Gordon Research Conferences

ALEXANDER M. CRUICKSHANK

The Gordon Research Conferences for the summer of 1988 will be held in New Hampshire and Rhode Island. ATTENDANCE LIMITED—RECOMMEND APPLICANTS APPLY IMMEDIATELY.

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, Rhode Island 02881-0801. Telephone: 401-783-4011 or 401-783-3372.

Mail for the office of the Director from 12 June to 25 August 1989 should be addressed to: Dr. Alexander M. Cruickshank, Director, Gordon Research Conferences, Colby-Sawyer College, New London, New Hampshire 03257.

Science of Adhesion

New Hampton School
R. A. Pike, chairman; J. Antonucci, vice chairman

14–18 August

C. Arah, "Adhesive development and testing."

C. E. M. Morris, "Reduced temperature cure of aerospace adhesives."

A. J. Kinloch, "Rubber toughened structural adhesives: Microstructure-property relationships."

L. Penn, "Ice adhesion."

J. Crompton, "Interfacial structure, properties and stability in bonded aluminum."

H. Mizumachi, "Tack."

M. N. Gardos, "The role of adhesion on the tribological performance of solid lubricant films."

E. Sancaktar, "Viscoelastic behavior of the fiber matrix interphase—theory and experiment."

A. Moet, "Dissipative processes and long-term performance of adhesion bonds."

K. Liechti, "Inelastic mixed mode debonding by material interfaces."

S. Venz, "Adhesion and interfaces in restorative dentistry."

J. Black, "Interfacial properties in some thermoplastic matrix composites."

R. Burchard, "Adhesion of gliding bacteria."

K. Takahashi, "In situ study of interfacial moisture using AC impedance probes."

J. E. Ritter, "Use of micro-indentation techniques in studying adhesion of thin coatings."

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

Biology of Aging

Plymouth State College (N)
D. Gershon, chairman; A. Richardson, vice chairman

Interrelationship between Development, Differentiation and Aging

24–28 July

Molecular and cellular aspects of aging: V. Cristofalo, discussion leader

Speakers: I. Dawid, A. Kaplan, H. Blau

Neuronal system in development and aging: C. Finch, discussion leader

Speakers: P. Rakic, C. Cotman, J. Masters

The immune system differentiation and aging: N. R. Klinman, discussion leader

Speakers: N. R. Klinman, R. Miller, D. E. Harrison

The hematopoietic system—regulation of proliferation, differentiation and aging: D. Lipschitz, discussion leader

Speakers: H. Broxmeyer, D. Lipschitz, G. Rothstein

Development and aging in insects: R. S. Sohal, discussion leader

Speakers: R. S. Sohal, M. R. Rose, A. Garcia-Bellido

Muscle development and aging: J. Faulkner, discussion leader

Speakers: E. Schultz, B. Carlson, J. Faulkner

The ocular lens—the long-term maintenance of functions without cellular and molecular turnover: Y. Courtois, discussion leader

Speakers: J. Piatigorsky, A. Spector, Y. Courtois

Liver development, regeneration and aging: A. Richardson, discussion leader

Speakers: N. Fausto, A. K. Roy, J. Papaconstantinou

Analytical Chemistry

New Hampton School
I. W. Levin, chairman; E. S. Yeung, vice chairman

7–11 August

Nuclear magnetic resonance structural techniques

Speakers: S. Opella, A. Gronenborn

NMR imaging: J. Miller, discussion leader

Speakers: J. Ackerman, R. Komoroski

Polymer characterization: H. Barth, discussion leader

Speakers: G. Phillies, B. Wunderlich

Capillary electrophoresis: E. Yeumg, discussion leader

Speakers: R. M. McCormack, A. G. Ewing

Optical imaging: W. G. Fateley, discussion leader

Speakers: M. D. Morris, A. Lewis

Molecular characterization of electrode surfaces: D. B. Chase, discussion leader

Speakers: R. L. McCreery, M. D. Porter

Expert systems: J. Kirkland, discussion leader

Speakers: P. J. Schoenmakers, F. Settle

Open session: J. W. Robinson, discussion leader

Near-infrared spectroscopy: W. F. McClure, discussion leader

Speakers: J. B. Callis, F. E. Barton

Contributed poster session: E. Yeung, coordinator

Analytical Pyrolysis

New Hampton School
J. W. de Leeuw, chairman; K. J. Voorhees, vice chairman

19–23 June

Fundamental aspects of thermal analysis I: H. R. Schulten, chairman

Speakers: R. S. Lehrle, J. R. MacCullum

Fundamental aspects of thermal analysis II: S. Tsuge, chairman

Speakers: J. J. Boon, H. L. C. Meuzelaar

Mechanisms of pyrolysis: R. P. Lattimer, chairman

Speakers: T. P. Wampler, L. M. Stock

Quantitation and reproducibility in thermal analysis: G. Eglinton, chairman

Speakers: S. Larter, J. Sleeckx

Mass spectrometric detection of bio- and geopolymer pyrolysis products: R. Helleur, chairman

