; R. H. Baughman, "Structure-property perspectives for the expanding family of metallic polymers."

13 January. (G. Hadziioannou, session chairperson): A. C. Griffin, "Liquid crystal polymers and their small molecule analogues"; R. W. Lenz, "Preparation and properties of liquid crystal polyesters." (W. M. Prest, Jr., session chairperson): Poster session.

14 January. (J. S. Higgins, session chairperson): E. J. Kramer, "Crazing mechanisms in polymers"; D. R. Paul, "Effect of polymer structure on polymer-polymer phase behavior."

A poster session will be held, with an opportunity for the presenters to give a short oral presentation of their work at a session of the conference. Individuals interested in presenting a poster should submit a short abstract to: Dr. W. M. Prest, Jr., Xerox Corporation, W-114, 800 Phillips Road, Webster, New York 14580, Telephone: 716-422-3859.

Prolactin

Holiday Inn

Robert M. MacLeod, chairperson.

14 February. Morphology and intercellular events involved in prolactin secretion (R. M. MacLeod, discussion leader): M. G. Farquhar, "Function of lysosomes and secretory granules in lactotropes"; W. L. Miller, "Evolution of prolactin genes"; F. C. Bancroft, "Regulation by calcium and hormones of prolactin gene expression"; G. Schettini, "The pharmacological evaluation of calmodulin-like proteins in regulating prolactin release"; P. L. Canonico, "The role of phospholipids in prolactin secretion." The role of dopamine on pituitary nucleic acid synthesis and prolactin production (C. Kordon, discussion leader): M. J. Cronin, "Dopamine receptors in pituitary tissue"; A. Spada, "The role of adenylate cyclase activity in pituitary hormone secretion"; H. M. Lloyd, "Factors which govern DNA synthesis in the pituitary"; R. A. Maurer, "Dopaminergic regulation of prolactin gene transcription."

15 February. Comparison of dopamine with other substances which influence prolactin release (R. I. Weiner, discussion leader): C. Denef, "Intracellular systems in the pituitary which are affected by dopaminergic stimulation"; Y. Kato, "Modification of dopamine action by brain opioids and related peptides"; D. Cocchi, "The role of GABA in prolactin secretion"; P. Falaschi, "Peptides of non-mammalian origin which influence prolactin release." Effects of prolactin on the ovary (J. Nolin, discussion leader): R. Knazek, "Modulation of ovarian membrane fluidity by prolactin"; G. Erickson, "Inhibitory actions of prolactin on the ovarian follicle"; Z. Kraiem, Prolactin inhibition of gonadotropin action at the ovarian level."

16 February. Peripheral actions of prolactin (A. Bartke, discussion leader): E. Keenan, "The role of prolactin on DNA synthesis in androgen-dependent tissues"; J. Veldhuis, "Effects of prolactin

on steroid production"; S. E. Sauder, "Alteration of gonadotropin secretory pulsatility produced by prolactin"; B. Benson, "Maintenance of gonadal function by prolactin in hamsters—regulation by environmental lighting and the pineal gland." Keynote address: Michael O. Thorner, "Interrelationships between prolactin and gonadotropin secretion."

17 February. Prolactin-secreting pituitary tumors (K. Mashiter, discussion leader): K. Kovacs, "Morphology and immunocytochemistry of human pituitary tumor cells"; D. W. McKeel, "Characterization of prolactin secreting rat pituitary tumor cells"; W. Hymer, "Activities of purified pituitary tumor lactotropes"; T. F. J. Martin, "Protein phosphorylation in pituitary tumor cells"; P. Dannies, "Effects of estrogen on prolactin and cell growth." Action of prolactin on mammary gland and tumor cells (A. Frantz, discussion leader): H. Nagasawa, "Role of prolactin in rat and mouse mammary tumor development"; D. Djiane, "Prolactin receptor interaction and effect of prolactin relay on the mammary cell nucleus"; D. L. Kleinberg, "Anti-prolactin effects of estrogens on lactalbumin production in primate mammary tissue."

18 February. The interdependence of the brain and prolactin cell function (I. S. Login, discussion leader): M. Selmanoff, "Activity of brain catecholamines in response to prolactin"; R. Hruska, "Impact of prolactin on striatal biochemical events"; U. Scapagnini, "Modification of behavior by prolactin"; J. B. Martin, "The role of prolactin as a regulator of brain function."

Organic Thin Films and Solid Surfaces

Holiday Inn

Charles B. Duke, chairperson; J. A. Thornton, vice chairperson.

10 January. Organics in microelectronics. Planar processing (Bill Meuli, discussion leader): Y. K. Lee, "Polyimide coatings for microelectronic and other applications"; Eric Kay, "Plasma polymerization and etching"; G. N. Taylor, "Future of organic films for microlithography." Beam processing (Dan Ehrlich, discussion leader): M. Hatzakis, "Organic resists: x-ray and e-beam"; M. Kaplan, S. R. Forrest, P. H. Schmidt, T. Venkatesam, "Unique optical and electronic properties of irradiated and non-irradiated organic thin films and their device applications."

11 January. Large area applications and characterization methods. Large-area applications (Jerry Lando, discussion leader): M. Schadt, "Electro-optical properties of new liquid crystal materials for high information density: guest-host and automotive applications"; T. W. Smith, "Polymeric optical disc recording media"; P. Kolodner, "Ultrahigh resolution fluorescent thermal imaging." Characterization methods (Dave Allara, discussion leader): P. Schissel, "Characterization of thin polymer films for solar energy"; N. Sato and K. Seki, "Photoemission and optical spectroscopy of polymeric and molecular thin films."

12 January. Organics as imaging and optical materials. Organic films in photography and electrophotography (Evan Felty, discussion leader): W. Mey, "Organic photoconductors: Current practice and future promise"; R. E. Wingard, Jr., "Infrared active organic electrophotographic photoconductors"; T. Whitesides, "Multilayer thin films for color instant photography." Organics in optical storage and electrooptics (C. L. Tang, discussion leader): G. R. Meredith, "Organics in electrooptics: Applications, issues and prospects"; D. Burland, "Organic materials for optical storage media."

13 January. Specialty films and fibres. Novel applications (Duane Cowan, discussion leader): J. van Turnhout, "Polymeric electrets"; G. G. Roberts, "Langmuir-Blodgett films in microelectronics"; P. Fromherz, "Chemical imaging in protein-pigment-semiconductor structures." Organic films in fusion research (John R. Miller, discussion leader): R. Liepins, "Organic thin films in fusion research."

14 January. Organics in energy and electrochemistry (Alan Heeger, discussion leader): R. R. Chance, "Plastic batteries: History and prospects"; M. S. Wrighton, "Surface-confined polymeric electrodes"; M. Aizawa, "Electrochemical doping and undoping of polymer electrodes."

The purpose of this conference is to provide a broad survey of the materials requirements and challenges facing chemists and materials scientists who are interested in developing new organic materials for practical applications. Its focus is applications of organic solids in the high-growth electronics, communications, energy, and office products areas. It is hoped that by participating in this broad, interdisciplinary forum for the discussion of such applications, researchers in organic materials synthesis and characterization will be able to achieve a realistic perspective on the possible end uses of the fruits of their labors in practical devices and systems, as well as an indication of the current uses of organic solids in these rapidly developing areas of application.