Gordon Research Conferences: 1981 Winter Schedule

Alexander M. Cruickshank

The Winter Gordon Research Conferences will be held 12 January to 6 February 1981 at the Holiday Inn of Ventura (On the Beach), Ventura, California.

Purpose. The Conferences were established to stimulate research in universities, research foundations, and industrial laboratories. This purpose is achieved by an informal type of meeting consisting of scheduled speakers and discussion groups. 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. Sufficient time is available to stimulate informal discussion among members of each conference. In addition, scientists in related fields become acquainted and valuable associations are formed that often result in collaboration and cooperative efforts among laboratories.

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.

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 provide suggestions concerning the underlying theories and profitable methods of approach for scientific research. The review of known information is not desired.

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 prepared as emanating from the Conferences.

Registration and reservations. Attendance at the Conferences is by application. 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 to approximately 100 conferees. 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 the members in an effort 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 and must be returned to our office 3 weeks prior to the conference date or the approved application will be voided. *Advance registration by mail for each conference is required 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 from scientists arriving in the United States from foreign countries and should be payable through a U.S. bank in U.S. dollars. Checks are to made payable to the Gordon Research Conferences.

The Board of Trustees of the Conferences has established a fixed fee of $280 for all participants (speakers, discussion leaders, and conferees), covering registration, double room with bath, City of Ventura room tax, and 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 expenses 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, 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 of 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 $220 for five conference days, all but $40 of which will be refunded if notice of cancellation is received not later than 2 weeks prior to the conference. Guests are not permitted to attend the conference lectures and 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, Pastore Chemical Laboratory, University of Rhode Island, Kingston, Rhode Island 02881. Telephone: 401-783-4011 or 401-783-3372.

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Agricultural Science

Richard J. Patterson, chairman; Donald E. Moreland, vice chairman.

26 January. Plant hormones (L. Rappaport, moderator): L. Rappaport, "Subcellular compartmentation of ^{3}H-gibberellin A_1 and its metabolites"; R. Bandursky, "Chemistry and physiology of indoleauxin metabolism"; R. E. Cleland, "Auxin induced cell elongation: a model system for studying hormone action in plants"; S. F. Yang, "Biochemistry and physiology of ethylene"; M. L. Brenner, "Role of plant hormones in correlative control"; T. Kosuge, "Plant growth hormone—pathogen interactions."

27 and 28 January. Synthetic chemicals (E. Bergman, moderator): K. V. Thimann, F. D. Hess, C. W. Kearns, T. Miller, "Intrinsic activity—biochemical models"; R. M. Hollingworth, D. E. Porter, "Intrinsic activity—physical, chemical and biological factors." Chemical design (moderator to be announced): C. H. Hansch, "Computer-assisted analysis of pesticide mechanisms"; P. S. Magee, "Mechanistic applications to the design of pest control chemicals"; J. J. Menn, "Biorational design of pesticides." Insect regulators (moderator to be announced): W. S. Bowers, "Juvenile hormones and pheromones."

29 and 30 January. Genetic engineering in agriculture (R. C. Valentine, moderator): R. Valentine, "Engineering plants for energy efficiency and stress tolerance"; R. Goldberg, G. Bruening, "Cloning plant and plant viral genes"; E. Nester, "DNA vectors for plants"; J. Shepherd, "Plant tissue culture and molecular approaches to disease resistance."

Composites

Frank P. Gerstle, Jr., chairman, R. Judd Diefendorf, vice chairman.

I. Time and statistically dependent failure. 19 January. Glass fibers and composites (S. S. Sternstein, discussion leader): Anthony Kelly, "The effect of stress on the properties of composites under wet conditions"; P. Leland Key, "Strength and static fatigue of polymer-coated glass fibers." Kevlar fibers and composites (Lynn S. Penn, discussion leader): Peter Avakian, "Morphology of poly(*p*-phenylene terephthalamide) fibers"; Roger Morgan, "Structural parameters that control failure of Kevlar fibers and composites."

20 January. Statistical failure (William B. Hillig, discussion leader): S. Leigh Phoenix, "A statistical model of time-dependent failure in composites"; Carl Zweben, "The influence of stress nonuniformity and size on the strength of composite structures." *II. Matrix and interface: effect on strength*. Matrix failure mechanisms (Robert F. Landel, discussion leader): D. Clive Phillips, "Crack propagation in epoxide resins and transverse to fibers in composites"; Richard P. Wool, "Crack healing in composites."

