Gordon Research Conferences

Alexander M. Cruickshank

The Winter Gordon Research Conferences will be held 2 January to 30 March at the Doubletree Hotel (telephone: 805-643-6000), 2055 Harbor Boulevard, Ventura, California, and 8 January to 23 March at the Casa Sirena Marina Hotel (telephone: 805-985-6311), 3605 Peninsula Road, Oxnard, California. **Attendance limited—recommend applicants apply immediately for early consideration by chairperson**. Attendance limited—recommend applicants apply immediately for early consideration by chairperson.

Requests for applications to the Conferences, or for additional information, should be addressed to: Dr. Alexander M. Cruickshank, Director, Gordon Research Conferences, Gordon Research Center, University of Rhode Island, Kingston, RI 02881-0801. Telephone: 401-783-4011 or 401-783-3372.

Alcohol

Casa Sirena Marina Hotel

D. H. Van Thiel, chairperson; R. E. Tarter, vice chairperson

5–9 February

Alcohol and antioxidants: A. Cederbaum, chairperson

Mechanisms of neurologic injury: I. Diamond, chairperson

Long-term effects of the fetal alcohol syndrome: C. Randall, chairperson

Biobehavioral mechanisms of tolerance: Y. Israel, chairperson

Technology transfer: Applying science to public policy: E. Gordis, chairperson

Roundtable discussion: H. Kleber, chairperson

Genetics of alcohol use and alcoholism: T.-K. Li, chairperson

Cognitive-pharmacological interactions: P. Nathan, chairperson

Gender specific effects of alcohol and abuse: D. H. Van Thiel, chairperson

Alcohol-related problems in protein metabolism: M. Rothschild, chairperson

Angiotensin II

Casa Sirena Marina Hotel

K. Catt, chairperson; C. Ferrario, vice chairperson

19–23 February

Molecular biology of the renin-angiotensin system: K. Yamamoto, discussion leader

J. Baxter, "Molecular biology of renin and its gene."

K. Murakami, "Expression of human renin and angiotensin genes in transgenic mice."

V. Dzau "*cis* and *trans* factors in regulation of tissue-specific expression of renin."

P. Corvol, "Site-directed mutagenesis of human angiotensin converting enzyme."

Renin-angiotensin and growth regulation: G. Aguilera, discussion leader

K. Gross, "Renin as a marker for renal smooth muscle cells."

H. Abboud, "Regulation of mesangial cell growth by vasoactive peptides and growth factors."

Angiotensin II receptors: Structure and function: K. Lynch, discussion leader

M. Hanley, "Multiple angiotensin II receptors: Structure and mechanisms."

K. Sandberg, "Expression of angiotensin II and ANP receptors in *Xenopus* oocytes."

J.-C. Bonnasous, "Purification of the angiotensin II receptor."

Angiotensin II receptor substypes: J. Douglas discussion leader

A. Chiu, "Characterization of angiotensin II receptor subtypes."

N. Ruiz-Opazo, "Vasopressin V_2 and angiotensin IIB receptors are encoded by a single polypeptide."

Angiotensin II and phosphoinositide metabolism: T. Balla, discussion leader

R. Irvine, "Inositol polyphosphates and calcium homeostasis."

W. Alexander, "Vasactive hormones, diacylglceride production and C-kinase activation in smooth muscle cells."

J. Garrison, "Effects of EGF and v-*src* oncogene on inositol polyphosphate metabolism."

Receptors and actions of atrial natriuretic peptides: J. Lewicki, discussion leader