Speakers: N. Simmleit, A. Tas

Comparisons of thermal analysis methods: R. Winans, chairman

Speakers: T. Szekely, P. R. Salomon

Rock-eval and hydrous pyrolysis: K. E. Peters, chairman

Speakers: N. Ryan-Gray, M. D. Lewan

Characterization of coals and coal processes by pyrolysis: F. Behar, chairman

Speakers: M. Nip, J. C. Crelling, R. J. Evans

Four oral presentations of selected posters: K. J. Voorhees, chairman

Animal Cells and Viruses

Tilton School
S. P. Goff, P. A. Sharp, co-chairmen

19–23 June

Virion structure: S. Harrison, discussion leader

Speakers: J. Hogle, D. Stuart

Virus receptors: V. Racaniello, discussion leader

Speakers: J. Cunningham, R. Colonno

Virus latency: B. Roizman, discussion leader

IMPORTANT—PLEASE NOTE

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

Fixed Conference Fees—1989

New Hampshire	
Conferee (double occupancy)	$360
($310 if postmarked 3 weeks prior to conference)	
Nonresident Conferee (meals no room)	$320
($270 if postmarked 3 weeks prior to conference)	
Guest (room, meals)	$270
($220 if postmarked 3 weeks prior to conference)	
Rhode Island	
Conferee (double occupancy with bath)	$375
($325 if postmarked 3 weeks prior to conference)	
Nonresident conferee (meals, no room)	$320
($270 if postmarked 3 weeks prior to conference)	
Guest (room with bath, meals)	$285
($235 if postmarked 3 weeks prior to conference)	

1) Full fixed fee charged regardless of time conferee attends conference. Please note details of fees.

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

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

4) Nonresident conferees are expected to eat all meals in the Conference Dining Room and therefore the fee for nonresidents includes the full meal charge.

5) Offsite accommodations (hotel, motel, and so forth) near the host schools are available; however, early reservations are recommended. The office will send on request a list of outside housing for your information and use.

Speakers: L. Laimins, M. Yoshida

Virus gene expression and tropism: B. Fields, discussion leader

Speakers: S. McKnight, B. Moss

Viral RNA structure and catalysis: B. Flanagan, discussion leader

Speakers: R. Symons, J. Taylor

RNA virus replication and transcription: G. Wertz, discussion leader

Speakers: D. Kolakofsky, R. Lamb

Human retroviruses: D. Baltimore, discussion leader

Speakers: M. Martin, I. S. Y. Chen

Viral pathogenesis and immunology: M. Oldstone, discussion leader

Speakers: U. Koszinowski, F. Chisari, M. Nerenberg

Viral oncogenes: J. M. Bishop, discussion leader

Speakers: T. Roberts, R. Weinberg

Applied and Environmental Microbiology

Colby-Sawyer College (S)

R. L. Crawford, chairman; D. Eveleigh, vice chairman

24–28 July

Biodegradation: D. Bedard, discussion leader

Speakers: T. Leisinger, M. Salkinoja-Salonen, B. Ensley

Metals: R. Belly, discussion leader

Speakers: G. Gadd, T. Barkay, J. Cooney

Environmental kinetics: D. Lewis, discussion leader

Speakers: W. Characklis, R. Larson, R. Hodson, M. Moran

Archaebacteria: J. Reeve, discussion leader

Speakers: K. Stetter, R. Charlebois, G. Olsen

Molecular microbial ecology

Speakers: R. Atlas, G. Stotzky, S. Levy

Regulatory aspects of biotechnology: A. Stern, discussion leader

Speakers: T. Medley, E. Milewski

Biocontrol: D. Crawford, discussion leader

Speakers: B. Carlton, L. Thomashow

Technology transfer: R. Crawford, discussion leader

Speakers: B. Burton, R. Callahan

Special lecture: N. Palleroni

Atherosclerosis

Kimball Union Academy

A. M. Fogelman, T. L. Innerarity, cochairmen

19–23 June

The role of colony-stimulating factors in atherosclerosis: A. J. Lusis, discussion leader

Speakers: D. Metcalf, T. Rajavashisth, R. Gerrity

Enzymes of the cholesteryl ester cycle: ACAT and neutral cholesteryl esterase: G. Getz, discussion leader

Speakers: T. Y. Chang, I. Tabas, D. Hui

Lesion development and lipoprotein modification in the artery wall: M. E. Haberland, discussion leader

Speakers: H. McGill, H. Hoff, J. Witztum

Molecular genetics of hypercholesterolemia and atherosclerosis: R. Krauss, discussion leader

Speakers: H. Hobbs, G. Utermann, L. Chan

Expression and assembly of proteins involved in lipid transport: S.-O. Olofsson, discussion leader

Speakers: J. Gordon, B. McCarthy, D. Lane

Structure and function of receptors: J. Chapman, discussion leader

Speakers: S. Hoffman, K. Drickamer, M. Krieger

The role of transforming growth factors in atherosclerosis: S. M. Schwartz, discussion leader

Speakers: M. Sporn, M. Navab, R. Heimark

State of the art:

