

Gordon Research Conferences: Winter Program, 1980

Alexander M. Cruickshank

The Winter Gordon Research Conferences will be held 4 January to 29 February 1980 in Santa Barbara, California, at the Miramar Hotel.

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 committee for that conference. This committee 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 deposit of \$30; or the approved applicant may pay the full fixed fee prior to the conference. The advance deposit is not required from scientists arriving in the United States from foreign countries. Checks are to be made payable to the Gordon Research Conferences. The deposit will be credited against the fixed fee for the conference. *A registration card not accompanied by the deposit will not be accepted.*

The Board of Trustees of the Conferences has established a fixed fee of \$215 for all participants (speakers, discussion leaders, or conferees), covering registra-

tion 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 chairman for the purpose of assisting conferees who attend a conference at total or partial 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, or conferees) attends a conference—that is for the period of from 1 to 4½ days.* It is divided as follows: registration fee \$50 and room (double occupancy) and meals \$165 for five conference days. *An additional charge will be made for a single room if no double rooms or roommates are available.* These rooms will be assigned in the order that applications are received. An additional charge will be made for rooms occupied for more than five Conference nights (Sunday through Thursday).

Special fund. A special fund is provided from the registration fee and is made available to the chairman 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 chairman. 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. The conferee deposit is forfeited (is not refundable) if an approved application is canceled. This deposit is not transferable to another Conference or conferee.

Guests. Accommodations are available for guests and for children 12 years of age and over. All such requests should be made at the time the conference application is submitted. The charge for rooms and meals for a guest is \$165 for five conference days. A deposit of \$30 is required for each guest reservation. This deposit will be refunded if cancellation is received 2 weeks prior to the conference. Guests are not permitted to attend the conference lectures and discussion groups.

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

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.

Chemical Oceanography

Thomas Church, chairman; Peter Brewer, vice chairman.

28 January. Trace metal speciation (D. Kester, session chairman): C. Culbertson, "Investigation based on solubility measurements"; R. Zuehlke, "Ultra-violet spectroscopy of transition metal complexes related to sea water"; panel discussion. Analytical advances in chemical oceanography (E. Goldberg, session chairman): R. Braman, "Detection and analysis of methylated and protonated metals"; A. Miziolek, "Laser spectrometric techniques"; F. Hoge, "Remote sensing of organic matter in waters."

29 January. Marine surface chemistry (D. Hurd, session chairman): F. MacIntyre, "Physiochemical hydrodynamics of white caps"; L. Balistreri, "The surface chemistry of metal oxides in sea water"; panel discussion. Experimental systems (D. Schink, session chairman): R. Hesslein, "Whole lake radiotracer experiments"; M. Pilson, "Chemistry of an experimental marine ecosystem."

30 January. Marine isotopic chemistry (P. Brewer, session chairman): U. Siegenthaler, "Man-made CO₂ and the oceans: stable isotope evidence"; H. Livingston, "Coastal circulation and radionuclide transport from studies of European nuclear waste releases"; panel discussion. Chemical oceanographic tracers (W. Broecker, session chairman): T. Peng, "Krypton-85 and bomb carbon-14 as tracers for the uptake of fossil fuel CO₂ by the ocean's deepwater source regions"; W. Jenkins, "Tritium and helium-3 in the North Atlantic; a study of transport processes"; P. Hammer, "Selected halocarbons as oceanographic tracers"; J. Sarmiento, "Verification of an ocean circulation tracer model with bomb produced tritium observations and the implications of this model for simplified tracer models."

31 January. Marine photochemistry (O. Zaffriou, session chairman): R. Crutzen, "Photochemistry of the marine atmosphere"; R. Zika, "General pro-

cesses in sea water photochemistry"; O. Zaffriou, "Reactive species and the air-sea interface"; panel discussion. Coordinated marine chemistry projects (R. Baier, session chairman): R. Weiss, "MANOP"; G. Ostlund, "GEOSECS"; C. S. Giam, "PRIMA"; R. Duce, "SEAREX"; J. Edmond, "Hydrothermal vents"; short introductions followed by poster sessions.