M. Chinkers, "Mechanisms of regulation of guanylate cyclase receptors."

D. Goeddel, "Differential activation of membrane guanylate cyclases by atrial natriuretic peptides."

P. Barrett, "Modulation of calcium channels by atrial natriuretic peptide."

Angiotensins II and calcium signaling: A. Spät, discussion leader

J. Putney, "Regulation of calcium entry by peptide agonists."

A. Capponi, "Biochemical events and subcelluar structures involved in activation of steriodogenesis by angiotensin II."

J. Smith, "Sodium-dependent events in calcium regulation by angiotensin II."

E. Blaine, "Renin-angiotensin antagonists."

J. Menard, "Biochemical definition of blockade of the renin-angiotensin system."

P. Wong, "Orally active non-peptide angiotensin receptor antagonists."

Angiotensin II and neural function: C. Ferrario, discussion leader

I. Phillips, "Functions of the brain renin-angiotensin system."

E. Mendelsohn, "Angiotensin in the human nervous system."

B. Brosnihan, "Pathways of angiotensin metabolism in the brain."

Bioanalytical Sensors

Doubletree Hotel

T. Kuwana, chairperson; J. Peterson, vice chairperson

12–16 March

J. Higgins, "Biosensors: Exploring the limits."

M. Meyerhoff, "Enzyme-linked binding assays in biosensing: Principles, chemistry, and analytical capabilities."

D. R. Walt, "Enzyme immobilization methods for optical biosensors."

A. Heller, "Electrical wiring of enzymes with redox macromolecules."

S. G. Weber, "Calibration, sensitivity and reversibility—the generic sensor problems."

S. J. Choquette, "Optical waveguide biosensors."

R. Thompson, "Improving the sensitivity of waveguide-binding fiber optic biosensors."

R. White, "Biosensing with ultrasonic waves in a thin membrane."

M. D. Ward, "Piezoelectric experimental detection of biological targets via mass amplification."

M. Aizawa, "Homogeneous immunoassay by electrochemical luminescence."

I. M. Walczak, "High sensitivity evascent wave fluorescence immunoassay."

M. E. Eldefrawi, "Acetylcholine receptor based optical fiber biosensor."

J. W. Parce, "Cellular responses to biological effector molecules monitored with a biosensor."

H. Y. Wang, "Automated bioscreening system using cellular bioelectrodes."

M. Porter, "Organized monomolecular assemblies on electrode surfaces."

R. Buck, "Neutral carrier electrodes for phoshate monitoring."

J. Jordan, "Chronoamperometric biosensors for glucose and theophylline."

G. Wilson, "Problems and challenges in the development of an implantable glucose sensor."

K. Kurihara, "Molecular mechanisms of olfaction and taste: Application to artificial membrane sensor."

P. Yager, "Lipid-based optical sensor for detector of anesthetics and other small organic molecules."

Composites

Doubletree Hotel

A. T. DiBenedetto, chairperson; A. Gent, vice chairperson

2–6 January

D. Scola, discussion leader

F. Harris, "New polyimide resins for composite materials."

J. McGrath, "Toughened thermoplastic and thermoset matrices for composites."

1990 Winter Schedule

	Doubletree Hotel	*Casa Sirena Marina Hotel*
2–6 January	Composites	
8–12 January	Polymers	Properties of the Solid Hydrogen
15–19 January	Electrochemistry	Sensory Transduction in Microorganisms
22–26 January	Metals in Biology	Isotopes in the Physical and Life Sciences
29 January–2 February	Oxygen Radical in Biology	Prolactin
5–9 February	Peptides	Alcohol
12–16 February	Organic Thin Films	Macromolecular and Polyelectrolyte Solutions
19–23 February	Marine Natural Products	Angiotensin
26 February–2 March	Electronic Materials	Magnesium in Biochemical Processes
5–9 March	Nondestructive Evaluation	Immunobiology and Immunochemistry
12–16 March	Bioanalytical Sensors	Crystal Growth
19–23 March	Superconductivity	Polymers for Biosystems
26–30 March	Thrombolysis	

The author, director of the Gordon Research Conferences, is professor emeritus of chemistry, University of Rhode Island, Kingston 02281-0801.

A. Crowson, discussion leader

J. Lankford, "Micromechanics studies using steroimaging, STM and other techniques."

S. Suib, "Spectroscopic methods of characterizing ceramic composite interfaces."

J. Halpin, discussion leader

E. Baer, "Failure and fracture of polymer multilayer composites."

A. Yee, "Toughening concepts in composite materials."

W. M. Sanford, "Thermoplastic molecular composites."

R. Farris, discussion leader

C. Tucker, "Flow problems in composite materials processing."

M. Folkes, "Short fiber versus in situ fabricated composites."

A. Gent, discussion leader

G. Sendeckyj, "Life prediction for resin matrix composites."

J. Achenbach, "Quantitative non-destructive evaluation of fiber reinforced composites."

R. Kander, "Damage accumulation in glass reinforced composites using acoustic emission."

M. Narkis, discussion leader

R. Porter, "Adsorption of thermoplastic matrices on continuous fiber composites."

R. Allred, "Plasma treatments of carbon fibers."

S. Sternstein, discussion leader

J. Diefendorf, "Selection, fabrication and property analysis of ceramic composite compounds."

D. Marshall, "Relation between structure and properties of ceramic composites."

Panel discussion: W. Bradley, presiding

Fracture toughness testing of fiber composite laminates: T. K. O'Brien, P. Davies, discussants

L. Nicolais, discussion leader

J. Kardos, "Theoretical and experimental studies of devolatilization of thermoplastic composites."

D. Cairns, "Multidimensional process modeling of thermoset resin curing in fiber reinforced composites.

R. Powell, "Impregnation of fiber bundles.

Crystal Growth

Casa Sirena Marina Hotel

M. Brown, chairperson; M. A. DiGiuseppe, vice chairperson

Crystals for Electronic, Optical and Superconducting Applications

12-16 March

Thin film growth: Experimental: D. W. Kisker, discussion leader

S. Irvine, "Energy-assisted epitaxial growth of II–VI semiconductor thin films."

E. Bauser, "Semiconductor liquid phase epitaxy: Growth and properties of layers and heterostructures."

M. L. Steigerwald, "Growth of quantum cluster."

II–VI compounds: A. L. Gentile, discussion leader

T. Taguchi, "Growth of strained-layer-superlattices of wide-gap ZnS-ZnSe and CdZnS-ZnS by low pressure OMCVD."

A. Zunger, "Phase diagram calculations and electronic structure of II–VI compounds."

Short verbal presentation of poster papers: R. A. Laudise, discussion leader

Thin film growth/interfaces: Modeling: W. A. Tiller, discussion leader

F. Rosenberger, "Modeling of growth morphology with anisotropic surface kinetics."

G. H. Gilmer, "Molecular dynamics studies of heterointerfaces."

High T_c superconductors: E. A. Giess, discussion leader

D. A. Cardwell, "Properties and processing of high T_c superconductors."

L. Schneermeyer, "Crystal growth of high T_c superconductors from melts."

R. S. Feigelson, "Growth of high T_c superconducting fibers."

Crystals for photonics: G. Loiacono, discussion leader

R. H. Hopkins, "Crystals for mid-infrared, acousto-optic and non-linear applications."

D. Eimerl, "Crystal growth and properties of non-linear optical materials for visible and ultraviolet applications."

Melt growth: Modeling: D. T. J. Hurle, discussion leader

M. E. Glicksman, "Melt growth/dendritic fundamentals."

A. A. Wheeler, "Analytical modeling of melt growth processes."

J. Volkl, "Modeling dislocation generation in Czochralski crystal growth of semiconductors.

Melt growth: Experimental: W. A. Bonner, discussion leader

K. Tada, "Growth and characterization of InP single crystals."

R. Henry, "Float zone growth of GaAs."

Characterization: F. Szofran, discussion leader

K. Sangwal, "Etching of crystals."

P. H. Fuoss, "The atomic nature of epitaxy: Using x-ray analysis to understand OMCVD growth."

H. P. Strunk, "Electron microscopy of semiconductors."

Special item: Exhibition and report of recent crystals grown at the Shanghai Institute of Ceramics, China, given by Professor He Chong-Fan.

