Gordon Research Conferences: 1987 Winter Schedule

ALEXANDER M. CRUICKSHANK

The Winter Gordon Research Conferences will be held 5 January to 27 February 1987 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 over subscribed 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 to approximately 100 conferees. Only registered conferees are permitted in the meeting room. *Deadline for receipt of applications is 6 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.

Important—Directions. A registration card will be mailed to those selected. Advance registration by mail for each conference is required and is completed on receipt of the registration card and the full fixed fee which is required in *advance* of all participants and guests.

1) Scientists in the United States—Checks drawn on U.S. banks in U.S. dollars payable to Gordon Research Conferences.

2) Scientists in Canada—Only a *bank draft* obtained from your bank payable in *U.S. dollars* and *drawn on a U.S. bank acceptable*. Personal checks and checks on Canadian banks will not be accepted.

3) Scientists in foreign countries—It is absolutely necessary that *telegraphic transfers* be used and be made payable in U.S. dollars to *Fleet National Bank, Providence, Rhode Island, U.S.A. 02904.* The *telegraphic transfer* must indicate the account number 84-6500722 ABA No. 011500010 Fleet Providence in order to be credited to Gordon Research Conferences. Remittance information on the transfer must include the conferee's name and the conference title. *Checks of any type are not acceptable as payment—only telegraphic transfers.*

Registration card must be returned 3 weeks prior to the conference with the advance payment. A registration card not accompanied by the advance payment will not be accepted.

The Board of Trustees of the Conferences has established a fixed fee of $385 for all participants (speakers, discussion leaders, conferees), covering registration fee, double room with bath, 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 (speakers, discussion leaders, and conferees) 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 of each conference for the purpose of increasing the participation of research scientists who could not otherwise attend and participate because of financial limitations. Its use is not limited to speakers and discussion leaders, but may be granted to any registered conferee by the chairman. The money is to be used as an assistance fund only and may be used to contribute toward conferees' travel expenses, registration fee, and/or subsistence expenses at the conference location. Total travel and subsistence 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 permit-

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ted to attend conference lectures and discussion groups.

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. Telephone: 401-783-4011 or 401-783-3372.

Agricultural Science

Lawrence Rappaport, chairman; Julius Menn, vice chairman.

26 January. (Robert Hollingsworth, discussion leader): Fumio Matsumura, "Effect of pyrethrins on protein kinase and phosphatase in neural tissues"; Brian Spear, "New approaches to microbial insecticides"; Peter Dunn, "Defense response against pathogens and parasites in *Manduca sexta*." (William Marshall, discussion leader): James M. Tiedje, "Tracking genetically engineered organisms"; G. Stotzky, "Survival of genetic transfer by and potential ecological impacts of genetically engineered microbes."

27 January. (Robert Kaufman, discussion leader): Roger Beachy, "Expression of viral disease resistance in plants"; Harry Klee, "Expression of *Agrobacterium* hormone genes in plants"; Robert Fraley, "Herbicide resistance in plants." (Robert Kaufman, discussion leader): Michael J. Adang, "Expression of *Bacillus thuringensis* (BT) crystal protein in plants"; Forest Chumley, "Molecular genetics of the host-pathogen interaction."

28 January. (Robert Goldberg, discussion leader): Robert Goldberg, "Gene regulation in higher plants"; Nam-Hai Chua, "*Cis*- and *trans*-acting elements for plant gene expression"; Brian Larkins, "Modification of genes encoding maize zeins to improve their nutritional quality." (Robert Goldberg, discussion leader): Marc Van Montagu, "Progress in plant genetic engineering: Insect resistance as a case study"; Ganesh Kishore, "Protein engineering in agricultural biotechnology."

29 January. (Kenneth L. Stevens, discussion leader): David Lynn, "Endogenous regulators of biochemical events in plants"; Arthur Bell, "Plants as potential sources of natural insecticides"; Eloy Rodriquez, "Evolution and function of novel insecticides." (D. Bruce Merrifield, discussion leader): D. Bruce Merrifield, "Forces of change and the rising tide of innovation."

30 January. (Hans VanEtten, discussion leader): Hans VanEtten, "Detoxification of plant antibiotics as a requirement for pathogenicity"; Brian Staskawicz, "The molecular basis of specificity in phytopathogenic bacteria"; Chris Lamb, "The molecular response of plants to infection."

Alcohol

Ernest P. Noble, chairman; David Van Thiel, vice chairman.

2 February. Membrane and subcellular effects (E. Rubin and Y. Israel, co-chairmen): Dora B. Goldstein, "Alcohol-induced changes in membrane fluidity"; Emanuel Rubin, "Role of phospholipids in membrane fluidization and tolerance"; Yedy Israel, "Immune response to acetaldehyde adducts." H. Werner Goedde, "Aldehyde dehydrogenase isoenzymes: relationship to alcoholism"; Ting-Kai Li, "Implications of ADH isoenzymes in the biology of alcoholism."