1 February. Marine microbial chemistry (R. Gagosian, session chairman): A. Carlucci, "Microbial production and utilization of dissolved organic matter"; D. Karl, "Microbial transformations of carbon at oceanic discontinuities"; panel discussion.

Ad hoc afternoon sessions will be held on 29 January, Photo electron surface techniques (J. Morse, coordinator); 30 January, East African lake studies (J. Edmond and H. Craig, coordinators); 31 January, Federal Forum (N. Andersen *et al.*, coordinators). There will also be poster sessions throughout the conference coordinated by Peter G. Brewer, Woods Hole Oceanographic Institute, Woods Hole, Massachusetts 02543.

Electrochemistry

Donald E. Smith, chairman; Stephen W. Feldberg, vice chairman.

28 January. (Jean Michel Saveant, discussion leader): William E. Geiger, Jr., "Structural changes during electrode reactions of organometallics"; Reuben D. Rieke, "Electrochemical studies of arene-tricarbonylchromium complexes and carbene metal carbonyl complexes." (Richard P. Van Duyne, discussion leader): Alan M. Bond, "Structural influence in organometallic electrochemistry"; Karl M. Kadish, "Redox tuning of macrocyclic and metalloporphyrin reactivity."

29 January. (Ted Kuwana, discussion leader): Paul A. Loach, "Role of electrochemistry in the characterization of photosynthesis"; William R. Heineman, "Thin-layer electrochemical studies of biological systems." (Steve Feldberg, discussion leader): Open session: poster session initiation.

30 January. (Arthur A. Pilla, discussion leader): R. Mark Wightman, "Electroanalytical methods in neurochemistry"; Shizuo Fujiwara, "Immunological information obtained by a newly developed micro-ion electrode system." (Veniamin G. Levich, discussion leader): Fred M. Hawkrige, "Heterogeneous electron transfer by biological molecules"; Joseph Jordan, "State of

the art' of voltammetry at glassy carbon indicator electrodes."

31 January. (Royce Murray, discussion leader): Allen J. Bard, "Polymer, organic metal, and phthalocyanine modified electrodes"; Andreas Otto, "Raman spectroscopy of adsorbates on electrodes: On the influence of microscopic surface roughness on the giant raman effect." Poster session termination. (Martin Fleischmann, discussion leader): Eugene J. Kelly, "Mechanistic studies of uniform and localized corrosion of titanium and Pt-implanted titanium in acidic media"; William Smyrl, "Digital faradaic impedance measurements on copper and iron in corrosion systems."

1 February. (H. W. Nürnberg, discussion leader): Hugh S. Isaacs, "Electrochemical techniques and processes in localized corrosion"; Digby D. MacDonald, "Controlled hydrodynamic techniques in corrosion science and electrochemistry: A comparison between the RRDE and RCCE systems."

Immunochemistry and Immunobiology

Max Cooper, chairman; Martin Weigert, vice chairman.

Molecular and Cellular Biology of Immunocompetent Cells

18-22 February. T cell recognition (Darcy Wilson and Hans Wigzell, chairpersons). T cell factors and subpopulations (Tomio Tada, chairperson). MHC control of cellular interactions (Philippa Marrack, chairperson). B cell differentiation—immunoglobulin genes and their rearrangement (Martin Weigert, chairperson). B cell differentiation—molecular aspects of induction (Robert Perry, chairperson). B cell differentiation—cellular aspects (Max Cooper, chairperson). Lymphocyte activation (Leon Wofsy, chairperson). Interesting issues (Mel Cohn, chairperson). Non-T, non-B lymphoid cells (Hans Wigzell, chairperson).

Liquid Crystals

Mortimer M. Labes, chairman; D. W. Berreman, vice chairman.

7 January. P. E. Cladis, "The re-entrant nematic phase and bilayer smectic A's"; G. Heppke, "Induced smectic mesomorphism and re-entrant nematic behavior"; S. Chandrasekhar, "Liquid crystals of disc-like molecules"; L. Pohl, R. Eidenschink, "New materials."

8 January. R. B. Meyer, "Defects in

smectics"; R. J. Birgeneau, "High resolution x-ray studies of smectic A, B, and C phases." Poster session.