Electrochemistry

Doubletree Hotel

M. J. Weaver, chairperson; B. Parkinson, vice chairperson

15–19 January

C. R. Leidner, discussion leader

C. R. Martin, "Electrochemical synthesis of ultrathin film composite membranes."

P. Bartlett, "Application of modified electrodes in bioelectrochemistry."

E. Stuve, discussion leader

F. T. Wagner, "Modeling the electrochemical double layer in ultrahigh vacuum."

A. Wieckowski, "Adsorption equilibria and dynamics by the use of radioactive labeling and surface NMR."

D. Scherson, discussion leader

D. Kolb, "Surface reconstruction in electrochemistry."

A. Hamelin, "Inner layer capacity-charge density relations for single-crystal surfaces."

F. Anson, discussion leader

H. Taube, "Redox chemistry of organometallic species based on osmiumammines."

B. Geiger, "Mechanisms of two-electron transfers."

D. Evans, discussion leader

C. Chidsey, "Molecular electron transfer and in situ STM at electrodes."

M. Ward, "In situ mass measurements with the quartz crystal microbalance."

L. Faulkner, discussion leader

N. Armstrong, "Electrochemistry and photoelectrochemistry at thin molecular films."

T. Mallouk, "Electrochemistry and photoelectrochemistry in well-ordered surface microstructures."

F. Hawkridge, discussion leader

C. Lieber, "Atomic resolution STM studies of surface structure and electronic properties of low-dimensional materials."

M. Porter, "Monomolecular assemblies at electrodes."

R. Corn, "Second harmonic generation and FTIR studies of surface molecular orientation and conformation."

J. Hupp, "Dynamic structural effects in intramolecular electron-transfer reactions."

C. Koval, discussion leader

N. Lewis, "Chemistry and physics of the semiconductor/liquid interface."

B. Parkinson, "Surface chemistry and scanning tunneling microscopy of two-dimensional materials."

Chemistry of Electronic Materials

Doubletree Hotel

P. M. George, chairperson; S. Williams, vice chairperson

26 February–2 March

Current reends in the chemistry of electronic materials: S. Williams, discussion leader

A. Cho, "UHV processing of electronic material."

A. Sinha, "A comparison of lithography processes."

K. Carey, "Opto-electronic material."

III–V materials: H. Metiu, discussion leader

P. Petroff, "Formation of quantum wires."

D. Aspnes, "OMCVD growth of GaAs."

Laser and ion beam processing: K. Janda, discussion leader

M. Stuke, "Laser processing of material."

J. Greene, "Ion beam processing."

F. Houle, "Mechanisms of laser etching."

Updates in the formation of electronic material: J. Butler, discussion leader

K. Spear, "Diamond films."

K. Kitizawa, "High T_c superconductors."

Recent advances in scanning tunneling microscopy: A. Bard, discussion leader

B. Kaiser, "STM of interfaces."

J. Boland, "Chemistry on semiconductors."

T. Sakurai, "FI-STM."

Physics and chemistry of defects: J. Yates, discussion leader

J. Chadi, "Defects in II–VI and III–V materials."

Y. A. Chang, "Interdiffusion at interfaces."

Heterojunctions: D. W. Goodman, discussion leader

M. Nicolet, "Contacts to Si and GaAs."

M. Olmstead, "Insulator-semiconductor structures."

N. Lewis, "Semiconductor-liquid interfaces."

Gas-semiconductor surface interactions: P. Gillis, discussion leader

W. Ho, "Reactions on Si and GaAs."

IMPORTANT—PLEASE NOTE

FAX No. 401-783-7644; Bitnet Address: BCP101@URIMVS

Fixed Conference Fees—Winter 1990

Conferee (double occupancy)	$435
($385 if postmarked 3 weeks prior to conference)	
Conferee (single occupancy)	$545
($495 if postmarked 3 weeks prior to conference)	
Guest (double occupancy)	$325
($275 if postmarked 3 weeks prior to conference)	
Guest (single occupancy)	$435
($385 if postmarked 3 weeks prior to conference)	

1) Full fixed fee charged regardless of time conferee attends Conference.

2) Fixed fee cannot be prorated or reduced for anyone (speakers, discussion leaders, conferees).

3) Children under 12 years of age are not permitted in the meeting rooms, dining rooms, or dormitories at any host sites.

J. Hemminger, "Reactions on compound semiconductors."

Panel on future trends in chemistry of electronic materials: D. Nelson, discussion leader

Panel: S. Williams, H. Metiu, K. Janda, J. Butler, A. Bard, J. Yates, W. Goodman, P. Gillis

Immunobiology and Immunochemistry

Casa Sirena Marina Hotel

S. M. Hedrick, chairperson; J. Allison, vice chairperson

5–9 March

B cell development: P. Kincade, chairperson

R. R. Hardy, D. G. Osmond, speakers

Intracellular signals involved in the control of lymphocyte activation: T. DeFranco, chairperson

G. Crabtree, B. Sefton, speakers

Molecular events in lymphocyte differentiation–1: D. Baltimore, chairperson

K. Calame, M. Neuberger, L. Staudt, speakers

Molecular events in lymphocyte differentiation–2: F. Alt, chairperson

D. Schatz, T. Honjo, speakers

Antigen presentation: A. Sette, chairperson

A. Townsend, D. Wiley, speakers

Origin and functions of γ/δ-bearing T cells: J. Allison, chairperson

W. Born, speaker

T cell development: S. Hedrick, chairperson

C. Guidos, B. J. Fowlkes, speakers

Homing receptors in the immune system: I. Weissman, chairperson

M. Siegelman, S. Rosen, speakers

Superantigens: MIs, bacterial toxins, others: J. Kappler, chairperson

M. Betley, speaker

Isotopes in the Physical and Life Sciences

Casa Sirena Marina Hotel

M. M. Kreevoy, chairperson; J. Hogg, vice chairperson

22–26 January

Enzymatic reactions: J. Hogg, session chairperson

W. W. Cleland, "^{18}O isotope effects on phosphoryl transfer."

J. Blanchard, "Isotopic probes of the reactions of glutathione reductase."

Enzymatic reactions: J. Hogg, session chairperson

V. Anderson, "Determination of intermediate structures in the lactate dehydrogenase reaction."

D. Northrup, "Exploiting changes in the expression of kinetic isotope effects on enzyme catalyzed reactions."

Isotopically enhanced NMR spectroscopy of biological materials:

J. Schaefer, "^{13}C and ^{15}N NMR of biological solids."

A. Bax, "New solution NMR techniques providing insights into the structure of stable, isotope-labeled proteins."

Isotopic probes of structure in biological systems: W. W. Cleland, session chairperson

Y. M. Varshavsky, title to be announced

Isotopic probes of double proton transfers: M. Kreevoy, session chairperson

P. Ahlberg, title to be announced

H.-H. Limbach, "NMR studies of kinetic HH/HD/DD isotope effects in intra- and inter-molecular double proton transfers."

Unusual isotope effects: V. J. Shiner, session chairperson

T. Meyer, "H/D kinetic isotope effects in hydrogen atom and hydride transfer."

Isotope effects in polymer systems: W. A. Van Hook, session chairperson

G. D. Rignall, "Small angle neutron scattering studies of deuterium-labeled polymers."

F. S. Bates, "Exploiting isotope effects in polymers."

W. A. Van Hook, "The effect of H/D substitution, pressure, and solute molecular weight distribution on liquid-liquid equilibria in polymer-solvent systems."

