

Gordon Research Conferences: 1986 Winter Schedule

Alexander M. Cruickshank

The Winter Gordon Research Conferences will be held 6 January to 28 February 1986 at the Casa Sirena Marina Hotel, Oxnard, and 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. *Deadline for receipt of applications is 3 weeks prior to the conference.*

The Director will submit the applications of those requesting permission to attend a conference to the chairman for that conference. The chairman 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 from scientists arriving in the United States from foreign countries and

should be made 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 \$385 for all participants (speakers, discussion leaders, and conferees), covering registration fee, double room with bath, City of Oxnard 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 chairman 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 attends a conference—that is for the period of from 1 to 4½ days.* An additional charge of \$110 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 chairman 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 that 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. (A) *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. (B) *Guests:* The charge for room and meals for guests is \$275 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 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, Gordon

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Angiotensin II

Casa Sirena Marina Hotel

Morton Printz, chairman; Hiroko Nishimura, vice chairman.

Theme: Neurobiology and Neurophysiology of Angiotensin and Related Peptides

13 January. Molecular biology of renin and angiotensin (Victor Dzau, discussion leader): Victor Dzau, "Tissue renin-angiotensin gene expression"; John Shine, "Molecular genetics of prorenin"; Pierre Corvol, "Molecular biology of renin and angiotensin"; Kevin Lynch, "Molecular biology of the angiotensin gene." Neuropeptide biosynthetic mechanisms (D. Ganten, discussion leader): D. Ganten, "Brain angiotensin: biosynthetic mechanisms, localization and function"; Jeffrey McKelvey, "Regulation of neuropeptide biosynthesis in the CNS"; Chica Schaller, "Head activator peptide interactions with converting enzyme."

14 January. Angiotensin receptors—peripheral and central, part I (Mike Peach, discussion leader): Mike Peach, "Regulation and expression of angiotensin II receptors"; Andre DeLean, "Molecular properties of peripheral angiotensin II receptors"; Wayne Alexander, "Coupling of smooth muscle angiotensin receptors to phospholipid metabolism and calcium"; Dennis Healy, "Autoradiographic map of angiotensin receptors and co-distribution in immunocytochemical angiotensin II in the CNS." Angiotensin receptors—peripheral and central, part II (M. Printz, discussion leader): M. Printz, "Are neural angiotensin II receptors regulated differently from peripheral angiotensin II receptors?" Mohan Raizada, "Angiotensin II receptors in primary neuronal cultures from rat brain"; Greti Aguilera, "Angiotensin II and CRF receptors in the primate brain."

15 January. Central neuropeptide pathways (Carlos Ferrario, discussion leader): Carlos Ferrario, "Mechanisms of angiotensin II action at the area postrema"; Larry Swanson, "Systems approach to the subfornical organ and neuroendocrine system neurotransmitters"; Virginia Pickel, "Synaptic interaction of peptidergic neurons in the nucleus of the solitary tract"; Michael Brody, "Central angiotensin pressor system: studies on forebrain sites of action and the role of angiotensinergic pro-

jections." Electrophysiology of peptidergic neurons (Ian Phillips, discussion leader): Ian Phillips, "In vivo and in vitro electrophysiological neural responses to angiotensin II"; Donna Gruol, "Peptides and mechanisms regulating neuronal excitability"; Leo Renaud, "Electrophysiological mapping of central peptidergic pathways."

16 January. Potential physiological mechanisms for the CNS angiotensin system, part I (Joseph P. Buckley, discussion leader): Joseph P. Buckley, "Central angiotensin II. Mechanisms and potential involvement with the sodium pump"; Marvin Brown, "CRF and related peptides: Regulation of the autonomic nervous system"; Thomas Unger, "Angiotensin and other neuropeptide effects on the autonomic nervous system"; William F. Ganong, "Brain renin-angiotensin system and the control of anterior pituitary secretion." Regulation of brain peptidergic neurotransmitter activity (Kevin Catt, discussion leader): Bruce McEwen, "Steroid hormone effects and regulation in the brain"; Richard Zigmond, "Regulation of tyrosine hydroxylase activity by multiple neurotransmitters."

17 January. Potential physiological mechanisms for the CNS angiotensin system, part II (Hiroko Nishimura, discussion leader): Hiroko Nishimura, "Angiotensin receptor characterization and function in mammalian and non-mammalian systems"; Ian Reid, "Mechanisms underlying effects of circulating angiotensin on AVP and ACTH secretion"; Rainer Rettig, "Effect of central angiotensin II administration on arteriolar vasomotion and the microcirculation."

Chemical Oceanography

Casa Sirena Marina Hotel

Robert A. Berner, chairman; Christopher S. Martens, vice chairman.

6 January. (W. S. Broecker, discussion leader): N. J. Shackleton, "Variability of global carbon reservoirs of 10^4 – 10^8 years"; E. A. Boyle, "Cadmium in forams: Changes in ocean circulation and chemistry"; W. S. Broecker, "Glacial-interglacial CO_2 changes." (R. S. Keir, discussion leader): R. H. Byrne, "Shallow aragonite dissolution in the North Pacific"; Samuel Savin, "Isotopic evidence for Cretaceous and Tertiary oceanography."