3 February. Cellular effects (E. P. Noble and T. Costa, co-chairmen): Jean de Vellis, "Biochemical markers of various brain cell types"; Ernest P. Noble, "Alcohol effects on membranes of neuronal cells maintained in culture"; Ivan Diamond, "Cellular membrane tolerance produced in tissue culture cells." Paul Mandel, "Metabolic effects of alcohol on cultured neural cells"; Tommaso Costa, "Opioid system in cells grown in culture."

4 February. Tissue and organ effects (D. Van Thiel and S. Schenker, co-chairmen): Boris Tabakoff, "Alcohol-induced changes in brain receptors and neurotransmitters"; Burton Altura, "Alcohol alters cardiovascular function"; Charles S. Lieber, "Hepatic alcohol metabolism." David Van Thiel, "Alcohol and sexual function"; Anastacio M. Hoyumpa, "Effects of alcohol on the gastrointestinal tract and nutrition."

5 February. Total organism effects (E. Parker and R. Tarter, co-chairmen): Robert Plomin and Gerald McClearn, "New research in behavioral genetics and in the genetics of alcoholism"; Howard Moss, "The role of clinical chemistry in alcoholism research: Past, present and future"; Henri Begleiter, "Electrophysiology of subjects at high risk for alcoholism." Elizabeth Parker and Ralph Tarter, "Cognitive and behavioral variables in high risk subjects: Hard news from 'soft' science"; Michael Phelps, "Positron emission tomography: Localization of functional deficits in cerebral metabolism and neurotransmitter systems."

6 February. Integration, synthesis and future directions (round-table discussion): Emanuel Rubin, Yedy Israel, Ernst P. Noble, Tommaso Costa, David Van Thiel, Steven Schenker, Elizabeth S. Parker, Ralph Tarter.

Angiotensin

Hiroko Nishimura, chairman; Victor Dzau, vice chairman.

Interaction between Renin-Angiotensin and Other Biological Systems—In Vivo and at Cellular Levels

9 February. Interaction with autonomic nervous system and catecholamines (Michael J. Peach, discussion leader): Charles J. Homcy, "Molecular characterization of adrenergic receptors"; John A. Bevan, "Acetylcholine, VIP and neurogenic vasodilation"; Rudolf Lang, "Mechanism of action of neuropeptide 'Y' in cardiovascular control"; George J. Trachte, "Interaction of angiotensin peptides with purinergic nerves." Interaction with steroid hormones (Victor J. Dzau, discussion leader): Kevin J. Catt, "Adrenal angiotensin II receptors and molecular mechanism of aldosterone regulation"; David G. Gardner, "Regulation of the gene for atrial natriuretic factor."

10 February. Interaction with arachidonate metabolites—Part I (Hiroko Nishimura, discussion leader): Jorge H. Capdevila, "Cytochrome P-450 and the metabolism of arachidonic acid to biologically active compounds"; Michael J. Peach, "Endothelium-dependent arterial relaxation"; Robert M. Rapoport, "Role of cyclic GMP in vascular relaxation." Interaction with arachidonate metabolites—Part II (Alberto Nasjletti, discussion leader): Robert Carey, "Control of renin secretion in isolated JG cells"; Oscar A. Carretero, "The macula densa and the connecting tubule in the control of renin release"; James Burton, "Interaction among kallikrein inhibitor, kinin, and blood pressure."

11 February. Interaction with atrial natriuretic factor (ANF)—Part I (Tadashi Inagami, discussion leader): Philip Needleman, "The biochemical pharmacology of atrio-peptin"; Aviv I. Hassid, "Interaction between angiotensin and ANF on cytosol calcium"; Ferid Murad, "Relationships of the ANF receptor and the guanylate cyclase–cyclic GMP system"; Christine E. Seidman, "Genetic expression and secretion of ANF." Interaction with atrial natriuretic factor (ANF)—Part II (Theodore L. Goodfriend, discussion leader): Masashi Imai, "Renal action of atrial natriuretic polypeptide"; Ronald H. Freeman, "Reciprocal changes in the secretion of renin and ANF in chronic experimental heart failure"; Alan K. Johnson, "ANF in thirst and central control of blood pressure."