Isotopic probes of the chemistry of the atmosphere: M. Kreevoy, session chairperson

C. M. Stevens, "Isotopic studies of atmospheric CO and CH_4."

K. Mauersberger, "Isotopic fractionation of O_3: Laboratory and stratospheric measurements."

A priori calculation of isotope effects: M. Wolfsberg, session chairperson

Speakers and subjects to be announced.

Titles of proposed posters should be sent to Dr. M. M. Kreevoy, Department of Chemistry, University of Minnesota, 207 Pleasant Street, SE, Minneapolis, MN 55455.

Dynamics of Macromolecular and Polyelectrolyte Solutions

Casa Sirena Marina Hotel

L. Magid, chairperson; P. Pusey, vice chairperson

12–16 February

S. J. Candau, discussion leader

J. Penfold, "The study of nonionic and mixed nonionic/cationic micelles aligned by a shear flow by small angle neutron scattering."

H. Hoffman, "Shear-induced micellar structures."

P. Schurtenberger, "Novel properties of polymerlike reverse micelles—a light and neutron scattering study."

S. H. Chen, discussion leader

B. Farago, "Microemulsion droplet fluctuations seen by neutron spin echo."

R. Strey, "Structural aspects of microemulsions."

J. Huang, discussion leader

T. Witten, to be announced.

S. J. Candau, "Dynamic and elastic properties of poly(acrylic acid) gels."

E. Amis, "Dilute solution viscoelasticity of polyelectrolytes."

W. Burchard, discussion leader

J. Huang, "Study of dynamics of star-branched polymers by neutron spin echo spectroscopy."

J. Higgins, "Dynamics of associating polymers in solutions: Neutron and light scattering results."

J. Hayter, discussion leader

W. van Megen, "Measurement of particle motions in concentrated dispersions by dynamic light scattering."

W. Russel, "Dynamics of disorder-order transitions—comparison of hard and soft spheres."

J. Wilcoxon, "Structure and dynamics of colloids formed in complex media."

E. Amis, discussion leader

G. Maret, "Multiple light scattering: Coherent backscattering and QELS from interacting Brownian spheres."

D. Weitz, "Diffusing wave spectroscopy."

C. Knobler, discussion leader

A. Parsegian, "Directly measured coupling between intermolecular forces and molecular disorders in polymer arrays."

R. Pecora, "Studies of the dynamics of oligonucleotides and DNA restriction fragments."

H. Möhwald, "Transition of domain pattern and structure in lipid monolayers."

Themes from poster session: N. Ise, discussion leader

B. Ackerson, discussion leader

B. Ware, "Lateral mobility in polymerized Langmuir-Blodgett films."

P. Pusey, "Dynamic light scattering by nonergodic media."

Magnesium in Biochemical Processes and Medicine

Casa Sirena Marina Hotel

S. Wallach, chairperson; C. Fry, vice chairperson

26 February–2 March

Intracellular magnesium: M. Maguire, discussion leader

M. Snavely, "Genetics and molecular biology of Mg^{2+} transport systems."

E. Murphy, "Measurement of cytosolic magnesium using fluorescent and NMR sensitive indicators."

M. Bond, "Subcellular distribution and movement of magnesium."

Magnesium methods: R. Elin, discussion leader

A. Reinhart, "Determination of myocardial magnesium: Comparison with mononuclear blood cells and serum magnesium."

S. Schuette, "Assessment of equilibrium among body pools of magnesium using ICP and isotopes."

Magnesium transport: K. Beyenbach, discussion leader

T. Gunther, "Sodium-dependent and -independent net magnesium efflux systems from magnesium-loaded erythrocytes."

R. Garay, "The magnesium exchanger in human and rat."

L. Nowak, "Permeation and block of transmitter-activated ion channels by magnesium."

Magnesium in channel regulation: C. Fry, discussion leader

O. Petersen, "Actions of magnesium on ATP-dependent potassium channels."

A. Noma, "Magnesium interactions with cardiac potassium channels."

Magnesium in muscle: C. Fry, discussion leader

C. Fry, "Electromechanical effects of magnesium on cardiac muscle."

A. Brading, "Electromechanical effects of magnesium on smooth muscle."

L. Blatter, "Effects of magnesium on skeletal muscle."

Magnesium deficiency and calcium metabolism: R. Rude, discussion leader

R. Rude, "Mechanisms of hypocalcemia in magnesium deficiency."

R. Ryzen, "Magnesium deficiency and hypocalcemia in hypomagnesemic and normomagnesemic patients."

Magnesium and the cardiovascular system: B. Altura, discussion leader

B. M. Altura/B. T. Altura, "Magnesium acts at multiple sites in vascular smooth muscle: Relation to vascular diseases."

R. L. Barbour, "Influence of Mg^{2+} on cardiac cellular bioenergetics, intracellular free Mg^{2+} and *p*H."

H. Yasue, "Role of magnesium in variant anginal attacks."

Miscellany: S. Wallach, discussion leader

J. Nadler, "Effect of magnesium on eicosanoid release, renin-angiotensin system and platelet function in man."

A. Care, "Magnesium homeostasis in the fetus."

M. Horie, "Intracellular free Mg^{2+} and potassium channels in single cardiac cells."

Magnesium in pediatrics and neonatology: R. Tsang, discussion leader

B. C. Chaparwal, "Magnesium studies in acute diarrheal syndromes."

S. Tanuma, "Lymphocyte magnesium in low birth weight infants."

F. Mimouni, "Perinatal magnesium."

Marine Natural Products

Doubletree Hotel

J. Clardy, chairperson; C. Ireland, vice chairperson

19–23 February

J. H. Cardellina, discussion leader

R. E. Moore, "Recent developments in marine natural products research."

J. Kobayashi, "Pharmacological tools from Okinawan marine organisms."

D. Faulkner, "Chemistry of selected marine invertebrates."

J. N. Shoolery, discussion leader