9 January. P. J. Flory, "Theory of nematic liquid crystals—low molecular and polymeric"; H. Gruler, "Biophysical aspects of liquid crystals"; J. L. White, "Characterization, flow and fabrication of polymer liquid crystals"; A. Fukahara and K. Suzuki, "Surface-liquid crystal interactions."

10 January. M. Schadt, "Materials parameters and display factors"; J. D. Margerum, "Molecular effects on the properties and dynamic scattering of ester mixtures." Poster session.

11 January. T. J. Scheffer and J. Nehring, "Phase change guest-host display devices"; D. E. Castleberry, "Recent advances in addressing techniques."

Mechanisms in Composites

John C. Halpin, chairman; F. P. Gerstle, Jr., vice chairman.

21 January. (C. Zweben, discussion leader): W. Rosen, "Failure modes and damage growth for composites under compressive loads"; K. Lauraitis, "Compression behavior of laminates." (B. Pipes, discussion leader): B. A. Byers, "Behavior of damaged graphite/epoxy laminates under compression loading"; D. J. Wilkins, "Damage tolerance modeling for composite structures."

22 January. (C. E. Browning, discussion leader): R. Hinrichs, "Processing control issues for the fabrication of epoxy resin composites"; J. Gillham, "Relationships of curing processes to the properties of network polymers (resins)." (R. E. Coulehan, discussion leader): S. Newman, "Processing and quality control of reinforced plastics in the automobile industry"; P. E. McMahon, "Industry response to automotive-industrial needs for high performance composites."

23 January. (Z. Hashin, discussion leader): K. L. Jerina, "Effective moduli of three-dimensionally reinforced fibrous materials"; J. L. Kardos, "Strength of short fiber reinforced systems." (T. T. Chiao, discussion leader): L. G. Nicalais, "Elongational flow and rheology in the processing of short fiber reinforced thermoplastics"; M. G. Bader, "Strength and failure in hybrid-fiber composites."

24 January. (W. McDonald, discussion leader): S. S. Sternstein, "Environmentally induced stresses and the viscoelastic response of epoxy resin sys-

Applications

Scientists are invited to submit applications for attendance at the Gordon Research Conferences. An application blank is on page 370 and may be submitted to Dr. Alexander M. Cruickshank, Director, Gordon Research Conferences, University of Rhode Island, Kingston, Rhode Island 02881.

tems"; E. G. Wolff, "Dimensional stability of composites." Discussion theme: Laminar toughness: (a) Sources (matrix, interface, fiber); (b) Damage tolerance (K. Ashbee, J. C. Halpin, moderators).

25 January. (F. P. Gerstle, Jr., discussion leader): E. D. Reedy, Jr., "Fracture of center notched uni-directional metal matrix composites"; G. J. Dvorak, "Fatigue of metal matrix (uni-directional/laminated) composites."

Metals in Biology

James A. Fee, chairman; Harry B. Gray, co-chairman.

25 February. Physical probes (Thomas Spiro, chairman): Stephen P. Cramer, "EXAFS"; Andrew J. Thomson, "Magnetic circular dichroism"; Joseph Coleman, "Metal NMR"; William H. Woodruff, "Time resolved resonance raman spectroscopy." Oxygen activation (Jack Halpern, chairman): John Groves, "Introduction"; Jack Peisach, "Bleomycin"; Lawrence Que, "Catechol dioxygenases."

26 February. Cytochrome oxidase (Bo Malmström, chairman): Graham Palmer, "Introduction"; Britton Chance, "Intermediates during oxygen reduction"; Linda Powers, "EXAFS studies"; Helmut Beinert, "EPR studies." Iron systems (Leonard Mortenson, chairman): Chris Chang, "Models of multiple electron transfer enzymes: cytochrome oxidase and others"; Osamu Hayaishi, "Hemoproteins"; Richard Holm, "Nitrite reductase models."

27 February. Copper proteins (Harry Gray, chairman): Edward Solomon, "Introduction"; William Blumberg, "Valence of Cu in galactose oxidase"; Hans Freeman, "Refined structure of plastocyanin"; Walter Lovenberg, "Dopamine- β -hydroxylase"; Robert Gagne, "Models of copper proteins." Copper and zinc in biological systems (Philip Ai-

sen, chairman): Charles A. Owen, "Transport of Cu"; David Petering, "Metallothionein"; Joan Valentine, "Mobility of Zn and Cu in the superoxide dismutase system."

