

# Gordon Research Conferences: 1985 Winter Schedule

Alexander M. Cruickshank

The Winter Gordon Research Conferences will be held 7 January to 15 February 1985 at the Casa Sirena Marina Hotel, Oxnard, California, and 7 January to 22 February 1985 at the Miramar Hotel, Santa Barbara, California.

**Purpose.** The object and exclusive purpose of the Gordon Research Conferences is to foster and promote education and science by organizing and operating meetings of research scientists with common interests in the fields of chemistry or related sciences for the purpose of discussion and the free exchange of ideas, thereby stimulating advanced thinking in research at universities, research foundations, and industrial laboratories. This type of meeting is a valuable means of disseminating information and ideas to an extent that could not be achieved through the usual channels of publication and presentation at scientific meetings. In addition, scientists in related fields become acquainted and valuable associations are formed that often result in collaboration and cooperative efforts among laboratories. It is hoped that each conference will extend the Frontiers of Science by fostering a free and informal exchange of ideas among persons actively interested in the subject under discussion. The purpose of the program is to bring experts up to date on the latest developments, to analyze the significance of these developments and to provoke suggestions concerning the underlying theories and profitable methods of approach for scientific research. The review of known information is not desired.

Meetings are held in the morning and in the evening, Monday through Friday, with the exception of Friday evening. The afternoons are available for recreation, reading, or participation in discussion groups, as the individual desires.

In order to protect individual rights and promote discussion, it is an established requirement of each conference that no information presented is to be used without specific authorization of the individual making the contribution,

whether in formal presentation or in discussion. The recording of lectures by tapes and so forth and the photography of slides are prohibited. Scientific publications are not to be prepared as emanating from the Conferences.

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

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

The Director will submit the applications of those requesting permission to attend a conference to the 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 \$315

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 \$70 per week will be made for a single room which must be paid in advance to confirm single occupancy.

**Special fund.** A Special Fund is provided from the registration fee and is made available to the 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 \$255 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 Research Center, University of Rhode Island, Kingston 02881. Telephone: 401-783-4011 or 401-783-3372.

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

## Biology of Aging

### *Casa Sirena Marina Hotel*

George S. Roth, chairman; Joan Smith-Sonnenborn, vice chairman.

*11 February.* Physiological regulation by cyclic nucleotides during aging (J. F. Krall, session, chairman): L. Lipson, "Cyclic AMP and insulin secretion in aging"; E. M. Dax, "Membrane receptors and their functional modification in aging"; R. P. Ebstein, "Lymphocytes and EBV-transformed lymphoblasts: A model system of human aging and disease." Endocrine regulation of immunocompetence and aging (A. L. Goldstein, session chairman): N. Fabris, "Immunological regulation by the hypothalamic-pituitary-thymic axis"; M. E. Weksler, "Interleukins and regulation of the immune response"; N. Talal, "Endocrine regulation of autoimmune aspects of aging"; J. E. Blalock, "Beta-endorphins and immunosuppression."

*12 February.* Steroid action and aging (G. S. Roth, session chairman): T. C. Spelsberg, "Regulation of estrogen/progesterone receptor-chromatin interaction during aging"; S. A. Shain, "Differential changes in androgen regulation of prostate ornithine decarboxylase (ODC) and *s*-adenosyl-1-methionine decarboxylase (AMDC) activity in aging AXC rats." Reproduction and aging (C. E. Finch, session chairman): P. M. Wise, "Neurochemistry of aging in female rodents"; G. Robinson, "Neuroendocrinology of menopause in rhesus monkeys"; S. S. C. Yen, "Neuroendocrinology of human menopause."

*13 February.* Calcium dependent regulation of physiological functions by hormones and neurotransmitters (B. J. Baum, session chairman): J. H. Exton, "Calcium mediated hormonal responses in the liver"; B. Seligman, "Intracellular calcium: role in modulation and stimulation of elicited neutrophil responses"; J. A. Williams, "Calcium mediated regulatory mechanisms in pancreatic acinar cells." Age changes in neurotransmission (M. H. Makman, session chairman): A. Bjorklund, "Nigral grafts in brain regeneration"; B. Hoffer, "Age-related changes in the electrophysiology of neurotransmission"; G. E. Gibson, "The role of calcium in neurotransmission"; C. B. Stefano, "Age changes in invertebrate neurotransmission."