12 February. Angiotensin formation and mechanism of action (R. Wayne Alexander, discussion leader): Paul C. Churchill, "Second messengers in renin secretion"; Ahsan Husain, "Extracellular ANG II formation by extrarenal renin-angiotensin system"; Luis G. Navar, "Vascular and transport effects of intrarenally generated angiotensin II." Interaction with vasopressin (Carlos M. Ferrario, discussion leader): Dietmar Richter, "Molecular biology and regulation of the vasopressin-oxytocin systems"; Haralambros Gavras, "Vasopressin angiotensin interaction in the central and peripheral sympathetic nervous system."

13 February. Renin-angiotensin during development (Charles R. Rosenfeld, discussion leader): Jean E. Robillard, "Role of renin-angiotensin adrenergic systems in developmental kidneys"; E. Malcolm Symonds, "The role and nature of the renin-angiotensin system in the genital tract"; William S. Arant, "Renin-angiotensin in control of neonatal blood pressure"; Julie R. Inglefinger, "Expression and processing of renin in various tissues during ontogeny."

Composites

James C. Seferis, chairman; Gino Nicolais, vice chairman.

Interrelating Design, Manufacturing, and Chemistry

12 January. Integrating matrices and reinforcements (R. F. Landel, discussion leader): S. S. Sternstein, "Continuous fiber reinforced composites from thermosets to thermoplastics"; C. Tucker, "Short versus continuous fiber composites." Chemical analysis and resistance (R. B. Prime, discussion leader): J. L. Koenig, "Fourier transform infra-red spectroscopy of optimized interfacial structure of composites"; D. C. Bonner, "Solvent resistance of fiber reinforced advanced polymeric composites."

13 January. Processing and manufacturing (J. L. Kardos, discussion leader): J. Gotro, "Thermoanalytical characterization of lamination"; T. G. Gutowski, "Mechanics of composite consolidation"; Anisotropic analysis and properties (E. F. Fitzgerald, discussion leader): S. Guceri, "Advanced computational methods for complex shape thermoplastic laminates"; D. R. Moore, "Anisotropic characterization of fracture toughness in unidirectional laminates."
14 January. Failure analysis and usage (Z. Hashin, discussion leader): P. S. Theocaris, "The elliptic paraboloid failure criterion in composites"; S. Tsai, "Design of laminates based on limit and ultimate loads." Composite durability (J. K. Lees, discussion leader): C. C. Chamis, "Composite progressive fracture including environmental effects"; L. B. Ilcewicz, "Applied hygrothermal characterization and analysis of composite."
15 January. Composite structural design (J. C. Halpin, discussion leader): K. K. Kedward, "Evaluation of current design practices"; O. A. Bauchau, "Innovative design with composites." (G. Nicolais, discussion leader): Contributions by participants.
16 January. Composite long-term durability (W. Knauss, discussion leader): J. Augl, "Nonlinear creep effects in relation to physical aging, temperature and moisture"; F. W. Crossman, "Integration of long-term performance considerations in the design process."

Crystal Growth

A. L. Gentile, chairman; W. R. Wilcox, vice chairman.
23 February. (Discussion leader to be announced): M. Klein, "New effects and applications in ferroelectrics"; E. Kratzig, "Characterization of photorefractive crystals"; D. Rytz, "Growth of ferroelectric crystals." (Howard Lessoff, discussion leader): G. Stringfellow, "OMVPE thermodynamics"; R. Dupuis, "III-V compound semi-conductors grown by MOCVD."
24 February. (W. R. Wilcox, discussion leader): M. L. Coltrin, "Transport phenomena and chemical reactions in CVD"; V. O. Esin, "Computer simulation of interfacial growth processes"; M. E. Glicksman, "Ostwald ripening." (R. A. Laudise, discussion leader): Summaries of invited posters.
25 February. (G. Stringfellow, discussion leader): T. Kuech, "OMVPE surface kinetics"; K. W. Carey, "Abrupt interfaces"; D. Dapkus, "Pyrolysis and decomposition of precursors." (R. F. Sekerka, discussion leader): V. Nikolov, "Convection in Czochralski growth"; N. Kobayaski, "Heat transfer and thermal stress in Czochralski growth."
26 February. (D. Rytz, discussion leader): R. R. Neurgaonkar, "Recent developments in ferroelectric tungsten bronze crystals"; H. Arend, "Point defects in ferroelectric perovskite crystals"; J. Albers, "Growth, characterization, and poling of $BaTiO_3$ single crystals." (V. Keramidas, discussion leader): R. Bhat, "Alternative organo-metallic sources for II-V compound epitaxy"; D. Kisker, "Thermodynamic aspects of OMVPE."
27 February. (A. L. Gentile, discussion leader): L. A. Boatner, "Growth of pure and mixed tantalate crystals and their alteration using ion beam techniques"; (speaker to be announced), "Ferroelectric liquid crystals"; (speaker and subject to be announced.)