W. F. Reynolds, "Structural analysis of natural products using 2-D NMR."

J. Coll, discussion leader

J. McMurry, "Synthesis of crassin."

P. A. Wender, "Tumor promotion: Synthetic, pharmacological and computer modeling studies."

T. Yasumoto, "Chemistry of dinoflagellate toxins."

P. Crews, discussion leader

W. C. Guida, "Strategies for the computer-assisted modeling of natural products."

Y. Shimizu, discussion leader

M. Garson, "Biosynthetic studies on marine natural products."

H. Floss, "Current studies on natural products biosynthesis."

J. Pawlik, discussion leader

C. D. Harvell, "Chemical defenses of Caribbean gorgonians: Variation with ontogeny and habitat."

N. Fusetani, discussion leader

K. L. Rinehart, "Antitumor and antiviral agents marine natural products."

P. A. Kiener, "Sites for the therapeutic intervention in autocrine tumor cell."

W. S. May, "Bryostatin, a novel stimulator of hematopoiesis."

C. Djerussi, discussion leader

L. Stryer, "New approaches in drug discovery."

O. J. McConnell, discussion leader

T. Higa, "Recent advances in marine natural products chemistry."

Metals in Biology

Doubletree Hotel

L. Que, Jr., chairperson; J. Barton, vice chairman

22–26 January

Metalloenzymes with redox active cofactors:

S. J. Benkovic, "The pterin-requiring hydroxylases."

D. M. Dooley, "Enzymes containing covalently bound PQQ."

J. W. Whittaker, "The free radical–coupled Cu active site of galactose oxidase."

H. H. Ruf, "Prostaglandin H synthase, a protein with a dioxygenase and a peroxidase function."

Iron regulation:

J. B. Neilands, "Iron uptake regulation."

Iron-dioxygen chemistry:

J. Stubbe, "Bleomycin: Mechanism of DNA degradation."

J. E. Baldwin, "Isopenicillin N-synthase."

M. J. Nelson, "Exploiting the iron chemistry of lipoxygenase in the design of inhibitors."

A. L. Balch, "Formation and reaction of alkylperoxo metalloporphyrins."

Copper-dioxygen chemistry:

K. D. Karlin, "Coordination models of O_2-utilizing copper proteins."

N. Kitajima, "A μ-η^2:η^2-peroxo-dicopper complex."

Ni and Mn centers:

S. W. Ragsdale, "Metal centers of enzymes involved in acetyl-CoA biosynthesis."

M. M. Miller, "The viability of nickel (III)-cysteine centers in hydrogenases."

J. E. Penner-Hahn, "Comparison of the Mn sites in the photosynthetic oxygen-envolving complex and the *L. plantarum* Mn catalase."

Ligand design:

T. G. Traylor, "Design of polyimidazole ligands."

Endonucleases and peptidases:

R. P. Cunningham, "Endonuclease III: A DNA repair enzyme which contains a 4Fe-4S cluster."

J. K. Barton, "Targeting DNA sites with metal complexes."

R. A. Lerner, "Catalytic antibodies with metallopeptidase activity."

D. E. Wilcox, "Urease: Structural and chemical properties of the nickel active site."

P. Aisen, "Metals in medicine—precious and otherwise."

Ribonucleotide reductases:

H. Follmann, "Distribution and metal requirement of ribonucleotide reductases. A bacterial bacterial manganese enzyme."

B.-M. Sjoberg, "Structure and function of ribonucleotide reductase from *E. coli*."

R. G. Finke, "Coenzyme B_{12}–dependent reactions: Precedent for key elementary steps and insights into enzyme-assisted Co-C bond cleavage."

Nondestructive Evaluation

Doubletree Hotel

B. R. Tittmann, chairperson; R. L. Thomas, vice chairperson

5–9 March

Solid-state bonds: R. C. Addison, Jr., discussion leader

O. Buck, "Integrity of structural bonds."

J. Rose, "Theoretical modeling of wave-bond interactions."

Nonlinear acoustics-adhesive bonds: G. Alers, discussion leader

J. Achenbach, "Theoretical modeling—adhesive bonds."

L. Adler, P. Nagy, "Experimental results—adhesive bonds."

Superconductivity: T. Yolken, discussion leader

E. Karishka, "Sensors for processing of high T_c superconductors."

J. Wikswo, "NDE with SQUIDS."

Laser-based ultrasonics for high-T processes: J. Wagner, discussion leader

J.-P. Monchalin, "Process monitoring in metals."

K. Telschow, "Process monitoring in nonmetals."

Optical sensor technology: J. Bussiere, discussion leader

P. Cielo, "Optical sensors for industrial processes."

J. Schoenwald, "Fiber optic sensors."

NDE with thermal waves: R. Thomas, discussion leader

C. Boccara, "Thermal waves I."

G. Busse, "Thermal waves II."

Sensors for electronic materials: J. Rose, V. Varadan, discussion leaders

H. Wadley, "Eddy current sensor for GaAs crystal growth."

V. J. Varadan, "Acoustic and EM sensors for processing materials."

Chemical sensors for NDE: B. Tittmann, discussion leader

J. Callas, "Research activities at CPAC."

Advanced techniques in NDE: H. Wadley, discussion leader

S. Fauro, "Synchronous imaging."

G. Eesly, "Photo reflectance."

Organic Thin Films

Doubletree Hotel

J. M. Schnur, chairperson; S. T. Kowel, vice chairperson

12–16 February

Thin films/membranes for biosensor applications: F. S. Ligler, discussion leader

F. S. Ligler, "Introduction: Use of proteins in films as biosensor components."

L. Wingard, Jr., "Ion channel proteins as detection elements."

M. Reichert, "Fluorescence-based biosensors."

H. Ringsdorf, "Specific recognition, protein crystallization and protein function on monolayers and liposomes."

Order/disorder and thin films: R. Shashidhar, discussion leader

E. Sirota, "X-ray scattering from lyotropic membranes."

E. A. Evans, "Mechanical properties and fluctuations in thin films."

J. K. Blasie, "High-resolution x-ray diffraction studies of intramolecular and intermolecular order in single monolayers/bilayers within ultrathin LB multilayers."