28 February. Nitrogenase (William Orme-Johnson, chairman): Winston Brill, "Molybdenum co-factors"; Gary Watt, "Electrochemistry"; David Garner, "Model chemistry"; David Lowe, "Kinetics."

29 February. Calcium (Stephen Lipard, chairman): Claude Klee, "Introduction: calmodulin"; Milton Cormier, "Studies with plant systems"; Brian Sykes, "NMR studies of parvalbumin"; Charles Grisham, "EPR studies of Ca^{2+} -ATPase."

Orientational Disorder in Crystals

Reuben Rudman, chairman; James A. Morrison, vice chairman.

14 January. Theory (A. Hüller, discussion leader): J. Raich, "Structural phase transitions and orientational ordering of molecular crystals"; M. Descamp, "Intermolecular correlations in orientationally disordered crystals." New materials and techniques (J. Sherwood, discussion leader): M. Eldrup, "Positron annihilation studies of molecular crystals"; G. Smith, "Phase behavior and nucleation kinetics of octaphenylcyclotetrasiloxane."

15 January. Reorientation phenomena, I (discussion leader to be announced): G. Williams, "Dielectric studies of motion in rotator-phase crystals including the effects of an applied hydrostatic pressure"; M. More, "Dynamics of translations and rotations in the disordered phase of CBr_4 ." ODIC at high pressure (J. Jonas, discussion leader): W. Daniels, "Optical studies of liquid crystals and plastic crystals at high pressures"; S. Block, "High-pressure x-ray diffraction studies of AB_4 compounds."

16 January. Reorientation phenomena, II (H. Chihara, discussion leader): J. Rush, "Neutron scattering studies of rotation translation coupling in orientationally disordered ionic crystals"; R. Pick, "I. R. and raman studies of libration and reorientations of simple molecules." ODIC in other systems (A. Leadbetter, discussion leader): M. Bloom, "Reorientational motions of phospholipid molecules in model and biological membranes"; D. Richter, "Molecular relaxations in the C and D phase of $n\text{-C}_{33}\text{H}_{68}$ studied by quasielastic neutron scattering."

17 January. Diffuse scattering and lat-

tice dynamics (K. Michel, discussion leader); G. Pawley, "Progress in molecular lattice dynamics"; M. Lambert, "X-ray diffuse scattering and neutron inelastic scattering study of phase transitions in molecular compounds; incommensurate phase of thiourea." ODIC in inorganic materials (C. Garland, discussion leader); B. Powell, "Neutron scattering studies of orientational disorder"; R. Armstrong, "Structural phase transitions in 5d transition metal antiferroelectric crystals."

18 January. Quantum mechanical excitations (J. A. Morrison, discussion leader); H. Meyer, "Orientational ordering of ortho-H₂ impurities in solid para-H₂ single crystals"; S. Clough, "The temperature dependence of methyl tunneling motion studied by neutron scattering and magnetic resonance."

Chemistry and Biology of Peptides

Dorothy T. Krieger and Maurice Manning, co-chairpersons.

4 February. Chemical synthesis of polypeptides (Erhard Gross, discussion leader); Bruce Merrifield, "Advances in solid phase peptide synthesis"; Robert Sheppard, "A solution chemist's approach to solid phase synthesis"; Micklos Bodanszky, "Tactics and strategies in peptide synthesis." Purification and analysis of synthetic peptides (Johannes Meinenhofer, discussion leader); J. Porath, "Metal chelate affinity chromatography of peptides"; Don Yamashiro, "Partition and partition chromatography of peptides and proteins"; Jean Rivier, "Purification and analysis of peptides by reverse phase-HPLC."