21 January. Interfacial phenomena (Willard D. Bascom, discussion leader): Lawrence T. Drzal, "Molecular aspects of fiber-matrix adhesion and their effect on interfacial shear strength"; R. V. Subramanian, "Interphase modification of graphite composites"; Derrick Hull, "The effect of interlayer on transverse properties of unidirectional laminae." Discontinuous fiber composites (David K. Roylance, discussion leader): B. Les Lee, "The effect of matrix toughening on the crack resistance and strength of sheet molding compound"; Klaus Friedrich, "Microstructure and fracture properties of short fiber reinforced thermoplastic polyethylene terephalate."

III. Fatigue and toughness. Mechanics of fatigue (George J. Dvorak, discussion leader): C. T. Sun, "Relation between viscoelastic properties and frequency dependent behavior in epoxy laminates"; Zvi Hashin, "Fatigue failure of laminates." Molecular composites (R. Judd Diefendorf, discussion leader): Thaddeus E. Helminiak, "Molecular composites research within the Air Force Ordered Polymers Program." Open forum.

23 January. Toughening mechanisms (Isaac M. Daniel, discussion leader): Karl M. Prewo, "Fiber toughened ceramic matrix composites"; Frank W. Crossman, "Improving the fracture resistance of composite laminates."

Electrochemistry

Stephen W. Feldberg, chairman; Theodore Kuwana, vice chairman.

26 January. High temperature electrochemistry (R. Osteryoung, session chairman): J. Braunstein, "Mass transport at high temperature and high current density"; E. Franck, "Aqueous electrolyte solutions at high temperature and pressure." Semiconductor electrodes (A. J. Bard, session chairman): J. Woodall, "Trends, problems, and recent results on photovoltaic device research"; J. Richardson, "Measurement of laser-induced transients at semiconductor electrodes."

27 January. Ion transport (R. Buck, session chairman): E. Cussler, "Liquid membranes for ion diffusion and reaction"; G. Farrington, "High conductivity solid electrolytes"; J. Janata, "Electrochemistry of chemically sensitive field effect transistors." Open session (T. Kuwana, session chairman): ten 10-minute presentations. Posters will be exhibited Tuesday evening to Thursday afternoon.

28 January. Organic electrochemistry (D. Peters, session chairman): M. D. Hawley, "Electrochemical preparation and study of carbene and nitrene anion"; J. Saveant, "Catalysis of chemical reactions by electrodes: aromatic nucleophilic substitution"; R. Adzic, "Reaction of organic molecules on surfaces modified by foreign metal ad-atoms." Electron transfer (R. Marcus, session chairman): F. Anson, "Electron transfer to and from reactants attached to electrode surfaces"; J. Hopfield, "Electron transfer between fixed sites."

29 January. Batteries (T. B. Reddy, session chairman): V. Koch, "New electrolytes for ambient temperature rechargeable lithium batteries"; J. McBreen, "Rechargeable zinc batteries." Fuel cells (S. Srinivasan, session chairman): A. Isenberg, "The role of refractory oxides in high temperature fuel cells"; J. Appleby, "Some recent developments in electrocatalysis."

30 January. Organic metals (J. Q. Chambers, session chairman): A. Diaz, "Organic polymers with metallic conductivity from electropolymerization reactions"; K. Bechgaard, "Synthesis and properties of highly conducting and super conducting organic radical ion salts.

Isotopes

Richard L. Schowen, chairman; John M. Hayes, vice chairman.

2 February. Isotope biochemistry (David Des Marais, session chairman): Martin Schoell, "Carbon and hydrogen isotopes in coal, kerogen, petroleum and natural gases"; other topics, including biogeochemical cycles (George Claypool and others, discussion leaders). Isotope effects in enzymic and related reactions (R. L. Schowen, session chairman): W. W. Cleland, "The use of isotope effects to determine the chemical mechanism of enzyme catalyzed reactions"; D. J. Hupe, "Isotope effects in proton and acyl transfer reactions"; J. F. Kirsch, "^{18}O kinetic isotope effects and transition-state structure in glycosidase enzymes"; (J. P. Kliman, J. L. Hogg, R. D. Gandour and others, discussion leaders).