Electrochemistry

Joseph G. Gordon, II, chairman; William R. Heineman, vice chairman.
19–23 January. Electrode surface structure—new experimental methods. Interfacial double layer—models. Electrochemistry and electrochemical engineering in electronics. Electrocatalyst characterization and reactivity. Reactions at modified and micro-electrodes. Speakers will be announced.

Fibronectin and Related Proteins

Richard Hynes, chairman; Deane Mosher, vice chairman.
16 February. (Richard Hynes, discussion leader): Tito Baralle, "Molecular biology of fibronectin"; Jean Schwarzbauer, "Retroviral expression of fibronectin"; Sen-Itoroh Hakomori, "Carbohydrates of fibronectin." (Kenneth Yamada, discussion leader): Jack Lawler, "Thrombospondin"; Denisa Wagner, "Von Willebrand factor: Synthesis, storage and release"; Robert Handin, "Von Willebrand factor: Molecular biology."
17 February. (Erkki Ruoslahti, discussion leader): Clayton Buck, "The integrin complex"; David Phillips, "The IIB/IIIA complex"; Tim Springer, "The LFA/MAC-1 family." (Rick Horwitz, discussion leader): Michael Pierschbacher, "Arg-Gly-Asp receptors"; Mark Ginsberg, "Platelet receptors"; Sam Wright, "Macrophage receptors."
18 February. Yoshi Yamada, "Laminin"; Lance Liotta, "Laminin receptor"; Lou Reichardt, "Neurite outgrowth." (Deane Mosher, discussion leader): Mert Bernfield, "Membrane proteoglycans"; Magnus Hook, "Bacterial adhesion."
19 February. (Jean-Paul Thiery, disccusion leader): Michael Wilcox, "Position-specific antigens"; Lola Reid, "Matrix effects on differentiation"; Mina Bissell, "Gene regulation by matrix." Darwin Prockop, "Collagen genes and diseases."
20 February. (Antti Vaheri, discussion leader): James Quigley, "Plasminogen activator"; Wen-Tien Chen, "Proteolysis"; Larry Rohrschneider, "Tyrosine phosphorylation." Participants are encouraged to make poster presentations during the meeting and should submit abstracts with application.

Glycoproteins and Glycolipids

Don M. Carlson and James C. Paulson, co-chairman.
16 February. Glycosylation pathways (H. Schachter, chairman): J. Baenziger, "Sulfation of *N*-linked oligosaccharides of pituitary hormones"; M. Krieger, "Role of *N*- and *O*- linked glycosylation in LDL receptor function"; C. Hirschberg, "Antiport proteins and the topology of glycosylation"; A. Varki, "Acetylation of sialic acid residues." Structure and structure analysis (C. Sweeley, chairman): A. Kobata, "Abnormal *N*-linked oligosaccharides in disease states"; Anne Dell, "Carbohydrate structure determination by mass spectrometry"; K. Bock, "Solution structure of oligosaccharides."
17 February. Subcellular organization of glycosylation (C. Hirschberg, chairman): J. Rothman, "Glycoprotein transport in the Golgi"; J. Roth, "Subcompartmentation of glycosylation reactions"; G. Griffiths, "Relationship between the secretory and endocytic pathways"; (speaker to be announced), "The secretory pathway." Molecular biology of glycosylation (J. Paulson, chairman): J. Paulson, "Cloning of sialytransferase"; J. Shaper, "Cloning of galactosyltransferase"; P. Qasba, "Constant and variable regions in galactosyltransferase genes"; B. Sheares, "Molecular biology of ovalbumin glycosylation."
18 February. Carbohydrate groups in cell surface recognition (V. Ginsberg, chairman): D. Wiley, "Receptor binding site of influenza virus hemaglutinins"; K. Karlsson, "Cellular receptors for bacterial adhesion": B. Shur, "Galactosyltransferase-mediated sperm-egg adhesion"; D. Roberts, "Carbohydrate receptors of cell adhesion proteins." Mammalian carbohydrate binding proteins (chairman to be announced): K. Drickamer, "Homogies among animal liver lectin genes"; R. Hill, "Purification and cloning of the macrophage fucosyl lectin"; J. Wang, "Distribution of the intracellular galactose lectin during the cell cycle."
19 February. Carbohydrate recognition in plants (I. Goldstein, chairman): P. Albersheim, "Cell wall fragments as elicitors in host defense and as developmental triggers"; R. Dunn, "Cloning and expression of pea lectin"; M. Schindler, "Rhizobium–soybean cell adhesion"; M. Etzler (subject to be announced). Plenary lecture (R. Hill, chairman): Stuart Kornfeld, "Phosphorylation and targeting of lysosomal enzymes to lysosomes."
20 February. Differential expression of glycoconjugates in development and transformation (D. Carlson, chairman): V. Ginsburg, "Glycolipid tumor differentiation antigens"; S. Hakomori, "Glycosylation changes in transformation."