7 January. (J. Boulegue, discussion leader): J. M. Edmond, "Chemistry of Ridge Crest hydrothermal solutions"; Erwin Suess, "Cold water vent orga-

nisms supported by methane oxidation"; Gil Michard, "Chemistry of Hot Springs at 13°N , East Pacific Rise." (K. K. Turekian, discussion leader): Jorge Sarmiento, "Ocean circulation and the atmosphere-ocean CO_2 balance"; S. Krishnaswami, "Uptake of radionuclides in phytoplankton."

8 January. (R. C. Aller, discussion leader): B. B. Jorgensen, "Radiotracer studies of the sulfur cycle in marine sediments"; J. P. Chanton, "Sulfur isotope fractionation in a coastal marine sediment"; Jan Sorensen, "Nitrate reduction in sediments." (J. W. Morse, discussion leader): J. W. Morse, "Chemistry of iron sulfides in sediments"; F. J. Millero, "Thermodynamics and kinetics of the H_2S system."

9 January. (R. M. Garrels, discussion leader): K. J. Hsu, "Carbon isotopes as paleomonitors of biotic crises." A. C. Lasaga, "A model for CO_2 and O_2 over Phanerozoic time"; H. D. Holland, "Fluid inclusions in halite and the history of seawater." Miriam Kastner, discussion leader): Harry Elderfield, "Rare earth elements in marine deposits"; P. N. Froelich, "Ge/Si in biogenic opal over the past 10^5 years."

10 January. (J. I. Hedges, discussion leader): J. I. Hedges, "Riverine contributions to the marine DOM pool"; M. I. Scranton, "Biogeochemistry of hydrogen in anoxic marine sediments"; J. W. de Leeuw, "New and old biological markers in recent sediments."

Composites

Miramar Hotel

Clarence J. Wolf, chairman; J. C. Seferis, vice chairman.

13 January. Roger Porter, "Molecular composites"; Roy McCullough, "Molecular mechanics of polymer materials." Sanford Sternstein, "Viscoelastic effects in composites"; Ken Reifsnider, "Damage analysis and lifetime prediction for composite laminates."

14 January. John Kardos, "Void stability and resin flow in high-performance laminate processing"; Charles Lee, "An evaluation scheme for new matrix resins." Peter Beaumont, "Deformation mechanisms and energy absorption maps for polymers and composites"; Jack Weitsman, "Moisture-induced damage in composites due to cyclic variations."

15 January. Robert Badalian, "Damage mechanisms in composites"; Walter Bradley, "Direct observation of fracture in composites"; J. T. Dickinson, "Fracture-emission from polymers

and composites." Don Hunston, "Failure behavior of tough polymers and their composites"; David Leach, "Fracture and toughness mechanisms in PEEK composites."

16 January. Jovian Myovic, "Chemical, physical and thermal changes during cure of epoxy composites"; John Clark, "Comparative properties of composites prepared with different fibers." Contributed poster session.

17 January. Eric Kong, "Physical aging in epoxy matrix composites"; Robert Sacher, "Environmental aging of fiber reinforced composite materials."

Electrochemistry

Miramar Hotel

Dennis H. Evans, chairman; Joseph G. Gordon, vice chairman.

20 January. (Ernest Yeager, discussion leader): Dieter M. Kolb, "Spectroscopic studies toward the microscopic structure of the electrochemical interface"; Martin Fleischmann, "Electrochemistry at the molecular level." (Nicholas Winograd, discussion leader): Theodore E. Madey, "The adsorption of water on clean and additive-dosed metal surfaces"; Philip N. Ross, Jr., "Long-range order phenomena in the electrochemistry of platinum and gold surfaces."

21 January. (Marcin Majda, discussion leader): Richard L. McCreery, "New spectroscopic probes of electrochemical events: Spontaneous Raman and spatially resolved UV-Vis absorption spectroelectrochemistry"; Larry R. Faulkner, "Luminescence probes of dynamics in electrochemical microstructures." (Michael J. Weaver, discussion leader): Norman Sutin, "Nuclear configuration changes in electron transfer reactions in solution"; John R. Miller, "Energy, distance and solvent effects on electron transfer rates."

22 January. (W. Ronald Fawcett, discussion leader): Brian E. Conway, "Potential dependence of entropy of activation of electrode processes and the real form of the Tafel Equation"; J. M. Savéant, "Homogeneous redox catalysis of electrochemical reactions. Application to the characterization of short-lived intermediates." (Joseph G. Gordon, discussion leader): Open session.

23 January. (Ralph J. Brodd, discussion leader): D. F. Shriver, "Ionic and electronic conducting solvent-free polymers"; Alan G. MacDiarmid, "Electrochemistry of polyaniline: Application to rechargeable batteries." (Essie Kariv-Miller, discussion leader): Hans J.

Schäfer, "Oxidation at the nickelhydroxide electrode and at polymer-coated anodes"; J. H. P. Utley, "The chemistry of electrogenerated bases."

24 January. (Anna Brajter-Toth, discussion leader): William R. Heineman, "Strategies for immunoassay by electrochemical techniques"; Dennis C. Johnson, "Electrocatalysis in electroanalysis."