Speakers: R. Ross, E. Haber

Modification of the endothelium: P. F. Davies, discussion leader

Speakers: P. F. Davies, J. A. Berliner, P. DiCorleto

Atmospheric Chemistry

New Hampton School

C. J. Howard, chairman

19–23 June

Heterogeneous/condensed phase chemistry: W. L. Chameides, discussion leader

Speakers: S. E. Schwartz, C. E. Kolb, S. A. Penkett

Polar ozone depletion, chemistry and meteorology: A. F. Tuck, discussion leader

Speakers: R. T. Watson, R. L. Jones

Polar ozone field measurements: P. J. Crutzen, discussion leader

Speakers: D. J. Hofmann, S. Solomon, J. G. Anderson

Polar ozone laboratory measurements: R. A. Cox, discussion leader

Speakers: M. J. Molina, S. P. Sander

CFM replacements and trace gas trends: R. S. Stolarski, discussion leader

Speakers: I. R. Shankland, M. K. W. Ko, F. S. Rowland

Hydrocarbon sources and budgets: D. Blake, discussion leader

Speakers: R. R. Fall, B. Lamb

Hydrocarbon oxidation mechanisms and intermediates: H. Niki, discussion leader

Speakers: J. G. Calvert, D. H. Ehhalt

Oxidant formation and rural photochemistry: J. A. Logan, discussion leader

Speakers: M. Trainer, F. C. Fehsenfeld

Model analysis of ozone precursor control strategies: K. L. Demerjian, discussion leader

Speakers: K. L. Schere, G. R. Carmichael, S. C. Liu

Atomic Physics

Brewster Academy

D. J. Wineland, chairman; W. E. Cooke, vice chairman

3–7 July

Fundamental tests using atoms: N. F. Ramsey, discussion leader

Speakers: S. Weinberg, E. N. Fortson, C. Wieman

Multiply excited states: W. E. Cooke, discussion leader

Speakers: P. Camus, W. Sandner

High field ionization: C. W. Clark, discussion leader

Speakers: P. H. Bucksbaum, R. R. Freeman, D. J. Larson, T. F. Gallagher

Laser cooling: H. J. Metcalf, discussion leader

Speakers: C. Cohen-Tannoudji, W. D. Phillips, S. Chu

Fundamental atom/radiation interactions: H. J. Kimble, discussion leader

Speakers: S. Haroche, H. Charmichel, T. W. Mossberg

Wavefunction alignment and control: P. Zoller, discussion leader

Speakers: C. R. Stroud, D. E. Pritchard

Order and disorder in Rydberg atom diamagnetism: D. Kleppner, discussion leader

Speakers: K. Welge, J. B. Delos

Negative ion studies: C. H. Greene, discussion leader

Speakers: S. Buckman, D. Pegg

Applications of lasers in atomic physics:

Speakers: V. Balykin, J. C. Bergquist

Barrier Function of Mammalian Skin

Brewster Academy

R. H. Guy, chairman; R. O. Potts, vice chairman

14–18 August

Stratum corneum lipids and epidermal biochemistry: W. Curatolo, discussion leader

Speakers: D. W. Downing, P. M. Elias

Air-liquid keratinocyte cultures: I. Bernstein, discussion leader

Speakers: K. Madison, M. Ponec

Biophysical characterization of barrier function I—structure: S. Jacques, discussion leader

Speakers: K. Knutson, W. Plachy, S. White

Biophysical characterization of barrier function II—quantitation of permeability: R. Warner, discussion leader

Speakers: H. Bodde, M. Francoeur

Perturbation of barrier function I—chemical enhancers: E. R. Cooper, discussion leader

Speakers: B. W. Barry, R. H. Guy, W. I. Higuchi

Perturbation of barrier function II—iontophoresis: G. Kasting, discussion leader

Speakers: R. R. Burnette, C. Cullander

Physical chemistry of barrier function—transport relationships: H. Schaefer, discussion leader

Speakers: B. Anderson, J. Hadgraft

Models for characterizing barrier function: R. Scott, discussion leader

Speakers: R. L. Bronaugh, G. G. Kreuger

Skin metabolism and transport: B. Shroot, discussion leader

Speakers: G. L. Flynn, J. Kao, H. Mukhtar

Biocompatibility and Biomaterials

Holderness School

R. E. Baier, chairman; D. F. Williams, vice chairman

10–14 July

Cell-polymer interactions: J. Anderson, discussion leader

Speakers: M. Jozefowicz, J. Jozefowicz, P. Didisheim

Biocompatibility revisited: L. Vroman, discussion leader

Speakers: A. von Recum, J. Black

Metal-biosystem interactions: D. Williams, discussion leader

Speakers: H. Elwing, C. Hanks

Vital microscopy results: J. Lemons, discussion leader

Speakers: N. Braunwald, P. Richardson

Bioactive materials: D. Goupil, discussion leader

Speakers: P. Ducheyne, P. Bajpai

Tissue-engineered materials: D. Bruley, M. Lauren, discussion leaders

Speakers: S. Williams, H. Borovetz

Bacteria-biomaterial interactions: A. Gristina, discussion leader

Speakers: P.-O. Glantz, H. Busscher

Underwater adhesion: H. Waite, special presentation

Reconstructive materials: poster session

Rational design of biomaterials: B. Ratner, discussion leader

Speakers: R. Eberhart, J. Gardella

Bioenergetics

Holderness School

B. L. Trumpower, chairman; R. Cross, vice chairman

24–28 July

Structure-function relationships of electron transfer proteins: T. Ohnishi, discussion leader