Holography and Optical Information Processing

Steven K. Case, chairman; Stephen Benton, vice chairman.
5 January. Alan Huang, "Optical-digital computers." Armand Tanguay, "Optical information processing components."
6 January. (Harrisson H. Barrett, discussion leader): Anthony Ticknor, "Optical acceleration of digital computation." (Stephen Benton, discussion leader): G. Michael Morris, "Image processing at low light levels"; Poster papers.
7 January. Donald Sweeney and George Schils, "Holographic correlator for distortion invariant recognition"; Nicholas George, "Hybrid processors with natural illumination." Jeffrey A. Jalkio, "Coherent optics for 3-D metrology."
8 January. James Leger, "Combing laser beams with holography"; James Cowan, "Fabrication of

optical microstructure." Panel discussion and informal presentations.
9 January. (Speakers and subjects to be announced.)

Magnesium in Biochemical Processes and Medicine

Michael P. Ryan, chairman; Stanley Wallach, vice chairman.
23 February. The interaction of magnesium with enzymes, proteins and nucleotides (Albert S. Mildvan, discussion leader): Albert S. Mildvan, "NMR studies of the role of magnesium in ATP-utilizing enzymes"; George H. Reid, "EPR studies of magnesium sites of proteins using manganese as a probe"; Herman C. Watson, "Magnesium-protein interactions in nucleotide complexes of phosphoglycerate kinase." Magnesium in plant cell biology (George H. Lorimer, discussion leader): George H. Lorimer, "Role of magnesium in chloroplasts and photosynthesis"; Gerald A. Berkowitz, "Magnesium effects on chloroplast metabolism and its protective effects in drought."
24 February. Advances in methods for measuring magnesium (Ronald J. Elin, discussion leader): Raj Gupta, "^{31}P NMR"; John McGuigan, "Magnesium electrodes"; Antonio Scarpa, "Fluorescent dyes"; Gregory Hook, "Electron probe." Magnesium-membrane interactions (Theodar Günther, discussion leader): H. Ebel, "Magnesium binding to rat renal brush border membrane vesicles"; Frank Heation/Y. Rayssiguier, "Membrane fluidity changes in magnesium deficiency."
25 February. Magnesium and cellular biochemistry, compartmentation and transport (Michael Maguire, discussion leader): Michael Maguire, "Isolation and expression of magnesium transport genes in prokaryotes"; Jurgen Vormann, "Characteristics of magnesium influx and efflux systems in mammalian cells"; Barbara E. Corkey, "The regulation of magnesium homeostasis in cells." Transepithelial transport of magnesium: hormonal controls, drug-induced effects (Gary A. Quamme, discussion leader): Klaus Beyenbach, "Basic membrane transport-comparative aspects"; Christian de Rouffinac, "Hormonal controls of renal magnesium transport."
26 February. Role of magnesium in ion transport (Michael P. Ryan, discussion leader): Peter Flatman, "Magnesium as a modulator of ion transport in red blood cells"; Keith D. Garlid, "Magnesium as a modulator of ion transport in mitochondria"; Christopher Fry, "Electromechanical effects of magnesium on cardiac muscle." Magnesium in cardiac arrhythmias, ischaemia, myocardial infarction (Stanley Wallach, discussion leader): Sherman Bloom, "Physiological basis for the increased severity of myocardial infarction in magnesium deficiency"; H. Sanelvad Rasmussen, "Clinical intervention studies with magnesium in angina and myocardial infarction."
27 February. Magnesium in hypertension and atherosclerosis (Bella T./Burton M. Altura, discussion leaders): Bella T./Burton M. Altura, "Influence of magnesium in experimental atherosclerosis and hypertension"; Lawrence Resnick, "Magnesium metabolism in the pathogenesis and treatment of essential hypertension"; Robert K. Rude, "Potential mechanisms relating to magnesium for blood pressure regulation in man."

A number of poster sessions will be scheduled. Abstracts may be sent to Dr. Stanley Wallach, Medical Service, VA Medical Center, Bay Pines, FL 33504, or to Dr. Michael P. Ryan, Department of Pharmacology, University College Dublin, Fosters Avenue, Blackrock, Dublin, Ireland.