Chemistry and Physics of Isotopes

Casa Sirena Marina Hotel

W. A. Van Hook, chairman; M. H. O'Leary, vice chairman.

10 February. Hydrogen atom transfers and tunneling. New approaches from physical chemistry (D. G. Truhlar, discussion leader): D. G. Truhlar, "Variational transition state theory and semiclassical tunneling calculations"; D. G. Fleming, "Quasi-classical and quantum mass effects probed by muonium reaction kinetics: experimental studies of $\text{Mu} + \text{H}_2$, $\text{Mu} + \text{F}_2$, $\text{Mu} + \text{C}_2\text{H}_4$ "; G. C. Schatz, "Quantum dynamics of isotope effects in chemical reactions." Hydrogen atom transfers and tunneling: Perspectives from organic chemistry (M. Kreevoy, discussion leader): E. S. Lewis, "Isotope effects in hydrogen transfer reactions"; L. Schaad, "Ab initio calculations of transition states and isotope effects in (1 - n)-sigmatropic hydrogen transfer."

11 February. Isotope effects on enzyme catalyzed reactions (R. L. Schowen, discussion leader): W. W. Cleland, "Oxygen-18 secondary isotope effects on phosphoryl transfer"; A. Barth, "Solvent and secondary isotope effects in the action of dipeptidyl-peptidase-IV"; V. Schramm, "Enzymatic activation and transition state structure deduced from kinetic isotope effects." Biological and geochemical isotope effects. Isotopic composition of animals; effects of diet trophic levels and climate (Marilyn Estep, discussion leader): M. Schoeninger, "Diet estimation based on trace element concentration and collagen isotope ratios"; J. Vogel, "Tracing the diet of animals with stable isotopes in collagen."

12 February. Condensed phase isotope effects (G. Jancso, discussion leader): G. Jancso, "Recent developments in the theory of condensed phase isotope effects"; M. Wolfsberg, "Dielectric corrections and intermolecular forces in the condensed phase"; J. Laane, "Measurement of condensed phase isotope effects by Raman difference spectroscopy." Isotope effects in NMR (D. A. Forsyth,

discussion leader): Martin Saunders, "Applications of equilibrium and intrinsic NMR isotope shifts"; D. A. Forsyth, "Isotope shifts, hyperconjugation and conformation."

13 February. Isotope separation—tritium enrichment (J. Bigeleisen, discussion leader): (Three half-hour talks followed by round table discussion.) R. H. Sherman, "Tritium separation by distillation of liquid hydrogen isotopes"; A. Miller, "Tritium enrichment by hydrogen/water exchange using non-wetting catalysts"; M. W. Lee, "Tritium separation using metal hydrides." Proton inventory and isotope effects in organic reactions (J. L. Hogg, discussion leader): J. L. Hogg, "It's a PITI they aren't done more often: Proton inventory technique investigations"; R. L. Stein, "The proton inventory as a probe of transition state structure for serine protease catalyzed reactions."

14 February. Biological and geochemical effects, continued. Sulfur isotopes as tracers of biological and geochemical processes. (M. Estep, discussion leader): B. Fry, "Bacterial fractionation of sulfur isotopes in fresh water sediments and mixed species laboratory culture"; J. Chanton, "Mechanism of sulfur isotopes fractionation in an anoxic marine sediment"; W. Tumas, "Isotope effects as a mechanistic probe of gas phase ion unimolecular decompositions."

Kallikreins and Kinins

Casa Sirena Marina Hotel

Harry Margolius, chairman; Alberto Nasjletti, vice chairman.

17 February. Kallikrein genes and their expression (Lowell Greenbaum, Hiroshi Moriya, discussion leaders): Rob Richards, "Structure and expression of the mouse kallikrein gene"; Ray McDonald, "Kallikrein gene structure in the rat"; John Shine, "Molecular genetics of the human kallikrein gene." Kallikreins in pituitary and neuroendocrine cells (Mel Schachter, Harry Margolius, discussion leaders): John Funder, "Control of kallikrein gene expression in the rat pituitary"; Julie Chao, "Hormonal regulation of kallikrein gene expression"; Edward Herbert, "Kallikreins and prohormone processing."

18 February. Tissue kallikrein and kinin actions (Harry Kaiser, discussion leader): Hiroshi Moriya, "Carbohydrate composition of kallikreins: functional significance"; Oscar Carretero, "Kinins in blood and kidney"; Ervin Erdos, "Renal kallikreins and proenzyme processing and release"; Allen Kaplan, "New

mechanisms of kinin degradation." Special lecture (Oscar Carretero, discussion leader): Eduardo Lapetina, "Receptor activation and signal generation."

19 February. Kininogens and kinins—structure and function (Allen Kaplan, discussion leader): S. Nakanishi, "Cloning and structural studies of kininogens"; Lowell Greenbaum, "T-kinin and T-kininogen levels and responsiveness to inflammatory stimuli"; Werner Muller-Esterl, "Kininogens as cysteine proteinase inhibitors"; Bob Coleman, "Role of HMW kininogen as an inhibitor of platelet calpain." Kinins—regulation of cellular processes (Ervin Erdos, discussion leader): William Smith, "Mechanism of action of kinins and prostaglandins in epithelia"; Vince Manganiello, "Kinins and intracellular mediators."

20 February. Peptides and epithelial transporting events (Norman Levinsky, discussion leader): Alan Cuthbert, "Kinin effects in cultured epithelial cells"; Mark Knepper, "Kinins and electrolyte transport in renal collecting ducts"; Victor Schuster, "Kinins, angiotensins and water transport in renal tubules." Receptors, receptor blockers and inhibitors (Hans Fritz, discussion leader): John Stewart, "Kinin receptor blockers"; Charles Ody, "Kinin receptors and receptor blockers: Direct binding studies"; Mel Schachter, "Competitive inhibition of kinin effect on vascular permeability"; Jim Burton, "Design and evaluation of specific tissue kallikrein inhibitors."