Speakers: R. Cammack, L. Graham, G. Khorana

Structure-function relationships of electron transfer proteins: A. Crofts, discussion leader

Speakers: R. Gennis, F. Sherman

Energy transducing ATPases: R. Fillingame, discussion leader

Speakers: M. Al-Shawi, P. Dimroth, W. Junge

Vacuolar ATPases: R. Cross, discussion leader

Speakers: N. Nelson, L. Taiz

Workshops: G. von Jagow, Inhibitor binding sites and quinone reaction domains on cytochrome b; D. Stone, Subunit compositions and their functions in vacuolar ATPases; A. Azzi, Energy transducing mechanism of cytochrome c oxidase; A. Senior, ATP hydrolysis and synthesis mechanism(s) in F_1-type ATP synthases; B. Kadenbach, Supernumerary polypeptides of energy transducing membrane protein complexes; R. Simoni, Cation conduction pathways in

energy transducing ATPases; L. Dutton, Primary charge separation in photosynthetic reactions centers; P. Hinkle, Stoichiometries of coupling in energy transducing systems.

Molecular genetics of energy transducing proteins: A.-M. Colson, discussion leader

Speakers: J. Walker, P. Slonimski, R. Poyton

Energy-linked membrane transport: P. Pederson, discussion leader

Speakers: M. Klingenberg, A. Goffeau, D. MacLennan

Plenary lecture: B. Trumpower, discussion leader

Lecturer: R. Huber

Mitochondrial pathologies: J. Aprille, discussion leader

Speakers: E. Schon, B. Robinson, J. Clark

Biological Regulatory Mechanisms

Holderness School

S. Kustu and P. O'Farrell, co-chairmen

19–23 June

Regulation of cell cycle progression: P. Nurse, chairman

Speakers: A. Murray, J. Newport, S. Reed

Developmental pattern formation: C. Kenyon, chairman

Speakers: T. Cline, M. Levine

Evolutionary diversity and gene regulation: N. Pace, chairman

Speakers: P. Dennis, T. Hunter, M. Sogin

Regulation of gene expression: L. Guarente, chairman

Speakers: K. Hammer, K. Struhl, K. Yamamoto

Regulation of gene expression (2): L. Rothman-Denes, chairman

Speakers: R. Losick, P. Stragier, K. Stuart

Regulation of plant gene expression: R. Davis, chairman

Speakers: R. Last, A. Theologis

Macromolecular assemblies as biological machines: B. Alberts, chairman

Speakers: T. Evans, C. Guthrie, R. Roeder

Signal transduction: One millisecond to ten seconds: M. Simon, chairman

Speakers: F. Hess, E. Neer, R. Firtel

Signal transduction (2): D. Botstein, chairman

Speakers: M. Carlson, P. Novick, J. Thorner

Biological Structure and Gene Expression

Plymouth State College (S)

S. Penman, chairman; G. Stein, vice chairman

14–18 August

Nuclear matrix and gene expression I: S. Penman, chairman

Speakers: E. Fey, L. Liu, R. Berezney

Nuclear matrix and gene expression II: D. Coffey, chairman

Speakers: W. Earnshaw, J. Nickerson, A. Efstradiatis

Cytoskeleton: structure and metabolic functions I: R. Singer, chairman

Speakers: R. Goldman, W. Nelson

Cytoskeleton: structure and metabolic functions II: A. Fulton, chairman

Speakers: D. Ingebar, S. Farmer, A. Ben Ze'ev

Extracellular matrix and gene expression: M. Bissell, chairman

Speakers: B. Olsen, Z. Werb, F. Ramirez

Inter-extra cellular connectors: R. Hynes, chairman

Speakers: B. Geiger, K. Burridge

Genes for cell structural elements: G. Stein, chairman

Speakers: J. Lian, E. Fuchs, D. Cleveland

Nuclear cytoplasmic interactions: C. Feldherr, chairman

Speakers: G. Blobel, L. Manuelides, L. Gerace

Tissue organization: cellular interactions and gene expression: J. Darnell, chairman

Speakers: J. Folkman, M. Steinberg, L. Reid

Bones and Teeth

Kimball Union Academy

I. M. Shapiro, chairman; R. Baron, vice chairman

10–14 July

Growth factors and hormones: G. Rodan, discussion leader

Speakers: S. Seyedin, G. Eichle, C. Heldin

Gene expression of matrix proteins: J. Termine, discussion leader

Speakers: M. Young, A. Oldberg

Mechanism of cartilage and bone formation: P. Osdoby, discussion leader

Speakers: J. Aubin, R. Rosier, P. Robey, M. Horowitz

Ion transport in bone cells: R. Baron, discussion leader

Speakers: K. Hruska, S. Muallem, J. Dixon, J. Bonjour

Gene regulation by vitamin D and bone formation: J. Lian, discussion leader

Speakers: A. Norman, T. Suda, B. Halloran, G. Stein

Diseases of bone and cartilage: J. Haddad, discussion leader

Speakers: M. White, W. Horton, R. Minor

Skeletogenesis and vascularization: A. Boyde, discussion leader

Speakers: D. Goltzman, R. Dillaman, M. Brandi

Extracellular factors and mineralization: C. Gay, discussion leader

Speakers: S. Weiner, L. Arsenault, A. Linde

Calcium Oxalate

Plymouth State College (S)