3 February. Theoretical developments and calculations (R. D. Fink, session chairman): G. M. Maggiora, "Ab-initio studies of carbonyl-addition transition states"; V. J. Shiner, "Computation and application of isotopic fractionation factors"; Jacob Bigeleisen, "Systematics of hydrogen isotope effects"; Max Wolfsberg, "Analysis of isotope effect calculations"; (discussion leader to be announced). Analytical and spectroscopic developments (A. L. Mildvan, session chairman): R. Van Etten, "^{18}O isotope effects in ^{13}C nuclear magnetic resonance"; Martin Saunders, "The use of NMR for measurement of equilibrium isotope effects"; (Dwight Matthews, M. D. Tsai and others, discussion leaders).

4 Febuary. Isotope effects in solution reactions (D. E. Sunko, session chairman): J. Ulstrup, "Developments in the theory of proton-transfer reactions"; H. H. Limbach, "Tunneling in cyclic double proton-transfer reactions in porphines"; T. Ando, "Kinetic isotope effects in S_N2 reactions. Transition-state structure and its variation"; (W. H. Saunders, M. M. Kreevoy, A. J. Kresge and others, discussion leaders). Biochemical isotope fractionation (John M. Hayes, session chairman): M. H. O'Leary, "Carbon isotope fractionation in plants"; R. P. Hanzlik, "Isotope effects in the epoxide-diol pathway"; J. M. Hayes, "Isotopic fractionation in biosynthetic reaction networks"; (C. R. Benedict and others, discussion leaders.

5 Februaty. Biochemical, biophysical and climatological aspects of hydrogen and oxygen isotopic ratios in plants (M. J. DeNiro, session chairman): M. J. DeNiro, "Isotopic composition of cellulose from aquatic organisms"; H. Förstel, "Isotope fractionation involved in the biogeochemical oxygen cycle—results and applications"; C. J. Yapp, "Climatic implications of variations of D/H ratios of carbon-bound hydrogen of tree cellulose"; (J. White, S. Epstein, and others, discussion leaders). Current events (Brown L. Murr, session chairman); R. Lawler, "Magnetic isotope effects in organic reactions"; D. E. Khoshtariya, "Hydrogen kinetic isotope effects in enzyme hydrolyses"; (other speakers and subjects to be announced).

6 February. Stereochemical and other isotopic probes of biochemical systems (E. T. Kaiser, session chairman): H. Floss, "Stereochemical studies with isotopically chiral methyl groups"; S. J. Benkovic, "Use of heavy isotopes to determine intermediates in enzyme-catalyzed reactions"; I. A. Rose, "Isotopic studies of enzyme intermediates"; (discussion leaders to be announced).

Brief contributions are encouraged. All conferees (including scheduled speakers) are urged to display posters about their work, which will be made available for examination prior to the session to which they are most closely related. Ample opportunity will then exist for introduction and discussion of the material during the session. The program will include a commemoration of the 50th anniversary year of the discovery of deuterium.

Kallikreins and Kinins: Recent Findings

Ervin G. Erdös, chairman; Oscar A. Carretero, vice chairman.