21 February. Future directions (Alberto Nasjletti, discussion leader): Donald DiBona, "Epithelial transporting events and peptide hormones"; William Rutter, "Protease structure and design"; Tom O'Donohue, "Regulation of expression of CNS peptides." Approximately 25 posters will be accepted and discussed. The first poster discussion will be Tuesday evening and the second on Thursday afternoon.

Dynamics of Macromolecular and Polyelectrolyte Solutions

Miramar Hotel

B. J. Ackerson, chairman; B. R. Ware, vice chairman.

17 February. (P. Meakin, discussion leader): D. A. Weitz, "The dependence of the cluster mass distribution on the kinetics of irreversible colloid aggregation"; J. E. Martin, "Dynamics of fractal aggregates of colloidal silica." (D. W. Schaefer, discussion leader): J. M. Deutch, "Selected topics in cluster growth"; R. J. Cohen, "Experimental

studies of diffusion-controlled cluster-cluster aggregation in colloids."

18 February. (T. P. Lodge, discussion leader): L. Leger, "Self-diffusion measurements in polymer systems"; T. Odijk, "On the interpretation of dynamic light scattering from polyelectrolyte solutions"; D. S. Cannell, "Universality in the static and dynamic properties of linear polymers in solution." (W. Burchard, discussion leader): S. J. Candau, "Quasi elastic light scattering of gels near the sol-gel transition"; M. Adam, "Quasielastic light scattering experiments on semidilute polymer solutions at the theta temperature."

19 February. (P. N. Pusey, discussion leader): C. W. J. Beenakker, "The influence of hydrodynamic interactions on transport properties of hard-sphere suspensions"; I. Snook, "Many body and effective two particle mobility tensors"; M. Fixman, "Dynamical problems in the theory of polymer solutions." (G. D. J. Phillies, discussion leader): N. A. Clark, "New results in cross-correlation spectroscopy"; P. M. Chaikin, "Diffusion in multicomponent systems."

20 February. (S. H. Chen, discussion leader): J. B. Hayter, "Scattering studies of systems with shear- or field-induced anisotropy"; R. Klein, "Structure and dynamics of charged colloids and micelles"; L. Magid, "Solutions of rod-like micelles at rest and under shear: LS and SANS studies." (H. Yu, discussion leader): C. S. Johnson, Jr., "Holographic relaxation spectroscopy—new techniques"; G. Maret, "Magnetic fields used to study the anisotropic structural and dynamic properties of polyelectrolytes."

21 February. (J. M. Schurr, discussion leader): B. R. Ware, "Diffusion in complex systems"; K. S. Schmitz, "The role of small ions in the interpretation of dynamic light scattering data."

Mammalian DNA Repair

Miramar Hotel

B. Singer, chairman; A. E. Pegg, vice chairman.

27 January. Persistence of damage in animal tissues and cultured cells (B. Singer, discussion leader); Oxidative damage and its repair (B. N. Ames, S. Linn, discussion leaders).

28 January. Enzymology of DNA repair in mammalian cells (I. R. Lehman, discussion leader); Recent work on heritable defects in DNA repair (J. E. Cleaver, discussion leader).

29 January. Role of alkyl transferases in protection from DNA damage (A. E.

Pegg, discussion leader); Inducibility of DNA repair in mammalian cells (W. C. Summers, discussion leader).

30 January. Effect of DNA structure and sequence on DNA repair (B. S. Strauss, discussion leader); DNA repair in lower eukaryotes (E. Friedberg, discussion leader).

31 January. Risk assessment: Can *Escherichia coli* be equated to the elephant? (R. B. Setlow, discussion leader).

Poster sessions Monday, Tuesday, and Wednesday, 27, 28 and 29 January.

Marine Natural Products

Casa Sirena Marina Hotel

William Fenical, chairman; Richard Moore, vice chairman.

3 February. Nobuhiro Fusetani, "Marine metabolites which inhibit development of echinoderm embryos"; Kenneth L. Rinehart, Jr., "Medically promising marine natural products." Yoshito Kishi, "Natural product synthesis"; Chris M. Ireland, "Secondary metabolism of tunicates that harbor symbiotic algae."

4 February. Carl Djerassi, "Research on marine lipids"; John C. Coll, "Chemical and biological implications of the natural products chemistry of soft corals." Robert S. Jacobs, "Anti-inflammatory and analgesic agents from colonial marine invertebrates"; contributed short papers.

5 February. Yuzuru Shimizu, "Dinoflagellate toxins"; K. C. Nicolaou, "Synthesis of brevetoxin B." Long Kanghou, "Studies of some bioactive metabolites from corals of the South China Sea"; contributed short papers.

6 February. Robert G. Salomon, "Synthesis of marine natural products"; Hideshi Nakamura, "Pharmacologically active substances from Okinawan marine organisms." Arthur Olson, "Studies of macromolecules using computer graphics approaches"; contributed short papers.

7 February. Yoko Naya, "Crustacean molt-inhibiting hormone; clown fish—sea anemone symbiosis"; Janice E. Thompson, "Environmentally induced diterpene variation in Great Barrier Reef sponges"; contributed short papers.

Metals in Biology

Miramar Hotel

Joan Selverstone Valentine, chairman; Thomas M. Loehr, vice chairman.