Mode of Action of Opiates

R. Suzanne Zukin, chairman; R. Alan North, vice chairman.
2 February. Opioid peptides: The genes encoding them (Ed Herbert, discussion leader): Ed Herbert, "Regulation and expression of opioid peptides: Studies using gene transfer techniques"; James Roberts, "Regulation of POMC gene-expression in pituitary and hypothalamus"; Stanley Watson, "Regulation of peptide messenger RNA's as a window into cellular activity: Northern and in situ analyses"; Sidney Udenfriend/Richard Howells, "Studies on the distribution of pro-enkephalin and the regulation of its biosynthesis." Opioid peptides: Processing and regulation (Huda Akil, discussion leader): Jack Barchas/Jim Eberwine, "The cloning and regulation of proteins involved in eliciting opioid peptide action"; Nabil Seidah, "Common processing enzymes at single and paired basic residues"; James Dixon, "New approaches to determine post-translational modification of neuropeptides."
3 February. Multiple opioid receptors: development of the concepts (Stephen R. Zukin, discussion leader): Stephen R. Zukin, "The sigma receptor: Relationship to opioid and nonopioid receptors"; Avram Goldstein, "Site-specific binding assays for opioid receptors"; Brian Cox, "Functional discrimination of opioid receptor types"; Gavril Pasternak, "Receptor conversions: evidence for mu receptors." Opioid receptors: Purification and characterization (Eric Simon, discussion leader): Horace Loh, "Purification studies of mu opioid receptors"; Eric Barnard, "Co-purification of the G protein and mu opioid receptors"; Werner Klee, "Purification and reconstitution of opioid receptors from NG-108-15 cells"; R. Suzanne Zukin, "Interrelationship of multiple molecular weight forms of opioid binding polypeptides."
4 February. Regulation of the receptors (K.-J. Chang, discussion leader): Miles Herkenham, "Autoradiographic evidence for non-synaptic opioid receptors and their regulation"; Ann Tempel, "Neurochemical and molecular biological studies of drug-induced changes in brain opioid systems"; Steven Childers, "Mechanisms of opioid receptor coupling to adenylate cyclase"; Joan Schwarz, "Pharmacological regulation of opioid peptide synthesis." Opioid receptors, ion channels and second messengers (Robert Macdonald, discussion leader): Michael Cahalan, "Role of ion channels and second messengers in T-lymphocyte activation"; Paul Sternweiss, "G-protein regulation of muscarinic receptors"; R. Alan North, "Coupling of mu and delta receptors to potassium channels"; Robert Macdonald, "Coupling of kappa receptors to calcium channels."
5 February. Opioid pharmacology and synaptic processes (Steven Henriksen, discussion leader): Stanley Crain, "Excitatory effects of opioids on sensory ganglion neurons"; Roger Nicoll, "Similarities in membrane actions of serotonin, GABA, and enkephalin"; George R. Siggins, "Intracellular studies of opioid peptides on limbic neurons"; Walter Zieglgansberger, "Modulatory and conventional actions of opioids on cortical neurons." Hans Kosterlitz, "Opioid peptides and receptors: A history."
6 February. Functional significance of opioids (George Koob, discussion leader): George Koob, "The role of the nucleus accumbens in opioid dependence"; Agu Pert, "Functional activity of opioid systems in the brain"; Conan Kornetsky, "The significance of rewarding and aversive brain stimulation to the action of opiates"; John Holaday, "Functional interactions among multiple opioid ligands."

Organization of Metabolic Sequences

Paul A. Srere, chairman.
19 January. K. Porter, "Structure of cytomatrix"; J. Clegg, "Studies on the glycolytic pathway in permeabilized cells"; A. Minton, "Effects of macromolecular crowding upon biochemical kinetics." (M. Berry, chairman): G. R. Welch, "Physiocochemical characterization of metabolic microenvironments"; T. Keleti, "Theoretical aspects of enzyme complexes."
20 January. H. Westerhoff, "A new mechanism of free-energy transfer between coorganized enzymes"; J. DeMoss, "Multifunctional enzymes in the tryptophan pathway"; J. Coggins, "The Shikimate pathway: To organize or not organize—a biosynthetic conundrum." S. Bernhard, "The thermodynamic and kinetic implications of cellular metabolite transfer via enzyme-enzyme complexes"; D. Kell, "Organization of bacterial free energy–transducing systems"; (S. Bessman, chairman).
21 January. B. Sumegi, "Organization of mitochondrial matrix"; H. Knull, "Compartmentation of glycolytic enzymes in the brain." S. Benkovic, "Enzymes in the de novo purine biosynthetic pathway"; M. E. Jones, "Pyrimidine biosynthesis."
22 January. D. Evans, "Pyrimidine biosynthesis"; M. Kozak, "Selection of translational start sites in eukaryotic messenger RNA's"; I. Wool, "Nucleic acid–protein interactions in eukaryotic ribosomes." M. Deutscher, "Protein synthesis"; S. Penman, "Nuclear structure."
23 January. S. Altman, "Ribonuclease P: A ribonucleoprotein complex in which the catalytic subunit is RNA"; B. Alberts, "DNA synthesis"; C. McHenry, "DNA polymerase III holoenzyme: Components and functions of a replicative complex"; C. Mathews, "Current status of precursor channeling in DNA replication."