H. J. Arnott, chairman; F. A. Loewus, vice chairman

12–16 June

D. Purich, "Toward understanding calcium oxalate monohydrate nucleation."

R. A. J. Conyers, "Oxalate precursors in insulin second messengers."

G. A. Hamilton, "Oxalate derivatives and their probable involvement in the control of animal metabolism."

M. Hatch, "Transport of oxalate across mammalian intestines."

R. L. Hackett, "Urolithiasis and urinary enzymes."

N. Mandel, "The interaction of calcium oxalate crystals with renal papillary cells."

R. L. Ryall, "The effect of high and low molecular weight inhibitors on calcium oxalate crystallization in human urine."

R. W. E. Watts, "Oxalate metabolism in relation to human kidney disease."

C. Chuong, "Different stone damage modes during shock wave lithotripsy."

J. L. Matthews, "Biomineralization: The forest not the trees."

K. D. Whitney, "Fungal calcium oxalate: Form and function."

V. R. Franceschi, "The use of isolated plant cells and protoplasts to study oxalate formation."

R. Borchert, "Development and genetic modification of the pattern of calcium oxalate crystals in tree leaves."

M. A. Webb, "Prospects for understanding calcium oxalates in plants."

H. J. Arnott, "Calcium oxalate production in two insects."

M. B. Saffo, "Calcium oxalate deposits in the renal sac of a molgulid tunicate."

M. Liebman, "Relationship of microbial oxalate degradation to oxalate and calcium balance in humans."

S. L. Daniel, "Ecology and anaerobic oxalate-degrading bacteria in intestinal tracts of animals and man."

M. Allison, "*Oxalobacter formigenes*: Partial answers to questions concerning its energetics and significance."

C. Brown, "The EQUIL2 Program."

Calcium Phosphates

Salve Regina College

L. C. Chow and W. J. Landis, co-chairmen

24–28 July

Formation and growth of calcium phosphates: E. D. Eanes, chairman

Speakers: M. S. Tung, R. E. Wuthier

Biomineralization: Matrix-mineral interactions: W. J. Landis, chairman

Speakers: L. Gerstenfeld, J. Sodek, G. Hunter

Tooth enamel and root remineralization: J. M. ten Cate, chairman

Speakers: M. J. Larsen, J. S. Wefel, J. M. ten Cate

Physicochemical mechanisms of dental caries: H. Margolis, chairman

Speakers: C. Robinson, D. White

Calcium phosphate materials—synthesis, fabrication and properties of new materials: R. Z. LeGeros, chairman

Speakers: J. F. Osborn, P. Ducheyne, R. Z. LeGeros

Calcium phosphate implant-tissue interactions: J. Lemons, chairman

Speakers: S. D. Cook, U. Gross

Formation and destruction of calcium phosphate in diseases: J. Meyer, chairman

Speakers: C. Y. C. Pak, N. Mandel, M. D. Grynpas

Calcium phosphates in ecological and industrial processes: J. Fox, chairman

Speakers: A. H. Goldstein, J. S. Gill

New experimental techniques: J. C. Elliot, chairman

Speaker: G. H. Dibdin

Cancer

Salve Regina College

N. Fausto, chairman; W. Cavenee, vice chairman

Cancer and Differentiation

21–25 August

D. Slamon, discussion leader

E. Fearon, "Colo-rectal tumors." M. Perucho, "K-ras activation." D. Slamon, "neu and breast cancer."

G. Brodeur, discussion leader

G. Brodeur, "Neuroblastomas." A. Balmain, "ras and skin carcinogenesis." L. Matrisian, "Transin and neoplastic progression."

A. Skoultchi, discussion leader

C. Reznikoff, "Transformation of uroepithelium." A. Kimchi, "Growth inhibition by cytokines." A. Skoultchi, "Differentiation in erythroleukemia." J. Campisi, "Protooncogenes in lung epithelial cells."

G. Cooper, discussion leader

G. Cooper, "Protooncogenes in gametogenesis." D. Wolgemuth, "c-abl in germ cells." A. McMahon, "int-1 and -2 in development."

N. Fausto, discussion leader

D. MacLoughlin, "MIS in development." J. Mead, "TGF-alpha and beta in liver regeneration." D. Rappolee, "Embryogenesis and wound healing." O. Pereira-Smith, "Senescence."

M. Bissell, discussion leader

M. Bissell, "RSV effects in embryos." W. Muller, "Oncogenesis in transgenic mice." J. Reddy, "Transdifferentiation in pancreas."

R. Kerbel, discussion leader

R. Kerbel, "Lineage analysis in tumors." R. Buick, "Intestinal epithelium." S. Baylin, "Human lung cancers." S. Heimfeld, "Hemopoietic stem cells."

J. Grisham, discussion leader

N. Marceau, "Bipotential progenitors in ontogenesis." D. Hixson, "Multiple choice of liver development." S. Thorgeirsson, "Stem cells in carcinogenesis."