5 February. Role of neuropeptides in brain function (Floyd Bloom, discussion leader); Floyd Bloom, "Peptide's progress: endorphins in the '80's"; Stephen R. Bloom, "Neuropeptides of the gut and their role in physiology"; Wylie Vale, "Synaptostatin and CRF: model neuropeptides." Biosynthesis of small peptides in the brain (Michael J. Brownstein, discussion leader); Harold Gainer, "Biosynthesis of posterior pituitary hormones"; Betty Eipper, "Posttranslational processing of the common precursor of ACTH, endorphin and melanotropin in various rat tissues"; Derek Smyth, "Processing of the ACTH precursor molecule."

6 February. Proteases in the processing of neuropeptides (John T. Potts, Jr., discussion leader); John T. Potts, Jr., "Hepatic proteolytic metabolism of parathyroid hormone: enzymic specificity

and biological significance"; Michael Young, "The proteolytic activity of nerve growth factor: significance for its biological and chemical functions"; Alfred L. Goldberg, "Pathways and selectivity of intracellular protein degradation." Conformational approaches to the study of peptide receptor interactions (William Gibbons, discussion leader); Aksel A. Bothner-By, "Investigation of peptide conformations using 600-MHz NMR spectroscopy"; Victor J. Hruby, "Some applications of raman spectroscopy in conformational studies of peptide hormone agonists and antagonists"; Lila Pease, "NMR studies of hydrogen-bonded model peptides."

7 February. Approaches to the design of peptides possessing desired biological properties (Ralph Hirschmann, discussion leader); John Stewart, "Function and evolution of some neuroendocrine peptides"; W. H. Sawyer, "Design of antagonists of the neurohypophyseal hormones"; Murray Goodman, "Retrosynthetic peptides—a new class of biologically active molecules." Specific protein sequences which affect membrane function (Gunter Blobel, discussion leader); Gunter Blobel, "Translocation of proteins across membranes"; John Collier, "Entry of toxins into cells"; Erhard Gross, "Peptides and the transport of ions across membranes."

8 February. Growth factors (Judson Van Wyk, discussion leader); Denis Gospodarowicz, "In vivo transplantation of vascular corneal endothelia"; S. Peter Nissley, "Multiplication stimulating activity (MSA) from media conditioned by the BRL-3A rat liver cell line"; W. Jackson Pledger, "The control of the cell cycle by peptide growth factors."

Physico-Chemical Aspects of

Photosynthesis

William W. Parson, chairman; Richard McCarty, vice chairman.

4 February. Primary electron transfer reactions and structure of reaction centers: Posters. Discussion focused on bacteria (G. Feher, W. Parson, discussion leaders); Discussion focused on plants (P. Mathis, B. Ke, discussion leaders).

5 February. Secondary electron transfer reactions, H⁺ transfer, and O₂ evolution: Posters. Discussion focused on bacteria (P. L. Dutton, C. Wraight, discussion leaders); Discussion focused on plants (P. Joliot, R. Malkin, discussion leaders).

6 February. Antenna complexes and excitation transfer: Posters. Discussion

of antenna complexes (J. Barber, K. Sauer, discussion leaders). Membrane potentials, pH gradients, ATP synthesis: Discussion of membrane potentials (W. Junge, R. McCarty, discussion leaders).

7 February. Orientations of components in reaction centers of membranes: Posters. Discussion of orientations (R. Clayton, J. Breton, discussion leaders). Theory of electron transfer reactions and spin polarization: Discussion of electron transfer theory (J. Hopfield, R. Haberkorn, discussion leaders).

8 February. Model systems: Posters. Discussion (J. Fajer, P. Loach, discussion leaders).

Chemical Aspects of Plant-Herbivore

Interaction

Gerald A. Rosenthal and Paul Feeny, co-chairmen.

11 February. Defensive secondary plant metabolites (Gerald A. Rosenthal, session chairman); Jerry W. McClure, "Phenolic compounds"; Tom J. Mabry, "Terpenoid compounds"; David S. Seigler, "Nitrogenous compounds"; Irvin E. Liener, "Proteinaceous compounds." Tony Swain, "The evolution of secondary plant compounds"; (Donald Levin, discussion leader).

12 February. Physiological and behavioral aspects of plant-herbivore interaction (Eloy Rodriguez, session chairman); Thomas Eisner, "Secondary plant substances: avoidance, deactivation and utilization by animals"; Louis M. Schoonhoven, "Perception of plant compounds"; Murray S. Blum, "Detoxification and behavioral perception of natural products by insects"; William J. Freeland, "Vertebrate physiology and plant poisons." Harold A. Mooney, "Plant physiology and the costs of defense"; (Eloy Rodriguez, discussion leader).