19–23 January. Effect of kallikreins on zymogens: T. Inagami, "Prorenin and kallikrein"; J. E. Sealey, "Kallikrein activation of renal and plasma inactive renin"; P. J. Mulrow, "Direct action of urinary kallikrein on renin release"; M. A. Bothwell, "Nerve growth factor and kallikrein." Glandular kallikrein and similar protease: H. Moriya, "Carbohydrate content of pancreatic kallikrein"; T. B. Ørstavik, "Localization of kallikrein and tonin"; F. Fiedler, "Comparison of glandular kallikreins from different sources"; M. Schachter, "Acrosin"; E. Fink, "Renal excretion of glandular kallikrein." Renal and urinary kallikrein: O. A. Carretero, "Kinins, factors controlling their intrarenal formation"; E. G. Erdös, "Renal kallikreins"; J. J. Pisano, "Urinary prokallikrein and kininogen"; G. L. Robertson, "Role of vasopressin on urinary kinin excretion"; J. Spragg, "Immunoreactivity of human urinary kallikrein and non-kallikrein esterases"; J. Rapp, "Comparison of kallikrein and non-kallikrein esterases in rat urine." Physiological and pathological roles: H. S. Margolius, "Kallikrein and membrane transport processes"; A. G. Scicli, "Blood kinins, picograms or nanograms per milliliter?" S. F. Rabito, "Circulating glandular kallikrein in hypertension"; H. R. Keiser, "Renal kallikrein in salt and water metabolism"; G. Dietze, "Kinins, control of capillary and tissue metabolism"; A. Overlack, "Antihypertensive effect of glandular kallikrein (double blind study)." Kinin receptors and antagonists: J. M. Stewart, "Kinin antagonists"; T. L. Goodfriend, "Unexpected sites of bradykinin receptors"; C. E. Odya, "Pitfalls in the studies of kinin receptors"; D. Regoli, "Kinin receptors and antagonists"; J. Chao, "Mechanism of action of kallikrein"; G. L. Haberland, "Metabolic effects of kinins." Kinins and prostaglandins: J. C. McGiff, "Renal prostaglandin-kinin interactions"; L. Levine, "Biosynthesis of prostaglandins by cells in culture"; K. Abe, "Urinary kallikrein and prostaglandin E in renal hypertensives"; K. V. Malik, "Bradykinin and adrenergic neuroeffectors: relation to prostaglandins"; J. Childers and A. Nasjletti, "Bradykinin and aldosterone production: relation to prostaglandins." Kininases: T. A. Stewart and J. A. Weare, "Human converting enzyme"; R. B. Harris, "Inhibition and affinity chromatography of converting enzyme"; T. E. Hugli, "Genetic deficiencies and competitive inhibition of carboxypeptidase N (kininase I)"; U. S. Ryan, "Ultrastructure and kininases"; A. R. Johnson, "Membrane-bound peptidases." Kininase inhibitors: J. F. Riordan, "Active site of converting enzyme"; R. Almquist, "Peptidase resistant tripeptide analogue inhibitors"; E. H. Ulm, "MK 421—a structurally novel converting enzyme inhibitor"; H. Gavras, "Preliminary studies on new oral converting enzyme inhibitors in humans." Kallikrein inhibitors: E. Amundsen, "Measurement of plasma inhibitor of kallikrein with chromogenic peptide substrate"; E. Wentel and H. Tschesche, "Structure of kallikrein inhibitors"; E. N. Shaw, "Synthetic kallikrein inactivators"; R. Geiger and H. Fritz, "Inhibition and state of glandular kallikrein"; R. McConn, "Kallikrein-kinin system in critically ill"; L. M. Greenbaum, "Acid kininogenase inhibitors: actions and role in therapy."

Oxygen Radicals in Biology and Medicine

Norman I. Krinsky, chairman; Lester Packer, vice chairman.

12 January. Chemical reactivity of oxygen and oxygen radicals: Christopher S. Foote, Barry Halliwell, Robin L. Willson. Detection of oxygen radicals: Gerald M. Rosen, Karen M. Schaich, Robert A. Floyd, Britton Chance.

13 January. Lipid peroxidation: Larry K. Patterson, Robert A. Stein, Steven D. Aust, Lawrence J. Marnett.

14 January. Production of oxygen radicals: Bernard M. Babior, James E. Smolen, Robert Egan. Biological effects of oxygen radicals: Joe M. McCord.

15 January. Toxic effects of oxygen radicals: Charles P. Moldow, Stephen P. Weiss, John E. Repine. Mutagenic and carcinogenic effects of oxygen radicals: Bruce N. Ames.

16 January. Protection against oxygen radicals: T. F. Slater, Robert L. Baehner.

In addition there will be poster sessions on Monday and Thursday after-

noons. Those wishing to present posters should submit abstracts to the chairman: Norman I. Krinsky, Department of Biochemistry and Pharmacology, Tufts University School of Medicine, Boston, Massachusetts 02111 or to the vice chairman: Lester Packer, Membrane Bioenergetics Group, Lawrence Berkeley Laboratory, University of California, Berkeley, California 94720 by 1 December 1980.

Polymers

Jack L. Koenig, chairman; William McKnight, vice chairman.

12 January. (J. Johnson, discussion leader): M. Broadhurst, "Field induced phase transitions of polyvinylidene fluoride"; A. Lovinger, "Morphology of polyvinylidene fluoride." (E. Barrow, discussion leader): R. Kambour, "Mixtures of polystyrene, poly(2, 6-dimethyl-1,4-phenylene oxide) and their brominated derivatives: neutron scattering, calorimetry and mechanical properties."

13 January. (C. Heffelfinger, discussion leader): L. Monnerie, "Molecular motions in bulk polymers"; M. Sefcik, "High resolution NMR of solid polymers." (discussion leader to be announced): C. Gutman, "Neutron scattering of polymers."