M. Rajewsky, discussion leader

C. Cepko, "Retroviral gene transfer." P. Maness, "c-src in CNS development." M. Rajewsky, "Carcinogenesis."

Carbohydrates

Tilton School

G. O. Aspinall, chairman; C. P. J. Glaudemans, vice chairman

26–30 June

Mass spectrometry and NMR spectroscopy of complex carbohydrates: J. Vliegenthart, discussion leader

Speakers: A. Burlingame, H. van Halbeek

Structure, biosynthesis and serological specificity of bacterial endotoxin: F. Unger, discussion leader

Speakers: E. Rietschel, C. Raetz

Oligosaccharide synthesis: H. Baer, discussion leader

Speakers: P. Garegg, A. Liptak, P. Collins

Mammalian glycoproteins and glycosaminoglycans: G. Aspinall, discussion leader

Speakers: E. Hounsell, R. Linhardt

Synthesis of branched-chain sugars, C-glycosides, natural products: G. Descotes, discussion leader

Speakers: R. Ferrier, S. Czernecki, H. Redlich

Structural and synthetic studies on bacterial polysaccharides: D. Horton, discussion leader

Speakers: S. Kusumoto, J. Richards

Carbohydrate-protein interactions: C. Glaudemans, discussion leader

Speakers: J. Carver, D. Bundle, S. Withers

Specific chemical cleavage of glycosides: W. Szarek, discussion leader

Speakers: G. Gray, B. Fraser-Reid

Physico-chemical aspects of polysaccharide structure: P. Sanford, discussion leader

Speakers: V. Morris, W. Winter

Cardiac Inotropic Agents

Brewster Academy

T. W. Smith, chairman; L. R. Jones, vice chairman

12–16 June

Receptors and transmembrane signaling I: G. Stiles, chairman

Receptors and transmembrane signaling II: A. Watanbe, chairman

Excitation-contraction coupling I: M. Morad, chairman

Excitation-contraction coupling II: L. Jones, chairman

Excitation-contraction coupling III: P. Hess, chairman

Cation pumps and Na-Ca exchange: M. Tada, chairman

Control of cardiac contractile state I: K. Campbell, chairman

Control of cardiac contractile state II: J. Blinks, chairman

Clinical use of inotropic drugs: W. Colucci, chairman

Catalysis

Colby-Sawyer College (N)

L. D. Schmidt, chairman; B. C. Gates, vice chairman

19–23 June

D. W. Goodman, "Structure and reactivity of metal surfaces."

J. Rustrop-Nielsen, "Steam reforming on nickel catalysts."

B. Koel, "Adsorption and reaction on bimetallic surfaces."

A. Dayte, "Microstructure and reactivity of small particles."

M. A. Vannice, "Metal-support effects on selectivity."

L. Pfefferle, "Catalytic combustion."

B. J. Cooper, "New perspectives on the automotive catalytic converter."

J. Phillips, "Catalytic etching."

G. Lester, "Catalytic destruction of chemical warfare agents."

P. Jacobs, "Zeolites for production of fine chemicals."

C. Marshall, "Modeling of catalyst surfaces."

G. L. Haller, "Reaction dynamics and mechanisms."

G. McVicker, "Hydrocarbon probes of catalyst acidity."

J. Dumesic, "Hydrocarbon reactions: experiments and models."

Cell Contact and Adhesion

Tilton School

D. R. McClay, chairman; C. Buck, vice chairman

3–7 July

Adhesion receptors: C. Buck, chairman

Speakers: L. Culp, R. Hynes, M. Wilcox

Cell-cell interactions: M. Takeichi, chairman

Speakers: C. Crossin, C. Damsky

Peptides in cell contact phenomena: M. Pierschbacher, chairman

Speakers: Y. Yamada, L. Furcht, B. Zetter

Interactions with tenascin: H. Erickson, chairman

Speakers: M. Chiquet, M. Bourdon

Physiological modulation of adhesion: T. Springer, chairman

Speakers: J. Massague, D. Boettiger, S. Santoro

Proteoglycans in cell adhesion: M. Bernfield, chairman

Speakers: J. Esko, E. Ruoslahti

Adhesion molecules in morphogenesis: U. Rutishauser, chairman

Speakers: L. Reichardt, M. Bastiana, E. Butcher

Adhesion-cytoskeleton interface: B. Geiger, chairman

Speaker: I. Singer

Neural adhesion molecules: M. B. Hatten, chairman

Speakers: F. Ratjien, J. Roder

Solid State Studies in Ceramics

Colby-Sawyer College (N)

U. Chowdhry, chairman; T. A. Michalske, vice chairman

Novel Processing of Flaw-Free Ceramics

14–18 August

I. Aksay, "Biomimetic processing of ceramics."

P. A. Pincus, "Coating of ceramic particles with macromolecules."

H. Gleiter, "Nanosize ceramic powders and their properties."

R. W. Siegel, "Nanosize ceramics processing."

F. F. Lange, "Consolidation of powders: Interparticle forces, body rheology and damage phenomena."

K. Kendall, "Forces between agglomerates and their effect on ceramic processing."

D. N. Yoon, "Pore filling in liquid phase sintering."

Y. M. Chiang, "Interfacial segregation in multicomponent ceramics due to gradients in stress and oxygen potential."

I.-W. Chen, "Superplastic forming of fine grain ceramics."