Design and synthesis of novel organic thin films: S. Regen, discussion leader

C. Sukenik, "Structure and reactivity in unusual monolayer films."

A. Ulman, "Self-assembling monolayers: Building blocks of future organic materials."

S. Regen, "Perforated monolayers."

Characterization of films: J. Rabolt, discussion leader

J. LeGrange, "Fluorescence characterization of monolayers in the Langmuir-Blodgett transfer configuration."

P. Stroeve, "Infrared spectroscopy of monolayer assemblies."

Microscopy of submicron structures: S. Lindsay, discussion leader

V. Hallmark, "Imaging molecules at surfaces with the scanning tunneling microscope."

C. Prater, "From atoms to ions to blood cells: The atomic force and scanning ion conductance microscopes."

J. D. Griffith, "Visualization of DNA and DNA-protein complexes by transmission electron microscopy."

Applications in optoelectronics: S. Kowel, discussion leader

K. Johnson, "Ferroelectric liquid crystal thin-film devices and their applications."

R. Lytel, "Nonlinear and electro-optic polymer devices."

R. Birge, "Langmuir-Blodgett films for opto-electronic applications."

Applications in micro- and nanoelectronics: A. Lamola, discussion leader

G. N. Taylor, "Surface imaging for high-resolution photolithography."

R. Miller, "Polysilanes for microlithography."

C. Szmanda, "Effects of molecular diffusion on lithographic performance of high-resolution resists."

Poster session: S. Kowel, organizer

Fabrication/controlled reactivity and wetting on surfaces: S. Garoff, discussion leader

V. Novotny, "Distribution, conformation, migration, and tribology of organic thin films."

J. Israelachvili, "The relationship between molecular conformations and shear forces in molecularly thin organic lubricating films."

Hot topics: J. M. Schnur, discussion leader

Oxygen Radicals in Biology

Doubletree Hotel

L. J. Marnett, chairperson; J. W. Eaton, vice chairperson

29 January–2 February

S. Aust, discussion leader

J. Thompson, "The role of cytochrome P-450 in the toxicity of BHT-hydroperoxide to hepatocytes."

C. Raetz, "Protection by plasmalogens against photodynamic killing of mammalian cells."

R. Tyrell, "Induction of heme oxygenase by oxy radicals."

P. Ortiz de Montellano, discussion leader

J. Stubbe, "Mechanisms of oxidative DNA strand scission."

P. Dervan, "Site specificity of DNA cleavage by tethered Fe^{3+}-EDTA."

D. Church, discussion leader

E. Janzen, "NMR imaging of halocarbon-induced liver injury."

R. Mason, "In vivo detection of free radical metabolites."

A. Tomasi, "Detection of radicals generated in vivo."

D. Reed, discussion leader

H. Gilbert, "Protein thiol/disulfide redox state changes as a biological regulatory mechanism."

J. Thomas, "Oxidation of phosphorylase b and creatine kinase."

A. Autor, discussion leader

S. Orrenius, "Calcium fluxes in oxidative stress."

C. Richter, "Oxidant-induced calcium release."

C. O'Brien, "Activation of protein kinase C by lipids and lipid oxidation products."

J. Eaton, discussion leader

G. Skoglund, "Peroxide-dependent adhesion of leukocytes."

K. Honn, "Oxidant-induced endothelial cell retraction and tumor metastasis."

N. Krinsky, discussion leader

E. Nikki, "Actions of vitamin E and related compounds as antioxidants in membranes."

H. Joenje, "Antioxidant defenses of cultured cells resistant to hyperoxia."

S. Fischer, "Enhancement and inhibi-

tion of tumor promotion."

L. J. Marnett, discussion leader

I. Fridovich, "Superoxide and superoxide dismutase."

Speaker and subject to be announced.

D. Jones, discussion leader

N. Granger, "Role of neutrophils in ischemia/reperfusion injury."

M. Paller, "Effects of antioxidants of reperfusion injury in the kidney."

J. Repine, "Cardio-pulmonary damage by oxygen radicals."

Chemistry and Physics of Peptides

Doubletree Hotel

A. F. Spatola, chairperson; J. T. Potts, Jr., co-chairperson

5–9 February

Peptide synthesis: V. J. Hruby, discussion leader

S. Sakakibara, "Total synthesis of angiogenin."

H. Kunz, "Synthesis of glycopeptides."

M. Lebl, "Continuous synthesis of peptides."

J. Habener, "cAMP response element binding protein."

E. Ruoslahti, discussion leader

E. Ruoslahti, "Integrins."

M. Pierschbacher, "Adhesion peptides."

R. Hirschmann, discussion leader.

P. Bartlett, to be announced

M. Fishman, "GAP-43."

J. Moss, "ARF."

I. MacIntyre, "CGRP."

L. Gierasch, discussion leader

S. H. White, "Hydrophobicity and change in the folding and evolution of proteins."

D. Urry, "Generalized principles for chemical modulation of protein conformation."

H. Kessler, "Polycyclic peptide antibioticum."

S. Odella, "NMR studies of protein processing."

P. C. Etter, "Small molecule models for hydrogen bond directed molecular recognition."

To be announced, "du Vigneaud Award—I."

To be announced, "du Vigneaud Award—II."

M. Rosenblatt, discussion leader

M. Yanagisawa, "Endothelins."

M. Zasloff, "Magainins."

W. Vale, "Inhibin and activin."

Polymers

Doubletree Hotel

J. Rabolt, chairperson; A. English, vice chairperson

8–12 January

Polymers for optoelectronics:

D. Williams, "Polymer design for second harmonic generation."

Synthesis and molecular architecture:

M. Galvin, "Composites prepared by reaction within a solid."

C. G. Willson, "Design and synthesis of functional polymers."

A.-D. Schlueter, "Synthesis of ribbon polymers: 2-D reactions."

Polymer characterization:

J. Torkelson, "Optical (and nonlinear optical) probe studies of local free volume, mobility, and relaxation phenomena in glassy polymers."

Molecular structure and dynamics:

A. English, "Molecular dynamics of polyamides."

G. Zerbi, "Local and collective flexibility, mobility and structure of polymethylene chains: a spectroscopic study."

B. Farmer, "X-ray and molecular modeling studies of polysilanes and polygermanes."

M. Ediger, "Local segmental dynamics in polyisoprene and polystyrene."

Poster session

Polymer association:

A. Balasz, "Computer models for the adsorption of amphiphilic polymers onto surfaces."

J. J. Point, "Crystalline polymer-solvent systems."

D. Hoagland, "Dynamics of electrophoresis: Studies with synthetic and natural polyelectrolytes."

Polymer surfaces and interfaces:

N. Schlotter, "Solvent diffusion in glass polymers studied by waveguide Raman spectroscopy."

P. Green, "Segregation of block copolymer chains near interfaces."

Polymer deformation:

E. Oleinek, "Plastic deformation in polymers."

J. Bendler, "Molecular motion and chain entanglements in the glassy state."

J. Fuller, "Flow-induced separation of polymer solutions."

Scientific perspectives:

W. Harris, "Science and technology research centers: Dealing with issues facing the scientific community in the 1990's."

Amorphous polymers:

R. Mulhaupt, "Thermoset blends."

G. McKenna, "Thermodynamics of cross-linked networks: Mechanical and swelling behavior and the Frenkel-Flory-Rehner hypothesis."