*14 February.* Poster session discussion (J. R. Florini, session chairman). R. E. Adelman, "Hormonal control of enzyme adaptation and energy metabolism."

*15 February.* Molecular biology and aging (J. Smith-Sonnenborn, session chairman): S. Prusiner, "Prions and se-

nile dementia"; R. Schmookler-Reis, "Structural and transcriptional changes in DNA sequence during senescence"; R. Sapolsky, "Neuron loss during senescence: Is there a role for endogenous ligands?" J. Williams, "Interspecies comparison of biological effects in association with DNA supercoiling."

## Agricultural Science

### *Casa Sirena Marina Hotel*

Elliot Bergman, chairman; Lawrence Rappaport, vice chairman.

#### Forefront Technology in Crop Protection and Productivity

*28 January.* Elliot Bergman, introductory remarks, "Major trends in agricultural science." Intrinsic activity (F. Dan Hess, discussion leader): Bruce D. Hammock, "Use of transition state theory in enzyme inhibition and purification"; Tom B. Ray, "The site of action of sulfonylurea herbicides"; Charles J. Delp, "Fungicide action and fungus reaction"; George A. Templeton, "Mycoherbicides: A new dimension in controlling weeds."

*29 January.* Neurohormones and neurotransmitters (Julius J. Menn, discussion leader): Mohyee E. Eldefrawi, "GABA and acetylcholine receptors of vertebrates and insects as targets for insecticides"; Robert M. Hollingworth, "Biogenic amines as insect neurotransmitters"; David A. Schooley, "Physiological inactivation of neuropeptides in insects and the possible utility of inhibitors of peptide degradation"; James W. Truman, "The action of peptides that regulate nervous system function in insects."

*30 January.* Plant growth regulation and regulators—new insights (Arthur W. Galston, discussion leader): Mark Jacobs, "Immunochemical localization of putative polar auxin pumps"; T. H. David Ho, "Molecular approaches to the action of gibberellin and heat shock proteins"; Arthur W. Galston, "Polyamines as modulators of plant development and response to stress"; A. Lawrence Christy, "Crop yield enhancement: Status and future prospective."

*31 January.* Host-pathogen interactions (Lawrence Rappaport, discussion leader): David Gilchrist, "Molecular mechanism of disease-induced plant stress"; Clarence A. Ryan, "Cell wall fragments are regulators of plant defense responses"; Michelle C. Heath, "Host specificity of rust fungi"; Koji Nakaniishi, "Recent studies on bioactive compounds."

*1 February.* Plant biotechnology (Charles J. Arntzen, discussion leader): David M. Stalker, "Expression in plants of a glyphosate resistant EPSP-synthase from *Salmonella typhimurium*"; Robert T. Fraley, "Genetic engineering for glyphosate herbicide resistance"; Charles J. Arntzen, "Mode of action of the sulfonylurea herbicides: Analyses using molecular biology."

## Composites

### *Miramar Hotel*

J. Edmund Fitzgerald, chairman; Clarence J. Wolf, vice chairman.

*14 January.* Critical problems in polymeric and metal composites (Alan N. Gent, discussion leader): James Mar, "Critical problems in analysis, characterization and design of composites"; Ali Argon, "Critical review and modeling of the response of metal matrix composites." Crazing and damage in composites (Nicholas W. Tschoegl, discussion leader): Hugh Brown, "Environmental crazing mechanisms investigated by x-ray and neutron scattering"; Isaac M. Daniel, "Damage accumulation and residual strength degradation in graphite/epoxy composites."

*15 January.* Thermoviscoelastic characterization of composites (Albert H. Cardon, discussion leader): Clement Hiel, "Analytical and experimental thermoviscoelastic characterization of composites under combined influence of temperature and moisture"; Zvi Hashin, "Analysis of non-rheologically simple thermoviscoelastic composites." Failure and fracture (Luigi Nicolais, discussion leader): Eric Baer, "Failure and fracture in short fiber reinforced PVC"; D. C. Prevorsek, "Factors affecting shoulder separation of truck tires."