C. P. Ostertag, "Novel ideas in processing of composites."

S. W. Freiman, "Chemistry of fracture."

P. Meakin, "Applications of fractal geometry to ceramic processing."

D. Dimos, "Microstructural influences on critical current densities in high T_c superconductors."

J. R. Kwo, "Thin film synthesis of superconducting ceramics."

D. Bonnell, "Use of scanning tunneling microscopy in ceramic science."

E. P. Gianellis, "Intercalation compounds: New molecular tools for multilayered structures."

Chemical Oceanography

Kimball Union Academy

M. Kastner, chairman; P. N. Froelich, C. Lee, and J. W. Murray, vice chairmen

Chemical Processes in the Ocean-Atmosphere-Solid Earth System

14–18 August

R. Zika, "The measurement of fast chemical processes in the mixed layer."

G. Cutter, "Sulfide in the oxic ocean: Production, distribution and reactivity."

P. Mayewski, "The recent sulfate and nitrate record using ice cores."

R. Weiss, "Dissolved atmospheric fluorocarbons as oceanic tracers."

R. Cicerone, "Atmospheric methane and global climate."

Y. Suzuki, "New aspects of DOC in the ocean: Method, distribution, role, cycle and nature."

E. Druffel, "Sources and cycling of DOC using carbon isotopes."

R. Toggweiler, "DOC/DON and the oceans' chemical cycles."

E. Suess, "Venting rates of fluids and dissolved mass fluxes from subducted sediments of the Oregon Continental Margin."

M. Bacon, "Fluxes of tracers in the ocean."

R. Jahnke, "Coupled vertical particulate fluxes and regeneration."

D. Archer, "$CaCO_3$ preservation in the ocean: Results from microelectrode measurements of O_2, *p*H and conductivity across the sediment-water interface."

H. Eldersfield, "REE and Nd isotopes as tracers in oceans."

M. Monaghan, "Cosmogenic radionuclides and flux of the H_2O through stratosphere."

J. Edmond, "Time series analyses of hot springs."

C. Lorius, "The Vostok ice core record and paleoceanogranpic data."

H. Oescgher, "Recent information on the carbon cycle history from studies (CO_2, ^{13}C, CH_4) on Greenland and Antarctic ice cores."

M. Bender, "$\delta^{18}O$ of paleoatmospheric O_2: Implications for the global O_2 cycle during the last Ice Age."

E. Boyle, "Phosphorus distribution in the glacial ocean and its implications for atmospheric CO_2."

W. Broecker, "The radiocarbon distribution in the glacial ocean: What does it tell us?"

N. Andersen, "New ocean sciences research initiatives."

M. Schidlowski, "The Phanerozoic history of carbon."

H. Holland, "The Phanerozoic history of seawater."

Chemotherapy of Clinical and Experimental Cancer

Colby-Sawyer College (S)

K. D. Tew, chairman; W. E. Ross, vice chairman

17–21 July

Advances in breast cancer: T. Frei, chairman

H. Smith, "Clinical applications of breast cancer cell biology"; W. McGuire, "New factors to predict recurrence and survival"; V. C. Jordan, "Chemosuppression with tamoxifen."

Chemotherapy and adaptive response: J. Hickman, chairman

R. Moromoto, "Induction of stress proteins by viruses and drugs"; D. Coffey, "Cancer cell structure and motility."

Enzymes of the glutathione pathways: K. Tew, chairman

J. Hayes, C. R. Wolf, "Clinical applications of glutathione *S*-transferases"; K. Cowan, "Glutathione *S*-transferases in resistance"; J. Doroshow, "Glutathione peroxidase and quinones."

Multidrug resistance: S. Cole, chairman

M. Meyers, "The calcium messenger system in MDR"; W. Dalton, "Clinical relevance of MDR."

Advances in platinum pharmacology: O. M. Colvin, chairman

K. Harrap, "Development of novel Pt drugs"; R. Borch, "Pharmacology of carboplatin and tetraplatin"; S. Howell, "Clinical and cellular mechanisms of cis P_T resistance."

Advances in antimetabolites: G. Grindley, chairman

J. Houghton, "5-FU modulation by leucovorin"; P. Melera, "Allelic variants of the DHFR gene."

The EGF receptor: T. Tritton, chairman

J. Mendelsohn, "Anti EGF receptor monoclonal antibodies as potential anticancer agents"; D. Donahoe, "Mullerian-inhibiting substance as an anticancer agent."