14 January. (W. R. McDonald, discussion leader): D. Clark, "Plasma polymerized polymers"; A. Vega, "Deuterium NMR of polymers." (J. Papir, session chairman): Poster session.

15 January. (C. Sieglaff, discussion leader): T. Takayanagi, "Fatigue of solid polymeric materials"; E. Thomas, "Morphology of oriented polymer systems." (J. B. Lando, discussion leader): R. Marchessault, "Industry-university cooperative research"; E. Collins, "Industry-university cooperation."

16 January. (William McKnight, discussion leader): J. Blackwell, "Structure of polyurethane polymers"; J. Harwood, "Mechanism of *N*-carboxy-anhydride polymerization."

Those authors wishing to submit papers for the poster session should forward their submission to: Dr. Yoram S. Papir, Chemicals Research Department, Chevron Research Company, 576 Standard Avenue, Richmond, California 94802.

Prolactin

Charles S. Nicoll and Howard A. Bern, co-chairpersons.

2 February. Chemistry and evolution of prolactins, growth hormones and placental lactogens (H. Friesen and I. Forsyth, chairpersons): C. H. Li, "Recent studies on prolactin"; S. W. Farmer, "Evolutionary aspects of prolactins and growth hormones"; I. Mittra, "A novel cleaved form of prolactin in the rat pituitary gland and its biological function"; S. Handwerger, "Synthesis and secretion of prolactin by human decidual tissue." Prolactin receptors (P. Kelly and K. Kohmoto, chairpersons): B. White, "Comparative aspects of prolactin receptors"; B. Posner, "Intracellular prolactin receptors: origin and regulation"; R. Shiu, "Prolactin receptors in normal and neoplastic target cells: their synthesis, degradation and relationship to the biological action of prolactin."

3 February. Mechanisms of action of prolactin on the mammary gland (E. Rivera and J. Nolin, chairpersons): T. Oka, "The role of intracellular regulatory substances in the hormonal control of mammary gland development"; L. M. Houdebine, "Role of prolactin in the control of casein gene expression"; I. Falconer, "Monovalent cations as possible intermediaries in the mechanism of action of prolactin on the mammary gland." Role of prolactin in growth, development and metamorphosis (S. Kaplan and J. Dent, chairpersons): J. Platt, "Prolactin, osmoregulation and metamorphosis"; T. Hurley, "Growth-promoting effects of placental lactogen and related hormones."

4 February. Role of prolactin in regulation of water and electrolyte balance–nonmammalian (P. Pang and H. A. Bern, chairpersons): D. Ensor, "Prolactin-steroid interactions in the control of osmoregulation in lower vertebrates"; T. Hirano, "Effects of environmental Ca^{++} and prolactin on osmotic permeability of the eel gill"; P. S. Brown, "Osmoregulatory actions of prolactin on the salamandrid integument"; S. C. Brown, "Osmoregulatory actions of prolactin in developing stages of amphibians and birds." Role of prolactin in regulation of water and electrolyte balance–mammalian (S. Solomon and C. S. Nicoll, chairpersons): R. Adler, "Osmoregulatory effects of prolactin in mammals"; A. Perks, "Role of prolactin in osmoregulation in fetal mammals."

5 February. Control of prolactin secretion—nonmammalian (C. Scanes and J. N. Ball, chairpersons): E. G. Grau, "Factors regulating prolactin release from the teleost pituitary and the value of the teleost model"; M. Olivereau, "Cytophysiology of the prolactin cell"; A. Chadwick, "Prolactin secretion in birds and lower tetrapods—experiments and ideas." J. Meites, "Overview lecture." Control of prolactin secretion—mammalian (R. Macleod and R. Weiner, chairpersons): R. Gala, "Amygdala involvement in prolactin secretion"; N. Ben-Jonathan, "Control of prolactin secretion by the posterior pituitary"; A. Enjalbert, "Pharmacological evidence in favor of the existence of multiple prolactin inhibiting and stimulating factors."

6 February. Mechanisms of secretion of prolactin and its role in female reproduction (J. Neill and J. Willoughby, chairpersons): C. Grosvenor, "Control of prolactin depletion and release—in vivo studies"; F. Mena, "Control of prolactin depletion and release—in vitro studies"; A. McNeilly, "Prolactin and ovarian follicular development"; F. Stewart, "Ovarian prolactin and luteinizing hormone receptors and the role of prolactin in maintaining embryonic diapause in the Tammar wallaby."

Poster sessions will be held in the afternoons of 2 to 5 February.