13 February. Ecological aspects of plant-herbivore interaction (Paul Feeny, session chairman); Richard B. Root, "Influence of plant dispersion on insect populations"; Donald R. Strong, "Biogeographic aspects of herbivore-plant associations"; David F. Rhoades, "Herbivore population dynamics and chemical changes in plants"; Doyle McKey, "Herbivore populations in relation to chemical structure of forests." Daniel H. Janzen, "The chemical biology of tropical fruits and seeds"; (Paul Feeny, discussion leader).

14 February. Evolutionary aspects of plant-herbivore interaction (Lawrence E. Gilbert, session chairman); Rex G.

Cates, "Evolution of plant defensive chemistry in relation to herbivore attack"; Guy L. Bush, "Evolution of host shifts in phytophagous insects"; Michael C. Singer, "Evolution of host preference in ovipositing insects"; David A. Jones, "Ecological genetics of plants in relation to herbivore attack." T. R. E. Southwood, "The evolution of phytophagous insect communities"; (Lawrence E. Gilbert, discussion leader).

15 February. Chemical interaction between agricultural plants and their pests (Paul Hedin, session chairman): Johnnie N. Jenkins, "Gene action in host-plant resistance to insects"; Robert L. Gallun, "The problem of evolution of crop-resistant insect biotypes"; David R. MacKenzie, "Analysis of host-parasite interaction." Discussion and closing remarks.

Polymers

Thor L. Smith, chairman; Jack L. Koenig, vice chairman.

14 January. (H. K. Frensdorff, discussion leader): J. E. McGrath, "Anionic polymerization and copolymerization of polar and hydrocarbon monomers"; M. F. Bechtold, "Polymerization and polymers of silicic acid." (D. J. Meier, discussion leader): H. Morawetz, "A fluorescence technique for the study of the mutual interpenetration of flexible chain molecules"; S. Krause, "Properties of microphases in amorphous block copolymers and their dependence on molecular weight."

15 January. (W. H. Stockmayer, discussion leader): R. Pecora, "Quasi-elastic light scattering from polymeric systems"; H. Yu, "Chain configuration and dynamics in rubber networks by SANS and quasi-elastic light scattering." (B. Zimm, discussion leader): E. Helfand, "Kinetics of polymer conformational transitions by dynamics simulation"; J. R. Lyerla, "Studies of molecular dynamics in solid polymers by high-resolution NMR."

16 January. (R. P. Kambour, discussion leader): D. R. Paul, "Microstructure of glassy polymers as evidenced by sorption and transport of gases"; E. W. Fischer, "Small-angle x-ray studies of crazes in polycarbonate and some considerations about craze initiation." (I. J. Goldfarb, discussion leader): P. M. Hergenrother, "Acetylene terminated oligomers and polymers therefrom"; H. Relles, "Synthesis and properties of poly (ether-imide) polymers."

17 January. (J. D. Ferry, discussion

leader): A. M. North, "Molecular motions in polymers and their relation to electronic processes"; S. S. Sternstein, "Nonlinear viscoelastic properties in tension and shear of rubber-toughened thermoplastics." (F. R. Eirich, discussion leader): A. N. Gent, "Some chemical effects in the self adhesion of elastomers."

18 January. (J. L. Koenig, discussion leader): J. E. Guillet, "Kinetics and mechanisms of polyolefin photooxidation"; G. D. Mendenhall, "Chemiluminescence and aging of polymers."

Sensory Transduction in Microorganisms

Kenneth L. Poff, chairman; Winslow R. Briggs, vice chairman.

7 January. K. Poff, "Introduction." Sensory transduction and cell membranes (W. Steckenius, discussion leader): A. Keith, "Biophysics of membranes"; R. Cone, "Membrane localization of photoreceptor pigments." Electrophysiology of ciliates (C. Kung, discussion leader): C. Kung, "Overview"; R. Eckert, "Calcium controlled calcium inactivation in *Paramecium*"; Y. Naitoh, "Membrane bioelectrics of wild type and mutant ciliates"; H. Machemer, "Receptor potentials and channel compartmentalization in ciliates."