*16 January.* Tough composites (Sanford Sternstein, discussion leader): Norman Johnson, "The chemistry of tough matrix composites"; Ronald E. Allred, "Plasma surface chemical modification of polyaramide filaments in composites." Stability and failure of composites (Halbert F. Brinson, discussion leader): George Simites, "Stability of geometrically imperfect laminated, thin cylindrical shells"; R. M. Christensen, "The statistics of failure in composites."

*17 January.* Processing and mechanical performance of composites (Wolf Elber, discussion leader): James C. Serferis, "Thermal processing and characterization of PEEK matrices in relation to mechanical performance"; Ancil Kays, "Processing science of graphite/epoxy composites up to 3 inches thick."

Poster session and short presentations (Clarence J. Wolf, discussion leader).

18 January. Aging and durability of composites (Richard J. Farris, discussion leader): David K. Roylance, "Experiments on the outdoor weatherability and durability of composites"; Thor L. Smith, "Physical aging and deaging of annealed polycarbonate under finite strain with implications to composites."

## Electrochemistry

### Miramar Hotel

Barry Miller, chairman; Dennis H. Evans, vice chairman.

21 January. (S. Bruckenstein, discussion leader): John S. Newman, "Modern topics in electrochemical engineering"; Der-Tau Chin, "Mass transfer in pulse plating and AC electrolysis." (William R. Heineman, discussion leader): Ralph N. Adams, "Chemical neurophysiology"; Arthur A. Pilla, "Electrochemical modulation of cell membrane biology: Application to tissue growth and repair."

22 January. (Margie M. Nicholson, discussion leader): Garry A. Rechnitz, "Strategies of potentiometric biosensors"; Richard P. Buck, "Ionic equilibria, kinetics, and transport at interfaces and in bulk of electrolyte-bathed ion-conducting materials." (Theodore Kuwana, discussion leader): Martin Fleischmann, "In situ structural and spectroscopic measurements of electrode-solution interfaces"; Michael J. Weaver, "Towards a molecular level understanding of electrochemical reactivity."

23 January. (John S. Wilkes, discussion leader): Robert A. Osteryoung, "Ambient temperature ionic liquids: Chemistry, electrochemistry, and witchcraft"; Gleb Mamantov, "Electrochemistry and related studies in molten halides." (Dennis H. Evans, discussion leader): Open session.

24 January. (Ronald L. Birke, discussion leader): W. John Albery, "Ring-disk studies of electrode mechanisms"; Jurgen K. Sass, "Surface science studies of ion-solvent interactions at metal electrodes." (Philip N. Ross, Jr., discussion leader): John T. Yates, "Structural and dynamic studies of chemisorbed surface species of interest to electrochemistry"; Joseph G. Gordon, "Weighing the electrode surface—in situ quartz microbalance."

25 January. (Charles R. Martin, discussion leader): Nathan S. Lewis, "The photoelectrochemistry of silicon surfaces in nonaqueous electrolytes"; B. Stanley Pons, "Ultramicroelectrodes."

## Chemistry of Electronic Materials

### Miramar Hotel

L. Interrante, chairman; B. Scott, vice chairman.

### Fundamental Chemistry Relating to Electronics Processing and the Development of New Electronic Materials and Devices

18 February. Chemistry in electronics overview (B. Scott, discussion leader): A. Reisman, "Electronic materials directions in VLSI"; A. Steckl, "Principles and examples of VLSI fabrication." Chemical mechanisms in semiconductor deposition (R. Saykally, discussion leader): F. Lampe, "Mechanisms of the decomposition of gaseous silanes and germanes"; J. Bloem, "CVD growth of poly- and epi-silicon."

19 February. Chemistry of plasma processing (J. Steinfeld, discussion leader): D. Hess, "Plasma chemistry in microelectronic device processing"; R. Gottscho, "Time-resolved spectroscopic diagnostics of RF plasmas used in microelectronic processing"; H. Sawin, "The characterization of plasma kinetics through electrical impedance measurements and parametric modeling." Chemistry on and in semiconductors (J. Yates, discussion leaders): F. R. McFeeley, "Chemical processes in etching reactions"; R. S. Williams, "Reactivity, epitaxy, and superconductivity at the metal-semiconductor interface"; R. P. Messmer, "Chemical bonding at defects and surfaces of semiconductors."