27 January. Biological dioxygen activation (John T. Groves, discussion leader): Raymond Weiss, "Cytochrome P450

models"; John R. Lindsay Smith, "Porphyrin models for cytochrome P450"; Timothy L. Macdonald, "Cytochrome P450 mechanism"; Thomas L. Poulos, "Cytochrome P450 structure." (Paul R. Ortiz de Montellano, discussion leader): Jay K. Kochi, "Oxygen atom transfer to organic substrates." Poster session on dioxygen activation and reduction, copper proteins, porphyrins and hemoproteins, and related topics.

28 January. Biological electron transfer (James K. Hurst, discussion leader): John R. Miller, "Long-range electron transfer studied by pulse radiolysis"; Brian M. Hoffman, "Long-range electron transfer within protein complexes"; Harry B. Gray, "Long-range electron transfer in metalloproteins"; Rudolph A. Marcus, "Theoretical approaches." (Barbara K. Burgess, discussion leader): Richard H. Holm, "Oxygen transfer in molybdoenzymes." Poster session on electron transfer, dinitrogen activation, physical techniques, and related topics.

29 January. Metals other than iron and copper (Jan Reedijk, discussion leader): Oren P. Anderson, "Metal chelate structures and calcium-selective binding"; Rudolf K. Thauer, "Nickel biochemistry"; K. V. Rajagopalan, "The molybdenum site in xanthine oxidase"; Jack Halpern, "Coenzyme B-12." (JoAnne Stubbe, discussion leader): Stephen J. Lippard, "Polynuclear iron-oxo proteins and models." Poster session on metal-nucleic acid interactions, nonheme iron, metals other than iron and copper, and related topics.

30 January. Molecular biological techniques and metal-nucleic acid interactions (Konrad Lerch, discussion leader): Dean H. Hamer, "Molecular biological studies of metallothioneins"; Gary J. Pielak, "In vitro mutagenesis of genes for cytochrome c and its peroxidase"; Jacqueline K. Barton, "Chiral metal complexes and DNA"; David S. Sigman, "Metal-catalyzed DNA degradation."

31 January. Porphyrins and chlorins (Jack Peisach, discussion leader): Antonio V. Xavier, "Coupled two-electron/proton transfer by multiheme cytochromes"; Teddy G. Traylor, "Model systems for heme enzymes"; Lewis M. Siegel, "Sulfite reductase"; Thomas M. Loehr, "Chlorins and chlorin-containing enzymes."

Organic Thin Films

Miramar Hotel

J. D. Swalen, chairman; Bernard Mayerson, vice chairman.

17 February. (K. Wynne, discussor

leader): G. M. Whitesides, "Organic chemistry of monolayer films, thin films, and polymer surfaces"; T. J. McCarthy, "Fluoropolymer surface chemistry." (M. Pomerantz, discussion leader): J. Klein, "Forces between surfaces with adsorbed polymers"; E. Kay, "Metal containing polymers."

18 February. (D. Mobius, discussion leader): G. Roberts, "Current research on the science and applications of Langmuir-Blodgett films"; M. Sugi, "Photoelectric effects in Langmuir-Blodgett dye films"; J. Sagiv, "Self-assembled monolayers." (A. Garito, discussion leader): G. Wegner, "Polydiacetylene-LB-films: Real structure, dye-doped systems and energy transfer studies"; J. Lando, "Studies of chemical reactions (including polymerization) monolayers and multilayers." Monday-Tuesday, David Saperstein, poster session chairman.

19 February. (J. Andrade, discussion leader): H. McConnell, "Structure of chiral monolayer crystals"; K. Dill, "Molecular organization in interfacial phases of short chain molecules"; H. Möhwald, "Lipid and protein organization in phospholipid monolayers." (M. Aizawa, discussion leader): I. Lundström, "Protein adsorption on solid surfaces-physical models"; J. Janata, "Use of thin organic layers in chemical sensors."

20 February. (G. Castro, discussion leader): D. Allara, "Chemistry and structure of organic molecular films at interfaces studied by vibrational spectroscopy"; J. Rabolt, "Molecular dynamics in thin films and at solid-solid interfaces by variable temperature IR and Raman spectroscopy"; P. Eisenberger, "X-ray studies of thin films: New opportunities." (R. R. Chance, discussion leader): J. Frommer, "Electronically conducting polymers viewed from the solution phase"; A. J. Heeger, "A new polymer, poly(isothianaphene), PITN."

21 February. (R. G. Kepler, discussion leader): R. L. Greene, "Organic conductivity and superconductivity"; N. Clark, "Interfacial phenomena of liquid crystals"; G. Stegeman, "Brillouin scattering in LB-films."

Chemistry and Biology of Peptides

Miramar Hotel

Bruce W. Erickson and Joel F. Habener, cochairmen.

3 February. Protein engineering (Jane Richardson, discussion leader): Jane Richardson, "Betabellin and felix"; William DeGrado, "Four-helical bundle

protein"; Bernd Gutte, "A crystalline DDT-binding polypeptide." Hormonal growth factors (Ralph Bradshaw, discussion leader): Ralph Bradshaw, "Epidermal growth factors"; Gordon Gill, "Epidermal growth factor receptor"; Eric Shooter, "Nerve growth factors."