Polymers in Biosystems

Casa Sirena Marina Hotel

R. M. Ottenbrite, chairperson; K. J. Himmelstein, vice chairperson

19–23 March

Opening remarks: R. M. Ottenbrite

S. Huang, discussion leader

L. Nicolais, "Degradation of composite materials in orthopaedics."

R. Dunn, discussion leader

C. C. Chu, "Polymeric fibers for wound closure."

R. Tang, "Novel copolymers for nerve regeneration, vascular replacement and tendon repair."

D. Casey, discussion leader

G. Loomis, "New resorbable biomaterials via polyactide stereocomplexes."

Poster presentations: W. Daly, poster chairman

D. Sogah, discussion leader

R. Duncan, "Development of soluble polymeric drug-carriers for use in cancer chemotherapy."

S. W. Kim, "Stimuli-sensitive polymers for controlled delivery of drug."

J. Folkman, to be announced

R. Juliano, discussion leader

J. Sunamoto, "Liposomal vaccines against tumor and virus."

M. Nair, discussion leader

R. S. Langer, "Biopolymers as drug and cell delivery systems."

W. Regelson, discussion leader

H. Maeda, "Polymer conjugated SOD and therapeutic potentials for oxygen free radical diseases."

E. H. Schacht, "Polysaccharides as drug carriers: Opportunities for targeting."

W. Bailey, discussion leader

C. J. Morrow, "Lipase-catalyzed synthesis and modification of polymers."

D. Lohmann, discussion leader

J. R. Cardinal, "Novel drug delivery systems for veterinary applications."

Poster presentations: G. Donaruma, poster chairman

R. Marchessault, discussion leader

E. Chiellini, "Polyesters of synthetic and biosynthetic origin."

R. W. Lenz, "Functionalized biodegradable polyesters produced by bacteria."

J. Capello, discussion leader

D. A. Tirrell, "Biosynthesis of new polymeric materials."

S. Shalaby, discussion leader

D. Paul, "Strategic technology planning for polymers in biosystems."

Panel discussion: Polymers in biosystems after 1995: K. Himmelstein, discussion leader