20 February. Laser induced chemistry (R. Van Duyne, discussion leader): R. Osgood, "The fundamentals of interface photochemical reactions—an incomplete story"; D. Ehrlich, "Laser photochemistry for direct patterning"; R. Srinivasan, "Modification of polymer surfaces by ultraviolet radiation at low-level, CW and pulsed, laser intensities." Chemistry of lithography (L. Thompson, discussion leader): C. G. Willson, "Chemistry of polymeric photoresists"; G. Taylor, "The chemistry and properties of materials imaged using high-energy radiation."

21 February. Advanced materials in electronics—molecular systems (G. Gaines, discussion leader): M. Wrighton, "Molecule based electronic devices"; G. Roberts, "Current research on the science and applications of Langmuir-Blodgett films." Advanced materials in electronics—inorganic materials (M. Robbins, discussion leader): D. Murphy, "Intercalation and insertion chemistry in redox systems"; R. Newnham, "Composite electroceramics."

22 February. Conference summary; future directions for chemistry in electronics—topic summaries and open discussion (J. Moore, discussion leader): Participants: B. Scott; R. Saykally; J. Steinfeld; J. Yates; R. Van Duyne; L. Thompson; G. Gaines; M. Robbins.

## Fibronectin

### Casa Sirena Marina Hotel

Erkki Ruoslahti, chairman; Michael W. Mosesson, vice chairman.

7–11 January. Primary structure of fibronectin: Gene/polypeptide/carbohydrate (Richard Hynes, discussion leader): Principal speakers: Richard Hynes, Alberto Kornblihtt, Torben Petersen. Secondary structure and interactions (Michael Mosesson, discussion leader): Principal speakers: Harold Erickson and Deane Mosher. Structure-function relationships (Erkki Ruoslahti, discussion leader): Principal speakers: Helmut Hormann and Kiyotoshi Sekiguchi. Biosynthesis, tissue distribution and isoforms (Kenneth Yamada, discussion leader): Principal speakers: Kenneth Yamada and David Amrani. Interaction of fibronectin with eukaryotic and prokaryotic cells (Magnus Hook, discussion leader): Principal speakers: Magnus Hook, Michael Pierschbacher, Mark Ginsberg. Fibronectin in cell adhesion, chemotaxis and phagocytosis (John McDonald, discussion leader): Principal speakers: John McDonald, Robert Mecham, Samuel Wright. Other adhesive proteins (Bruce Cunningham, discussion leader): Principal speakers: Bruce Cunningham, Clayton Buck, Leo Furcht. Adhesion proteins in cell migration during tissue development and reconstruction (Friederick Grinnell, discussion leader): Principal speakers: Irwin Singer, Marianne Bronner-Frazier, Teruo Nishida. Adhesion proteins in malignancy and metastasis (Antti Vaheri, discussion leader): Principal speakers: Lance Liotta, Garth Nicolson, Walter Birchmeier.

## Multiple Opiate Receptors

### Miramar Hotel

Richard J. Miller, chairman; R. Susanne Zukin, vice chairman.

4 January. Chemistry of new ligands (P. Portoghese, chairman): E. T. Kaiser, C. H. Li. Multiple receptor identification (H. Kosterlitz, chairman): A. Goldstein, A. McKnight, C. Pert.

5 January. Novel opiate receptors (K. J. Chang, chairman): Steve Zukin, G.

Pasternak, A. Gundlach. Receptor isolation (E. Simon, chairman): R. S. Zukin, W. Klee, E. Barnard.

6 January. Electrophysiology I (R. A. North, chairman): R. Nicoll, R. MacDonald. Electrophysiology II (G. Siggins chairman): R. Dingledine, B. Gahwiler.

7 January. Multiple receptor pharmacology (R. Miller, chairman): T. Burks, A. Herz, N. Lee. Banquet speaker, W. Catterall.

8 January. Lessons from other receptor systems (R. S. Zukin, chairman): T. Claudio M. Caron, P. Sternweiss.

## Oxygen Radicals in Biology and Medicine

### Miramar Hotel

William A. Pryor, chairman; Anne Ault, vice chairman.