4 February. Cardioregulatory peptides (Michael Rosenblatt, discussion leader): Michael Rosenblatt, "Atrial natriuretic factors"; Dietmar Richter, "Vasopressin gene expression"; Pierre Corval, "Renin angiotensin system." Peptide chemistry (Bruce Merrifield, discussion leader): Daniel Rich, "Cyclosporins"; Jack Johanssen, "Enzyme-catalyzed peptide synthesis"; Richard Hiskey, "Carboxyglutamyl peptides."

5 February. Neuropeptides (Floyd Bloom, discussion leader): Floyd Bloom, "Peptide actions in the brain"; Thomas Jessel, "Behavioral actions of *Aplysia* peptides"; Jacques Glowinski (subject to be announced). Computational chemistry (Garland Marshall, discussion leader): Martin Karplus, "Realities of molecular dynamics"; Michael James, "Realities of modeling by homology"; Garland Marshall, "Realities of molecular modeling."

6 February. Peptide antigens (Mario Geysen, discussion leader): Mario Geysen, "Detailed mapping of antibody specificity"; Richard Houghton, "Antigen-antibody interactions"; Sandra Smith-Gill, "Antibody structure and specificity." Selected poster summaries (Ralph Hirschmann, discussion leader).

7 February. Tumor growth factors (George Todaro, discussion leader): George Todaro, "Orthogenes"; Michael Sporn, "Oncogenes"; Edward Scolnick, "Tumor-derived peptides"; David Goeddel, "Tumor-inhibitory peptides."

Photoconductivity and Related Phenomena

Miramar Hotel

Mark S. Wrighton, chairman; Robert C. Hughes, vice chairman.

24 February. (M. Pope, discussion leader): M. Abkowitz, "Dispersive charge transport in amorphous materials"; H. Scher, "Band tail diffusion and photoluminescence in amorphous Si:H"; Poster session. (L. B. Schein, discussion leader): C. T. Wronski, "Photoconductivity in amorphous Si and Ge/Si superlattices"; H. Fritzsche, "Problems concerning the photoconductivity in amorphous semiconductors and superlattices."

25 February. (R. Chance, discussion leader): F. Wudl, "Synthesis and prop-

erties of new conducting polymers"; R. J. Silbey, "Recent theoretical studies of polymer electronic structure and conduction"; Poster session. (G. B. Street, discussion leader): J. Frommer, "Conducting polymer solutions"; A. J. Heeger, "Picosecond photoconductivity in conductive polymers."

26 February. (R. H. Wilson, discussion leader): N. S. Lewis, "Photoelectrochemical cells based on III-V semiconductors"; A. J. Nozik, "Quantization effects in photoelectrochemistry"; Poster session. (D. F. Eaton, discussion leader): B. M. Hoffman, "Long-range electron transfer in protein complexes"; D. Möbius, "Photoinduced electron transfer in monolayer assemblies."

27 February. (M. S. Wrighton, discussion leader): T. C. McGill, "Superlattices: New infrared materials"; R. Baron, "New aspects of IR photoconductors"; R. M. Westervelt, "Nonlinear dynamics and deterministic noise in extrinsic photoconductors." (C. L. Braun, discussion leader): E. Maruyama, "Transport phenomena and effect of impurities in chalcogenide glasses"; K.-Y. Law, "Effects of synthesis on the xerographic properties of photoconductive squaraines."

28 February. (R. C. Hughes, discussion leader): S. R. Kurtz, "Electronic transport and trapping in polyethylene terephthalate films"; L. B. Schein, "Charge transport phenomena in molecularly doped polymers (DEH in polycarbonate)."

Chemistry of Plant Herbivore Interactions

Casa Sirena Marina Hotel

D. S. Seigler, chairman; Guy Bush, vice chairman.

20 January. Responses of vertebrate herbivores to plant chemistry (Peter Waterman, discussion leader): Russell Molyneux, "Effect of pyrrolizidine and indolizidine alkaloids on herbivores"; Timothy Johns, "The detoxification function of geophagy by humans and the switch from foraging to domestication"; Kjell Danell, "Interactions between mammalian herbivores and woody plants"; Norman C. Negus, "The role of plant chemicals as cues in mammalian life history tactics." (David Rhoades, discussion leader): John Lawton, "Rapidly induced defenses and talking trees: Fact, artifact or somewhere in between?"

21 January. Effects of plant secondary compounds on herbivore and plant populations (Erkki Haukioja, discussion leader): George Batzli, "Translating plant

chemistry into population biology"; Svata Louda, "Chemical variation and the influence of insect herbivory on plant population dynamics"; Mark Rausher, "Effects of plant secondary compounds on insect evolution: Avoidance versus resistance"; Fred Gould, "Genetics of chemically mediated coevolution of plants and herbivores." (Mark Schroeder, discussion leader): Masakazu Miyakado, "The search for new agrochemical compounds from natural sources."

22 January. The role of microbes in plant-herbivore interactions (Guy Bush, discussion leader): Mike Martin, "The role of acquired fungal enzymes in insect nutrition"; Don Wicklow, "Chemical defense systems in fungi"; David Wiemer, "The roles of secondary chemicals in the ant-fungus mutualism of the attine ants"; A. C. Oehlschlager, "Role of microbes in the production of pheromones in bark beetles." (Elizabeth Bernays, discussion leader): Wally Blaney, "How insects perceive antifeedants in plants."