8 January. Mechanisms of movement I (H. Berg, discussion leader): H. Berg, "Dynamic characteristics of bacterial movement"; P. Satir, "Cilia." Mechanisms of movement II (S. Britz, discussion leader): S. Britz, "Overview"; K. Wohlfarth, "Protoplasmic streaming"; J. A. Spudich, "Actin, myosin, and accessory proteins in the regulation of non-muscle movements"; L. Halfen, "Gliding movements"; R. P. Blake-more, "Magnetotaxis by bacteria."

9 January. Chemosensory I (S. Zukin, discussion leader): R. McNab, "Behavioral and physiological aspects of chemosensing in prokaryotic and eukaryotic cells"; S. Zukin, "An introduction to the genetic and biochemical aspects of bacterial chemotaxis"; J. Adler, "Role of protein methylation in bacterial chemotaxis"; H. Hayashi, "Role of protein methylation in bacterial chemotaxis"; M. Simon, "Properties of some proteins involved in bacterial chemotaxis"; J. Parkinson, "Genetic studies of information processing in bacterial chemotaxis." Chemosensory II (R. McNab, discussion leader): B. Taylor, "Mechanisms of oxygen chemoreception in bacteria"; D. Koshland, "Bacterial chemotaxis—a model regulatory system"; J.

Mato, "Role of cyclic GMP in *Dictyostelium* chemotaxis"; E. Schiffmann, "Biochemical aspects of leukocyte chemotaxis"; S. Zigmond, "Behavioral aspects of leukocyte chemotaxis."

10 January. Photosensory I—photoreceptor characterization (P.-S. Song, discussion leader): P.-S. Song, "Overview"; F. Lenci and J. Colombetti, "Spectrofluorometric localization of photoreceptor pigments"; E. Lipson, "Analysis of *Phycomyces* photomutants"; E. Shafer, "Inhibition by red light of phototropism by *Phycomyces*"; D.-P. Häder, "Photomovement by amoebae of *Dictyostelium*"; E. Walker, "Hypericin, the photoreceptor pigment for photomovements by *Stentor*." Thermosensory (Y. Imae, discussion leader): F. Oosawa, "Thermosensing in microorganisms." Poster session.

11 January. Photosensory II—mechanisms of action (E. Cerdá Olmedo, discussion leader): E. Cerdá Olmedo, "Overview"; H. Ninneman, "Nitrate reductase—proposed photoreceptor for blue light-promoted conidiation in *Neurospora*"; M. Doughty, "Ion exchange/transport and photomovement in *Euglena*"; N. Morel, "Photomovement in 'eyeless' mutants of *Chlamydomonas*"; J. L. Spudich, "Mechanism of photosensory behavior in *Halobacterium*"; E. Hildebrand and G. Wagner, "Light perception and photosensory transduction in halobacterium." Summary—emerging themes: W. Haupt, W. Shropshire, W. Nultsch, L. Kuznicki, M. E. Feinleib.

Structural Macromolecules-Collagen

Peter P. Fietzek and Beverly Peterkofsky, co-chairpersons.

25 February. Interstitial collagens, structural and functional aspects (P. Fietzek, discussion leader): B. Brodsky, D. Hollister. Chemistry and structure of basement membrane collagens (A. Veis, discussion leader): P. Dehm, R. Timpl.

26 February. Biosynthesis of procollagens: I. Gene structure and primary translation products (G. Martin, discussion leader): B. de Crombrughe, B. Olsen. II. Post-translational modifications and secretion (M. Tanzer, discussion leader): C. Clark, L. Fessler.

27 February. Regulation of collagen gene expression (B. Peterkofsky, discussion leader): L. Liotta, P. Tolstoshev. Pathology of collagen metabolism (K. Kivirikko, discussion leader): P. Byers.

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GORDON RESEARCH CONFERENCES

(Continued from page 369)

28 February. Animal collagenases; precursors, inhibitors and collagen type specificity (J. Jeffrey, discussion leader); J. J. Reynolds, G. Vaes (subject and speakers to be announced).