11 February. (K. Ingold, discussion leader): Benon H. J. Bielski, "Metal-mediated reactions of the hydroperoxyl and superoxide radicals"; Gerald Cohen, "Fenton Chemistry." (I. Fridovich, discussion leader): Hermann Esterbauer, "Aldehydic products of lipid peroxidation and their interaction with cellular constituents"; Kelvin J. A. Davies, "Protein modification and protein degradation."

12 February. (K. Arfors, discussion leader): Edward A. Dratz, "Studies on the roles of vitamin E and selenium in the retina and associated tissues"; Lester Packer, "Effects of energy metabolism and antioxidant vitamins on oxygen radical generation"; Bruce Freeman, "Modulation of free radical injury using liposomes as transmembrane vectors for SOD and catalase"; Gerald E. Adams, "Mechanisms of oxygen mimetic and hypoxia-mediated drugs for cancer therapy." (J. E. Seegmiller, discussion leader): Douglas K. Anderson, "Effects of free radical-induced lipid peroxidation on the spinal cord: In vivo and in vitro studies"; D. Neil Granger, "Role of oxy-radicals in ischemia—reperfusion injury in the gastrointestinal tract"; Gregory B. Bulkley, "Clinical aspects of oxy-radicals."

13 February. (S. Aust, discussion leader): Helmut Sies, "Excited oxygen species in biological systems"; P. R. Ortiz de Montellano, "Isolation and characterization of carbon- and oxygen-centered radicals"; James R. Trudell, "Hypoxia potentiates the toxicity of arachidonic acid hydroperoxides to hepatocyte monolayers." (P. Hochstein, discussion leader): James H. Doroshow, "Role of oxy-radicals in anticancer quinones cytotoxicity"; Martyn T. Smith,

"Role of oxygen radicals in quinone and phenol toxicity"; Nicholas R. Bachur, "Superoxide radical reactions with anthracycline antibiotics."

14 February. (W. Lands, discussion leader): Lawrence J. Marnett, "Recent studies of fatty acid hydroperoxide metabolism"; Sidney M. Hecht, "Oxidative DNA strand scission by natural products that bind metals." (William A. Pryor, discussion leader): Osamu Hayashi, "Indoleamine 2,3-dioxygenase—a super oxygenase."

15 February. (H. Swartz, discussion leader): David Gershon, "Enzyme systems that protect against declines in activity in cells of senescent organisms due to oxidative damage"; Peter A. Cerutti, "Pro-oxidant states and promotion"; H. C. Birnboim, "TPA-stimulated white blood cells as a model for DNA damage by oxygen radicals."

## Polymers

### Miramar Hotel

J. J. Aklonis, chairman; I. C. Sanchez, vice chairman.

7 January. (N. W. Tschoegl, discussion leader): D. Pearson, "A comparison of the viscosity and diffusivity of linear and branched polymers"; A. J. Kovacs, "Properties of ring polymers." (D. A. Squire, discussion leader): A. Gupta, "Long-range electronic energy transfer and quenching processes in aromatic polymers"; M. A. Winnik, "Fluorescence studies of the morphology of composite polymer materials."

8 January. (R. S. Porter, discussion leader): H. E. Stanley, "Fractal concepts in polymers, gels and colloids"; P. Meakin, "Computer simulations of fractal structures in materials science." (T. L. Smith, discussion leader): D. Plazek, "The retardation spectrum of amorphous materials near  $T_g$ "; J. C. Wheeler, "Phase equilibria and critical phenomena in chemically reactive polymer solutions."

9 January. (M. Golub, discussion leader): J. McGrath, "Anionic synthesis of multiphase copolymer systems"; J. Stille, "New polyaromatics." (J. Moacanin, discussion leader): D. Tirrell, "Polymer-biomembrane interactions: Nature and consequences"; D. DuPre, "Phase transitions in lyotropic polymer liquid crystals."