Metals in Biology

Thomas M. Loehr, chairman; Brian M. Hoffman, vice chairman.

26 January. Modern applications of NMR spectroscopy to metalloproteins (F. Ann Walker, discussion leader): Kurt Wuthrich, "NMR studies of the 1°, 2°, and 3° structures of metallothioneins in solution"; Gerd N. La Mar, "NMR methodology for reactive intermediates"; Harold M. Goff, "NMR of heme protein model complexes and peroxidases"; John H. Enemark, "^{95}Mo NMR." Iron proteins (Harry B. Gray, discussion leader): Edward I. Solomon, "Spectroscopy of non-heme–iron proteins."

27 January. Iron proteins (Ralph G. Wilkins, discussion leader): Martha L. Ludwig, "Structure of iron superoxide dismutase"; Donald M. Kurtz, "Hemerythrin"; Britt-Marie Sjöberg, "Ribonucleotide reductase"; A. Grant Mauk, "Hemeprotein-hemeprotein interactions." Metals and electron flow in photosynthesis (Robert W. Scheidt, discussion leader): Johann Deisenhofer, "Crystal structure of the photosynthetic reaction center."

28 January. Metals and electron flow in photosynthesis (Melvin P. Klein, discussion leader): George Feher, "Structure of the iron in the reaction centers of photosynthetic bacteria"; Jack Fajer, "Porphyrin radicals in photosynthesis"; Dewey Holten, "Dynamics of the photosynthetic centers"; Gary W. Brudvig, "Involvement of Mn in photosynthetic water oxidation." Oxidases (James A. Fee, discussion leader): Marten Wikstrom, "Cytochrome oxidase."

29 January. Copper proteins and models (Kenneth D. Karlin, discussion leader): Edward N. Baker, "Crystal structure of azurin"; Robert A. Scott, "Copper protein EXAFS"; Jeffrey S. Thompson, "Copper complexes"; Harvey J. Schugar, "Copper complexes as structural models." (Paul Saltman, discussion leader): Richard Frankel, "Magnetite and magnetotaxis in bacteria and algae."

30 January. Oxidases (Graham Palmer, discussion leader): Sunney I. Chan, "Cytochrome oxidase"; Christopher A. Reed, "Interactions between metal centers"; James Terner, "Resonance Raman spectroscopy of peroxidase intermediates."

Oxy Radicals in Biology and Medicine

Anne P. Autor, chairman; Steven D. Aust, vice chairman.

9 February. (Steven D. Aust, discussion leader): William A. Goddard, "Iron-oxygen bonding"; John W. Eaton, "Iron catalyzed hydroxyl radical formation"; Michael H. N. Golden, "Iron/reactive oxygen toxicity in Kwashiorkor." (Helmut Sies, discussion leader): Hiroshi Okamoto, "Hydroxyl free radicals and experimentally induced diabetes"; Roger T. Dean, "Oxygen free radical damage and protein degradation."

10 February. (Lawrence J. Marnett, discussion leader): David H. Dolphin, "Reactive oxygen generation from heme-oxygen"; Herbert deGroot, "In vivo oxy radicals"; Linda C. McPhail, "Mechanisms of NADPH oxidase generation of reactive oxygen by activated neutrophils." (Keith V. Ingold, discussion leader): Graham Burton, "Physiochemistry of α tocopherol"; James P. Kehrer, "Antioxidants in muscular dystrophy."

11 February. (William A. Pryor, discussion leader): Thomas W. Kensler, "Role of oxygen radicals in tumor promotion"; Susumu Nishimura, "8-Hydroxyguanine: A new type of modification of DNA by oxygen radicals"; Miriam P. Rosin, "Effect of antioxidants on early markers of cancer in humans." (Ingrid Emerit, discussion leader): Stuart Linn, "Genotoxic action of reactive oxygen"; Jean Cadet, "Mechanisms of free radical induced damage to DNA."

12 February. (Joe M. McCord, discussion leader): K. V. Rajagopalan, "Flavin-dependent oxydases with specific reference to xanthine oxidase"; Michael W. Weiner, "Tissue ischemia studied by ^{31}P NMR spectroscopy"; Ernst-Dieter Jarasch, "Cellular and subcellular localization of xanthine." Special address: Britton Chance, "Metabolism, control and toxicity of oxygen: Molecular to clinical."