Panel members: M. Sefton, A. Hoffman, J. Anderson

K. Himmelstein, discussion leader

S. Penczek, to be announced

Y. Suda, "Specific labeling of water soluble polysaccharides and proteins."

R. Greenley, "Protected oral delivery of proteins and peptides."

Prolactin

Casa Sirena Marina Hotel

F. Talamantes, chairperson; N. Ben-Jonathan, vice chairperson

29 January–2 February

Prolactin and placental receptors: H. Friesen, discussion leader

D. Linzer, "The mouse prolactin receptor family."

M. Dufau, "Gonadal lactogen receptors."

M. Edery, "Analysis of the structural domains of the prolactin receptor."

M. Freemark, "The role of placental lactogen receptors in fetal growth."

Actions of prolactin: S. Russell, discussion leader

D. Luck, "Bioactive recombinant methionyl-bovine prolactin: Structure and function."

R. Sorenson, "The role of prolactin on the structure and function of the Islets of Langerhans."

Placental prolactin-like hormones: R. Bremel, discussion leader

J. Southard, "Structural analysis of hamster placental lactogen and its binding protein."

P. Colosi, "Cloning and expression of the cDNA for sheep placental lactogen."

L. Schuler, "Members of the prolactin family from the bovine placenta."

M. L. Duckworth, "Members of the prolactin family from the rat placenta."

Actions of prolactin: K. Kishi, discussion leader

R. Bridges, "Maternal behavior, the brain and prolactin."

R. Laherty, "Modulation of the immune system by prolactin."

Regulation of prolactin gene expression: J. Gorski, discussion leader

Z. D. Sharp, "Cell type–specific transcription regulation of the rat prolactin gene."

F. Martin, "Tissue-specific and steroid hormone regulation of the rat prolactin gene expression."

A. Gutierrez-Hartman, "Pituitary-specific transcription factors and the development of distinct cell types."

M. Karin, "Transacting factors involved in regulating prolactin gene expression."

Regulation of prolactin secretion: P. Dannies, discussion leader

L. Grandison, "Action of platelet activating factor on prolactin secretion."

P. A. Hinkle, "Molecular mechanisms of prolactin secretion."

Structural variants of prolactin: T. Bewley, discussion leader

R. Witorsch, "Prolactin studies in prostate, mammary gland and the Nb_2 lymphoma cell."

C. Brooks, "Phosphorylated bovine prolactin."

A. Walker, "Isoforms of rat prolactin."

E. Markoff, "Glycosylated human prolactin."

H. Bern, "Comparative endocrinology of prolactin: Accomplishments and perspectivies."

Regulation of prolactin secretion: S. Handwerger, discussion leader

S. Jaken, "Regulation of the protein kinase C isoenzymes in GH cells: Association with prolactin secretion."

C. Libertun, "Microamines and prolactin secretion."

A. Bartke, "Regulation of prolactin secretion in transgenic mice."

Sensory Transduction in Microorganisms

Casa Sirena Marina Hotel

P. Devreotes, chairperson; G. Hazelbauer, vice chairperson

15–19 January

Introductory remarks: P. Devreotes

Plenary sessions: Common themes in sensory transduction

M. Simon, "Chemotaxis in bacteria."

G. Gerisch, "Development in *Dictyostelium*."

L. Hartwell, "Mating in yeast."

Bacterial chemoreceptors: J. Adler, session chairperson

D. Koshland, Jr., "Novel methods for monitoring receptor interactions."

M. Mason, "Binding site mutations."

J. Parkinson, "Anlaysis of MCPs."

Signal transduction in bacteria: P. Matsumura, session chairperson

J. Stock, "Structural motifs in cytoplasmic *Che*Genes."

F. Dahlquist, "Feedback regulation of methylation."

B. Taylor, "The phosphotransferase pathway in *E. coli*."

Yeast mating response: D. Jenness, session chairperson

J. Thorner, "Receptors for alpha-factor."

J. Kurjan, "Alpha-subunits of G-proteins."

M. Whiteway, "Beta/gamma subunits of G-proteins."

Dictyostelium chemotaxis: G. Gerisch, session chairperson

P. Van Haastert, "Role of inositol cycle in chemotaxis."

J. Spudich, "Role of myosins I and II."

A. Nogel, "Function of actin binding proteins."

Related signal transduction systems: H. Berg, session chairperson

D. Zusman, "Chemotaxis genes in myxobacteria."

J. Spudich, "Phototransduction in *H. halobium*."

K. Bergman, "Chemotaxic system in *Rhizobium*."

Signal transduction and gene expression: B. Magazanik, session chairperson

E. Nester, "Gene expression in *Rhizobium*."

P. Schaap, "Role of signaling in *Dictyostelium*."

R. Firtel, "Early and late gene expression in *Dictyostelium*."

Guest lectures:

R. Reed, "Vertebrate olfaction."

J. Hall, "Circadian rhythms."

Ion channels in microorganisms: C. Kung, session chairperson

R. Henrickson, "Ion channels in *Paramecium*."

A. Delcour, "Ion channels in *E. coli*."

Properties of the Solid Hydrogens

Casa Sirena Marina Hotel

H. Meyer, chairperson

8–12 January

Basic interactions: R. D. Etters, discussion leader

A. B. Harris, "Review of interaction forces."

A. F. Andreev, "Excitations in quantum solids."

J. R. Gaines, "Radiation-catalyzed ortho-para conversion."

High-pressure phases: B. Alder, discussion leader

D. Ceperley, "Monte Carlo simulations at high pressures."

N. Ashcroft, "Metal-insulator transition."

Ultrahigh pressures: R. Wyngaarden, discussion leader

I. F. Silvera, "New phase transitions in H_2."

V. Stishov, "Neutron scattering."

R. Hemley, "Solid H_2 at ultrahigh pressures."

Polarization and fusion: Y. Kagan, discussion leader

P. C. Souers, "Polarized targets for hydrogen fusion."

S. E. Jones, "Fusion in high density hydrogens."

Hydrogens in 2D: S. Fain, discussion leader

P. Leiderer, "Electrons in H_2 films."

A. J. Berlinsky, "Orientational ordering in 2D."

H. Weichert, "Phase transformation in hydrogen monolayers."

Restricted geometries and mechanical properties" W. Hardy, discussion leader

H. Maris, "Molecular H_2 in porous vycor glass."

V. Manzhelii, "Mechanical properties and quantum diffusion."

Diffusion: P. C. Souers, discussion leader

L. Ponomarev, "Diffusion and trapping of muons."

V. Shevtsov, "H atoms in molecular hydrogen."

T. Miyazaki, "Tunneling reaction of H and D in solid H_2."

Spectroscopy: C. K. N. Patel, discussion leader

A. van der Avoird, "Ab initio approach to solid H_2."

T. Oka, "High-resolution infrared spectroscopy."

Quantum diffusion, NMR: I. F. Silvera, discussion leader

M. Strzhemechny, "A new mechanism of quantum diffusion."

M. Conradi, "Solid H_2 NMR at diamond cell pressures."

Y. Kagan, "Solid H_2: Overview and outlook."

Superconductivity

Doubletree Hotel

M. B. Maple, chairperson; A. M. Stacy, vice chairperson

19–23 March

Materials: J.-M. Tarascon, discussion leader

A. W. Sleight, "The real composition and structure of high T_c superconductors."

D. G. Hinks, "Superconductivity in doped $BaBiO_3$."

J. T. Markert, "Electron-doped high T_c superconductors."

Defects and disorder: I. K. Schuller, discussion leader

Y. Bruynseraede, "Oxygen stoichiometry and superconductivity in high-temperature ceramics."

T. Egami, "Intrinsic disorder in high T_c superconductors studied by neutron scattering."

Properties: G. W. Crabtree, discussion leader

N. E. Phillips, "Specific heat of high T_c superconductors."

N. P. Ong, "Probing the normal and superconducting states of high T_c oxides with the Hall effect."

M. R. Beasley, "Synthesis and transport properties of $YBa_2Cu_3O_7$ thin films."

Spectroscopy: J. W. Allen, discussion leader

A. J. Arko, "Photoemission studies of high T_c superconductors."

M. V. Klein, "Electronic Raman continuum in high T_c superconductors: Implications for the normal and superconducting states."

Flux motion:

A. P. Malozemoff, "Critical currents and flux creep in high T_c superconductors."

D. J. Bishop, "Flux lattices in exotic superconducting systems."

M. P. A. Fisher, "Theory of the vortex glass phase in dirty superconductors."

Energy gap: A. J. Sievers, discussion leader

R. C. Dynes, "Electron tunneling into high T_c oxide superconductors."

D. B. Tanner, "Infrared studies of high T_c oxide superconductors."

Magnetism: C. P. Slichter, discussion leader

H. A. Mook, "Neutron scattering studies of the magnetic properties of high T_c copper oxide superconductors."

J. E. Crow, "Superconducting and magnetic phase boundaries of impurity doped oxide superconductors."

D. E. MacLaughlin, "Nuclear and muon magnetic resonance in high T_c superconductors."

Theory: J. W. Wilkins, discussion leader

D. P. Arovas, "Classification of chiral spin states."

S. M. Girvin, "Is there a connection between high T_c superconductivity and fractional statistics?"

Theory and general issues: M. Tachiki, discussion leader

R. M. Martin, "Attempts to find realistic models for electrons in high T_c superconductors."

Thrombolysis

Doubletree Hotel

J. Loscalzo, chairperson; D. Collen, vice chairperson

26–30 March

t-PA: First and second generation recombinant derivatives: D. Collen discussion leader

u-PAs: An update: V. Gurewich, discussion leader

Markers of thrombosis and thrombolysis: V. Marder, discussion leader

Chimeras and chemically modified plasminogen activators: E. Habor, discussion leader

Inhibitors of fibrinolysis: D. Loskutoff, discussion leader

Platelets and thrombolysis: J. Loscalzo, discussion leader

Cell surface plasminogen activation: E. Plow, discussion leader

Animal models of thrombolysis: H. Gold, discussion leader

Combination therapies in thrombolysis: D. E. Vaughan, discussion leader