10 January. (R. E. Robertson, discussion leader): W. Prest, "Physical aging of polymers and their blends"; R. Rendell, "A fundamental relation between the breadth of the relaxation spectrum and relaxation time scale: Application to

volume and enthalpy recovery, nonlinear stress-strain behavior, and melt rheology." (I. C. Sanchez, discussion leader): D. G. H. Ballard, "An inorganic analog of polyethylene." Poster session.

11 January. (W. Pavelich, discussion leader): W. J. MacKnight, "Structure and properties of segmented polyurethanes"; F. Bates, "Order-disorder in block copolymers."

## Polymers for Biomedical and Agricultural Applications

### Casa Sirena Marina Hotel

Samuel J. Huang, chairman; C. G. Gebelein, vice chairman.

Syntheses, structures and properties.

4 February. (R. Lenz, session chairman): R. Marchessault, "Polyalkanoate: The first thermoplastic from biotechnology"; W. J. Bailey, "Synthesis of biodegradable polymers by free radical ring opening polymerization." Poster session (C. G. Gebelein, session chairman). (W. Daly, session chairman): C. G. Overberger, "Synthesis and characterization of hydrophilic polymers"; Naoya Ogata, "Synthesis and biocompatibility of new multi-block copolyamides."

5 February. (Luigi Nicolais, session chairman): G. Wilkes, D. Tyagi, I. Yikgar and J. C. McGrath, "New siloxane base thermoplastic elastomers with potential biomedical applications—basis structure property studies"; J. M. Anderson, "Tissue/polymer interactions"; G. Donaruma, "Polymeric drug structure activity relationship." (S. Shalaby, session chairman): G. Decker, H. Ringsdorf and B. Schmidt, "Polymeric micelles and liposomes and potential drug carrier systems"; D. Tirrell, "Responsive polymer-lipid vesicle systems."

Applications. 6 February. (R. Ottenbrite, session chairman): Eugene Goldberg, "Hydrophilic albumin microsphere for drug delivery"; M. Goodman, "Carrier drug conjugate novel drug design"; J. Kopecek, "Degradable polymer drugs." (S. Mitra, session chairman): J. Heller, "Recent development on controlled drug release for biodegradable polymers"; R. M. Fitch and K. Scholsky, "Polymer colloids as controlled release systems."

7 February. (Sumner Barenberg, session chairman): A. Hoffman, "Immobilized enzymes and antibodies. Diagnostic and therapeutic applications"; C. Migliaressi, "Composites for biomedical applications." (M. Bitritto, session chairman): J. A. Cameron, "Microbial degradation of polymers."

Applications. 8 February. (Don Ca-

sey, session chairman): Frank Harris, "Controlled release systems base on polymers containing pendant bioactive groups"; C. McCormick "Polymer-bonded insecticides."

## Protons and Membrane Reactions

### *Miramar Hotel*

Lester Packer, chairman; David W. Deamer, vice chairman.

28 January. Intracellular water structure/translocation (R. MacElroy, chairman): F. Stillinger, feature lecture; (J. Clegg and A. Parsegian, discussion leaders): S. Horowitz, A. Mastro, N. D. Gershon, J. and L. Crowe, P. Beall. Concepts and principles of membrane proton conduction pathways (K. Schulten, discussion leader): S. Scheiner, R. Welch, G. Zundel, K. Dunker, A. Warshel, F. Freund, R. Lumry, J. Nagle.

29 January. Translocation of protons/water through liposomes and model systems (D. W. Deamer, discussion leader): D. Cafiso, K. Garrod, J. Israelachvili, P. Maloney, W. Nichols, A. Pullman. Nonbulk phase versus bulk proton translocation (D. Kell and F. Harold, discussion leaders): S. Ferguson, J. Jackson, K. Hellingwerf, B. A. Melandri, D. Nicholls, H. Rottenberg, S. McLaughlin.

30 January. Translocation of protons through membranes: Bacteriorhodopsin (J. Lanyi, chairman): Y. Ovchinnikov, G. Khorana, D. Oesterholt, feature lectures; (B. Hess, discussion leader): M. Heyn, D. Kushnitz, L. Keszthelyi, K. Rothschild, D. Engelman, L. Eisenstein, L. Packer, W. Stoeckenius, R. Mathies, M. Englehard. Transmembrane proton translocation by the  $F_0$  moiety of  $H^+$ -ATP synthase (S. Papa and H. Altenendorf, discussion leaders): W. Sebald, P. Bragg, J. Hoppe, R. Capaldi, I. D. Campbell, F. Guerrieri, R. Sanadi, Y. Kagawa, W. Junge.