23 January. Chemical specificity and coevolved systems (Paul Feeny, discussion leader): Frank Stermitz, "Comparative chemical analyses of a specialist plume moth, *Platyptilia pica* (Lepidoptera: Pterophoridae) and its *Castilleja* (Scrophulariaceae) host plants"; Deane Bowers, "The biological roles of iridoid glycosides in plant-herbivore systems"; Michael Wink, "Role of alkaloids in plant-herbivore interactions with special reference to quinolizidine alkaloids"; Robert Metcalf, "Cucurbitacins and Diabrotid beetles." (D. S. Seigler, discussion leader): Terry L. Graham, "Genetic and metabolic engineering for plant pest resistance."

24 January. Chemistry, herbivory and higher trophic levels (Peter Price, discussion leader): Ken Raffa, "Interacting selective pressures in conifer-bark beetle systems"; Diane Davidson, "The chemical ecology of ant-plant interactions"; Sean Duffy, "Consequences of transmission of plant natural products through insect/parasitoid trophic levels"; S. Brad Vinson, "The direct effect of plant allelochemicals on parasitoids versus their effect through the host."

Polymers

Miramar Hotel

Isaac C. Sanchez, chairman; Shiro Matsuoka, vice chairman.

6 January. (J. W. Cahn, discussion leader): J. Klein, "Surface forces with adsorbed polymers: Measurements and models"; F. Rondelez, "Static and dy-

namic properties of semiflexible polymers near a solid wall." (S. Matsuoka, discussion leader): Invited poster session.

7 January. (W. W. Graessley, discussion leader): G. B. McKenna, "Linear viscoelastic properties of cyclic polystyrenes in the melt"; G. Hadziioannou, "Conformational and diffusional properties of cyclic macromolecules"; S. F. Edwards, "A simple theory of thermodynamics and relaxation of glasses." (J. P. Kennedy, discussion leader): T. Saegusa, "Block and graft copolymers of 2-oxazolines: Polymerization chemistry and versatile features"; T. McCarthy, "Organic chemistry at polymer surfaces."

8 January. (M. Tirrell, discussion leader): L. Leibler, "From linear chains to model networks: Recent experimental and theoretical studies of the gelation of polymer solutions"; T. Tanaka, "Phase transitions of gels: Kinetics, instability, and reentrant phenomena." (D. R. Paul, discussion leader): C. C. Han, "Phase separation kinetics in polymer blends (PS/PVME)"; T. Hashimoto, "Aspects of phase separation in polymer blends."

9 January. (D. J. Meier, discussion leader): E. L. Thomas, "Stars and diamonds! The ordered bicontinuous solid-state morphology of multiarmed diblock copolymers"; G. Reiss, "Surfactant properties of block copolymers: design of multiphase polymeric materials." (S. Matsuoka, discussion leader): W. H. Stockmayer, "Historical byways (and dead ends) in polymer science."

10 January. (M. C. Williams, discussion leader): J. T. Koberstein, "Polymeric surfaces and interfaces"; R. M. Briber, "Phase diagram and morphology of blends of polyvinylidene fluoride and polyethylacrylate."

Polymers for Biomedical and Agricultural Application

Casa Sirena Marina Hotel

Charles G. Gebelein, chairman; Donald J. Casey, vice chairman.

24 February. Agricultural applications; blood compatibility considerations.

25 February. Ophthalmological applications; controlled release of drugs.

26 February. Orthopedic applications; pseudo-enzymes and pseudo-nucleic acids.

27 February. New polymeric biomaterials; agricultural applications.

28 February. Artificial organ applications.

Discussion leaders and speakers to be announced.

Prolactin

Miramar Hotel

Janet M. Nolin, chairman; Richard J. Weiner, vice chairman.

3 February. Opening remarks: R. W. Bates. A new prolactin target—the immune system (G. Campbell and S. Michael, discussion leaders): I. Berczi, “Prolactin as an immunoregulatory hormone”; G. Campbell, “Influence of prolactin on lymphogenesis”; D. Russell, “Modulation of immune function by prolactin: inhibition of prolactin-receptor coupling by cyclosporine”; S. Michael, “Summary and new directions.” Prolactin as multifarin, I (R. Adler and S. Melmed, discussion leaders): H. Carlson, “Dietary regulation of prolactin secretion”; R. Adler, “Effects of prolactin on bone”; W. Frey, “Prolactin in the human lacrimal gland: Implications for tear production”; M. Youdim, “Autoregulation of prolactin receptor in the lung: Implications for surfactant synthesis.”

4 February. The chemistry of prolactin and prolactin-like molecules (F. Talamantes and L. Haro, discussion leaders): H. Kawauchi, “Biochemistry of salmon prolactin”; U. J. Lewis, “Glycosylated prolactin”; J. Southard, “Rodent placental lactogens”; D. Linzer, “Proliferin, a new member of the prolactin/growth hormone family.” Prolactin and the male pituitary, brain and reproductive tract (A. Bartke and C. Lee, discussion leaders): J. Larsen, “Acute hyperprolactinemia: Effects on LH and FSH pulsation patterns in the male”; P. C. Doherty, “CNS involvement in the effects of hyperprolactinemia on male sexual behavior”; R. J. Barkey, “The role of prolactin and the regulation of its receptors in the rat testis and accessory sex glands”; W. O'Dell, “Prolactin and the male reproductive system.”