13 February. (Larry W. Oberley, discussion leader): Danielle Touati, "Mutants of *Escherichia coli* defective in Mn superoxidase dismutase"; Peter E. Newburger, "Antioxidant enzymes in promyelocytic leukemia (HL-60) cells"; Carla Marres-Westerbeek, "Genetics and regulation of eukaryotic Mn superoxide dismutase"; Helmut Ruis, "Oxygen and heme regulation of catalase."

Polymers

Shiro Matsuoka, chairman; Matthew Tirrell, vice chairman.

5 January. Molecular dynamics (Isaac Sanchez, discussion leader): Lucien Monnerie, "Segmental motions of polymer chains in bulk above Tg"; Graham Williams, "Molecular dynamics and alignment behavior of thermotropic liquid crystalline polymers as studied by dielectric relaxation spectroscopy." (M. Tirrell, discussion leader): Poster session.

6 January. Relaxation phenomena (William MacKnight, discussion leader): Glenn H. Fredrickson, "Statistical mechanical modeling of cooperative relaxation phenomena near the glass transition"; Bryan E. Read, "Dynamic mechanical and creep studies of PMMA in the alpha and beta relaxation regions. Physical aging effects and nonlinear behavior." Structure-properties of polymeric glasses (R. Robertson, discussion leader): Ulrich W. Suter, "Atomistic modeling and estimation of properties of bulk amorphous glassy polymers"; Edward J. Kramer, "Case II diffusion in polymers."

7 January. Surface and thin layers (F. S. Bates, discussion leader): M. Muthukhumar, "Polymer surface interactions—theory and simulations"; John Rabolt, "Structure and topography of polymer monolayers by infrared spectroscopy and scanning tunneling microscopy." Optical properties (D. Ulrich, discussion leader): Shogo Saito, "Role of polymers in the optical data storage media by using photochromism"; James Stamatoff, "The development of polymers for nonlinear optical devices."

8 January. Chemical reactions (Donald Paul, discussion leader): Robert Grubbs, "Organometallic roots to monodispersed and block copolymers"; Kohei Sanui, "Synthesis of polyheteroaromatics at the air-water interface." Special anniversary session (S. Matsuoka, discussion leader): Sam Krimm, "From polyethylene to polyalanine: A polymer spectroscopist's odyssey."

9 January. Crystalline polymers (Fred Khoury, discussion leader): David M. Sadler, "New explanation of chain folding"; Bernard Lotz and Jean Wittman, "Interaction between crystalline polymers and selected organic substrates."

Temperature Stresses in Plants

Stephen J. Wallner, chairman; C. J. Weiser, vice chairman.

12 January. (C. J. Weiser, discussion leader): C. W. Sullivan, "Low temperature adaptations in Antarctic sea ice microbial communities"; Charles M. Rick, "Low temperature–tolerant ecotypes of Solanaceae"; Cecil Stushnoff, "Freezing resistance among woody plants." (James Lyons, discussion leader): John Raison, "Role of membrane phase transitions in the response of plants to chilling"; Michael Reid, "Calcium transport and chilling injury."

13 January. (Guy Thompson, discussion leader): Helen Norman, "Changes in lipid metabolism as effected by chilling"; Nurio Murata, "Plastid lipids in relation to chilling sensitivity of plants"; Donald Ort, "Effects of chilling on photosynthetic mechanisms." (Alan MacKenzie, discussion leader): Felix Franks, "Physical chemistry of freezing and supercooling"; Alan Hirsh, "Vitrification as means of natural cryoprotection."

14 January. (Peter Steponkus, discussion leader): Shizno Yoshida, "Biochemical alterations—proteins"; Daniel Lynch, "Biochemical alterations—lipids"; Martin Caffrey, "Dehydration/temperature-dependent mesomorphic phase transitions." (A. C. Leopold, discussion leader): Christine Vertucci, "Water activity in relation to physiological activities in seeds"; John Crowe and Lois Crowe, "Stabilization of biological membranes at low water activities."

15 January. (J. P. Palta, discussion leader): Bryan McKersie, "Freezing and free radical effects on cell membranes"; Kenneth Steffen, "Freezing stress: Cell membranes versus organelle functions"; Norman Huner, "Chloroplast membrane assembly and low temperature acclimation"; (Michael Burke, discussion leader): Edward Ashworth, "Features of woody plants which facilitate supercooling"; Steven Linow, "Ice-nucleating bacteria—recent developments."

16 January. (Larry Gusta, discussion leader): Albert Robertson, "ABA induction of freezing tolerance in cultured plant cells"; Anne Johnson-Flanagan, "Protein synthesis during the induction of freezing tolerance in cultured plant cells"; Charles Guy, "Cold acclimation proteins: De novo synthesis at low temperature is associated with the induction of freezing tolerance"; Paul Li, "Interpretive summary."