31 January. Proton translocation and the catalytic process in  $H^+$ -ATP syn-

thase (P. D. Boyer, discussion leader): L. de Meis, W. Hubbell, S. Ferguson, H. J. Westerhoff, L. Ernster, R. Capaldi. The flagellar motor system (R. McNabb, chairman and discussion leader): H. Berg, feature lecture.

1 February. Proton translocation through redox complexes (R. Capaldi, chairman): H. T. Witt, feature lecture; M. Wikström, discussion leader): A. Azzi, G. T. Babcock, M. Brand, R. P. Casey, S. I. Chan, A. R. Crofts, P. L. Dutton, P. C. Hinkle, B. G. Malmstrom, J. Nagle, P. Rich.

## Renin-Angiotensin II

### *Casa Sirena Marina Hotel*

R. Wayne Alexander, chairperson; Morton Printz, co-chairperson.

21 January. Structure and enzymatic characteristics of renin: Development of inhibitors (Edgar Haber, chairperson): Edgar Haber, Overview, "Three-dimensional modeling of renin in design of inhibitors"; Joshua Boger, "Statine containing renin inhibitors"; Daniel Rich, "Design of inhibitors of aspartyl proteases." Cation translocation and hormonal responsiveness (Howard Rasmussen, chairperson): Howard Rasmussen, Overview; Kathleen Morgan, "Aequorin measurement of calcium flux in vascular smooth muscle"; Joshua Singer, John Walsh, "Patch-clamp and ion studies in smooth muscle cells"; Stephen Quinn, Angiotensin-II, "Glomerulosa cell membrane excitability."

22 January. Protein phosphorylation and cellular actions of hormones (James Garrison, chairperson): James Garrison, Overview—"Calcium-calmodulin and c-kinases"; Kevin Katt, "Angiotensin II: Effects on distribution of calcium-calmodulin and c-kinase-dependent phosphorylation in glomerulosa cells"; James Stull, "Comparison of myosin light chain phosphorylation in smooth and skeletal muscle"; Richard Murphy, "Calcium-

dependent regulatory mechanisms for cross-bridge cycling in smooth muscle." Molecular biology of renin (Kenneth Gross, chairperson): Kenneth Gross, "Structure and expression of renin genes"; John Chirwin, "Molecular cloning of human renin gene."

23 January. Biosynthesis, processing and secretion of proteins including renin (Victor Dzau, chairperson): Gunther Blobel, "Protein translocation across endoplasmic reticulum"; Regis Kelly, "Regulated and constitutive secretion of proteins"; Victor Dzau, "Evidence for two cellular pathways of renin secretion"; Robert Carey, "Multiple secretory forms of renin." Cellular and molecular studies of neuropeptides (Morton Printz, chairperson): John Lewicki, "Molecular biology of the ANF precursor"; Morton Printz, "Angiotensin II receptors in neural and neuroendocrine cells."

24 January. Angiotensin II receptors and guanine nucleotide regulatory proteins: Adenylate cyclase and calcium flux (Martin Rodbell, chairperson): Martin Rodbell, "Overview"; John Northup, "Nucleotide regulatory proteins and receptor coupling"; Evan Neer, "Guanine nucleotide regulation of adenylate cyclase"; James Garrison, "Angiotensin interactions with adenylate cyclase and protein kinases." Polyphosphoinositide metabolism and calcium flux (R. W. Alexander, chairperson): James Putney, "Formation and mode of action of inositol phosphates"; John Williamson, "Inositol triphosphates and diacylglycerides as second messengers in liver."

25 January. Angiotensin II receptors: Solubilization and regulation (Kevin Katt, chairperson): Kevin Katt, "Overview"; Andre De Lean, "Solubilization of adrenal angiotensin II receptor—direct evidence for receptor-nucleotide regulator protein interaction"; Gretta Aguilera, "Solubilization of the hepatic angiotensin II receptor."