5 February. Prolactin and the female brain (R. R. Gala and D. Lawson, discussion leaders): M. Freeman, “Mating-induced prolactin release—from cervix to brain”; R. R. Gala, “CNS regions involved in the afternoon surge of prolactin”; A-L. Barofsky, “Distribution of 5-HT neurons regulating suckling-induced prolactin release”; R. Bridges, “Prolactin and maternal behavior.” Prolactin and the ovary (A. Brodie and J. Hammond, discussion leaders): B. Murphy, “The role of prolactin in supplying extracellular substrate for steroid synthesis by the corpus luteum”; A. Hsueh, “Prolactin regulation of granulosa cell differentiation”; J. Dorrington, “Direct effects of prolactin on granulosa cell differentiation”; A. Brodie, “In vivo ef-

fects of prolactin on granulosa cells.”

6 February. Prolactin as multifarin, II (R. Collier and H. Bern, discussion leaders): D. Coulter, “Prolactin and the neonatal water and electrolyte reservoir”; J. Buntin, “Central and peripheral effects of prolactin on behavior and reproductive function in birds”; J. Specker, “Characterization of a pair of prolactins produced by a cichlid fish”; F. Stevens and G. Theintz, “Prolactin, the gut and disease: A controversy.” P. Malven, “Intracellular and transcellular mammary gland prolactin.”

7 February. The actions of prolactin on molecular processes (J. Rillema and C. Nicoll, discussion leaders): N. Horseman, “Gene regulation and mitogenesis in crop tissue”; F. Bolander, “Prolactin and poly ADP-ribosylation in mammary gland differentiation”; J. Rillema, “Role of phospholipases in the actions of prolactin on mammary tissue”; C. Brooks, “Phosphorylation reactions in the mammary gland.” Poster presentations are welcome. Send abstracts to chair-elect Richard I. Weiner, Department of OB/GYN, University of California, San Francisco 94143.

Quantitative Genetics and Biotechnology

Miramar Hotel

Michael Grossman, chairman; Eugene J. Eisen, vice chairman.

20 January. (E. J. Eisen, discussion leader): A. Robertson, “Animal improvement through genetic engineering”; G. E. Seidel, Jr., “Applications and interpretations of experiments with mammalian embryos.” (F. D. Enfield, discussion leader): W. G. Hill, “Site mutations and selection response.”

21 January. (C. O. Gardner, discussion leader): E. D. Earle, “Somaclonal variation as a resource for plant breeders”; C. W. Stuber, “Use of molecular techniques for investigating, manipulating, and improving quantitative traits in plants.” (J. Nagai, discussion leader): B. S. Weir, “Characterizing genetic variation at the DNA level.”

22 January. (A. E. Bell, discussion leader): M. Soller, “Restriction fragment length polymorphisms in plant and animal genetic improvement”; A. L. Kahler, “Relationships between enzyme marker loci and quantitative traits.” (G. A. E. Gall, discussion leader): C. L. Markert, “New insights in animal breeding from molecular investigations in biotechnology.”

23 January. (D. L. Harris, discussion leader): B. R. Burr, “Mutational and

molecular analyses of highly variable inbred lines of maize”; R. W. Allard, “The population biology of restriction fragment length polymorphisms: Implications in plant breeding.” (M. Grossman, discussion leader): A. L. Young, “Federal support for biotechnology: Controversies and challenges.”

24 January. (G. E. Dickerson, discussion leader): L. D. VanVleck, “Quantitative genetics and biotechnology: Economic implications”; N. S. Feuchheimer, “The roles of quantitative genetics and biotechnology in animal breeding.”

Sensory Transductions in

Microorganisms

Casa Sirena Marina Hotel

David L. Nelson, chairman; John L. Spudich, vice chairman.

27 January. Peter Devreotes, “Role of receptor modification in transmembrane signaling in dictyostelium”; James A. Spudich, “Regulation of dictyostelium myosin by phosphorylation”; Yoshio Fukui (subject to be announced). Peter Satir, “Switching mechanisms in the movement of *Paramecium*”; Joachim Schultz, “Regulation of adenylate and guanylate cyclases of *Paramecium*.”

28 January. John Spudich, “Sensory rhodopsin in halobacterium”; Kenneth W. Foster, “Role of rhodopsin in *Chlamydomonas* phototaxis”; Wayne Hubbel, “Molecular aspects of rhodopsin function.” Sandy Parkinson, “Structure-function analysis of chemotactic transducers in *Escherichia coli*.”

29 January. (Julius Adler, discussion leader): Dan Koshland (subject to be announced): R. S. Wolfe, “Chemotactic signaling in *Escherichia coli*”; Mel Simon, “Structure and function of bacterial signal transducers.” (John Spudich, discussion leader): Howard Berg, “Thoughts on flagellar rotation”; Gerald Hazelbauer, “Occurrence of homologous transducers through the bacterial kingdom studied immunologically.”

30 January. Ed Lipson, “Biochemical and biophysical analysis of phototropism in *Phycomyces*”; Pill-Soon Song, “Photosensory transductions in *Stentor*”; Barry Taylor (subject to be announced). Robert McNab, “Structural and genetic studies of the flagellar motor of *Salmonella*”; Lucy Shapiro, “Regulation of fla and che genes in *Caulobacter*.”

31 January. Peter Greenberg, “Coordination of motility in spirochaeta”; Barry Taylor (subject to be announced); Judith Armitage, “Tactic responses in *Rhodospseudomonas sphaeroides*.”