29 February. Cellular interactions with collagens (H. Kleinman, discussion leader); K. Yamada, L. Cunningham.

There will be poster sessions on program topics and applicants who plan to present posters should give title and outline of content on the application. Additional speakers will be chosen from poster presentations.

Thin Organic Films and Solid Surfaces

David Allara, chairman; Gottfried Haacke, vice chairman.

21-25 January. A. Czanderna, "Ion scattering spectroscopy studies of the degradation of polypropylene films on copper oxide using isotopic labeling"; J. Burkstrand, "Molecular interactions at polymer metal interfaces studied with x-ray photoemission"; E. Kay, "Plasma-surface interactions involving organic systems"; R. Thomas, "Electron mean free paths in polymers"; A. Dilks, "ES-CA and the modification of polymers surfaces"; W. Rabalais, "Secondary ion mass spectrometry of molecular and ionic solids"; A. Hoffman, "Biological interactions at characterized interfaces"; H. Yasuda, "Recent topics in plasma polymerization"; F. Kaufman, "Mechanisms of site-site electronic interactions and applications of new charge transfer polymers based on pendant to donors"; C. Duke, "Electronic structure of organic polymers, glass and crystals"; M. Sugy, "Electrical properties of Langmuir multilayer films with and/or without dye sensitizers"; E. Arnett, "The energetics of aggregation for chiral molecules and ions"; D. Whitten, "Photochemical and thermal reactions in monolayer films, supported multilayers and monolayer solution interfaces"; R. Van Duyne, "Surface enhanced raman spectroscopy of organic adsorbates"; P. Eisenberger and P. Citrin, "Problems and promises in the application of external x-ray absorption fine structure (EXAFS) to the study of surfaces"; R. Hoffmann, "Mechanical properties of thin polymer crystals"; J. Swalen, "Application of surface plasmons for characterization of organic surfaces and thin films"; J. Boerio, "Infrared spectroscopy of polymers and model compounds on metal mirrors."

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BOOKS RECEIVED

(Continued from page 330)

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The Pineal. Vol. 3, 1978. Russel J. Reiter. Eden Press, St. Albans, Vt., 1979. x, 236 pp. \$24. Annual Research Reviews.

Plant Breeding for Pest and Disease Resistance. G. E. Russell. Butterworths, Boston, 1978. x, 486 pp., illus. \$64.95. Studies in the Agricultural and Food Sciences.

Psychological Acoustics. Earl D. Schubert, Ed. Dowden, Hutchinson and Ross, Stroudsburg, Pa., 1979 (distributor, Academic Press, New York). xvi, 392 pp., illus. \$34.50. Benchmark Papers in Acoustics, vol. 13.

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Quantum Logic. Peter Mittelstaedt. Reidel, Boston, 1978. viii, 160 pp. \$29.50. Synthese Library, vol. 126.

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Questions of Uniqueness and Resolution in Reconstruction from Projections. Myron Bernard Katz. Springer-Verlag, New York, 1978. x, 176 pp., illus. Paper, \$9.80. Lecture Notes in Biomathematics, vol. 26.

The Reception of Unconventional Science. Papers from an AAAS symposium. Seymour H. Mauskopf, Ed. Published for the American Association for the Advancement of Science by Westview Press, Boulder, Colo., 1979. xii, 138 pp. \$13.25. AAAS Selected Symposia Series, 25.

Renal Biopsy in Glomerular Diseases. Clinical, Histological, Immunohistological and Electron-Microscopic Studies. Edit Beregi and I. Varga with the cooperation of P. Gömöri. Translated from the Hungarian. Akadémiai Kiadó, Budapest, 1978. 336 pp., illus. \$30.

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The Scientist's Thesaurus. A Treasury of the Stock Words of Sciences. George F. Stefanides. Published by the author, 66 Lourdes Drive, W.D., Fitchburg, Mass., ed. 4, 1978. vi, 156 pp. Paper, \$3.

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Using the Mathematical Literature. A Practical Guide. Barbara Kirsch Schaefer. Dekker, New York, 1979. xii, 142 pp. \$19.75. Books in Library and Information Science, vol. 25.

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