Special symposium: V. Ling, chairman

P. Borst, "Genes involved in resistance to chemotherapy: Facts, fallacies and fantasies."

Novel targets: W. Ross, chairman

S. Friend, "Retinoblastoma gene product as a therapeutic target"; D. Twardzik, "TGF_β as a differentiating agent."

Chronobiology

Plymouth State College (S)

T. L. Page, chairman; W. Hastings, vice chairman

26–30 June

Molecular/cell biology I: W. Hastings, discussion leader

Speakers: J. Dunlap, D. Morse, H. Chua, A. Mitsui

Molecular/cell biology II: J. Feldman, discussion leader

Speakers: J. Hall, M. Young, D. Saunders

Molecular/cell biology III: A. Eskin, discussion leader

Speakers: C. Johnson, T. Ronnenberg, G. Block

Mammalian genetics: S. Daan, discussion leader

Speakers: R. Lynch, M. Menaker

Vertebrate retina and pineal: J. Takahashi, discussion leader

Speakers: G. Cahill, M. Zatz, H. Illnerova

Functional aspects of circadian rhythms: E. Gwinner, discussion leader

Speakers: C. Pittendrigh, S. Daan

Vertebrate circadian organization: B. Rusak, discussion leader

Speakers: S. Honma, F. Stephan, H. Underwood

Arthropod visual system: R. Barlow, discussion leader

Speakers: G. Fleissner, G. Renninger

Entrainment pathways in mammals: R. Y. Moore, discussion leader

Speakers: N. Mrosovsky, L. Morin, D. Weaver

Molecular Biology of Ciliated Protozoa

Colby-Sawyer College (S)

L. Klobutcher, chairman; R. Pearlman, vice chairman

14–18 August

Keynote speaker: I. B. Raikov

Gene structure and expression: M. Gorovsky, discussion leader

Speakers: R. Hallberg, D. Allis

Telomere structure and function: E. Blackburn, discussion leader

Speakers: D. Gottschling, C. Price

Ribosomal DNA: Genes, transcripts and expression: D. Larson, discussion leader

Speakers: T. Higashinakaga, A. Zaug

Genome structure and reorganization I: M.-C. Yao, discussion leader

Speakers: B. Polisky, L. Klobutcher

Genome structure and reorganization II: G. Herrick, discussion leader

Speakers: D. Ammermann, D. Prescott

Variable cell surface antigens: J. Preer, discussion leader

Speakers: E. Meyer, G. Bannon, H. Schmidt

Conjugation and mating types: D. Martindale, discussion leader

Speakers: P. Luporini, E. Orias

Cell membrane and cortex: C. Kung, discussion leader

Speakers: A. Adoutte, R. Hinrichsen, D. Nelson

Ciliate evolution: C. Brunk, discussion leader

Speakers: M. Sogin, D. Lynn, D. Nanney

Coatings and Films

Proctor Academy

G. P. Bierwagen, chairman; G. Pilcher, vice chairman

31 July–4 August

J. Gardella, "New techniques for the surface analysis of polymers."

J. Gerlock, "New techniques for the measurement and prediction of coating lifetimes."

E. Mahler, "Expert systems for coatings."

J. A. Mann, Jr., "Recent developments in Langmuir-Blodgett film research—use of computer techniques to simulate film behavior."

J. McGrath, "New polymers for coating use."

J. Schork, "Modern reactor technology for coating latexes."

A. Noomen, "Two-component, nonisocyanate polymer systems."

B. Skerry, "Electrochemical noise measurements to predict corrosion resistance of coatings."

W. Smyrl, "Corrosion protection of magnetic media films."

J. E. Glass, "Depletion layer effects on coatings flows."

R. Prud'Homme, "Rheology of microgel-containing coating systems."

D. Coyle, "Physics of roll coating (update) + work on deformable rollers."

B. Higgins, "Spin coating of ceramic films—sol-gel processing."

G. Fleer, "Computer modeling of adsorption on solid particles."

A. Ulmann, "Self-assembling monolayers: Building blocks for future organic materials."

R. Burton, "New developments in aircraft coatings."

A. J. Gotcher, "Pressure-sensitive adhesive films."

D. C. Rich, "New developments in characterization of color of coatings."

J. Jafolla, "First principles modeling and prediction of coating optical performance."

Condensed Matter Physics

Brewster Academy

M. Tinkham, chairman; J. D. Litster, vice chairman

Phenomenology of High Temperature Superconductors

26–30 June

D. R. Nelson, "Vortex entanglement."

D. J. Bishop, "Vortex latice melting."

G. J. Dolan, "Decoration experiments and evidence for intrinsic pinning."

V. G. Kogan, "Magnetic properties of anisotropic superconductors."

Y. Iye, "Transport properties."

A. P. Malozemoff, "Giant flux creep."

T. T. M. Palstra, "Thermally activated resistance."

J. Clarke, "Flux noise and pinning energies."

C. J. Lobb, "Pinning in Josephson junction arrays."

D. G. Stroud, "Monte Carlo calculations for granular superconductors."

J. Evetts, "Transport currents in polycrystalline samples."

J. Mannhart, "Intergranular critical currents."

P. H. Kes, "Flux pinning."

J. Orenstein, "Optical properties."

R. V. Coleman, "STM studies of superconductors."

N. D. Goldenfeld, "Unconventional pairing in YBCO?"

R. A. Klemm, "Theory of specific heat and diamagnetism."

D. M. Ginsberg, "Paraconductivity."

A. Kapitulnik, "Thermal properties."

Y. J. Uemura, "μSR studies."

J. Fink, "Electronic spectroscopy."

R. J. Birgeneau, "Neutron scattering."

V. J. Emery, "Phenomenological constraints on basic theories."

Corrosion

Colby-Sawyer College (N)

H. J. Grabke, chairman; R. Baboian, vice chairman

17–21 July

Surfaces and interfaces in oxide/metal (sulfur) systems: M. Bennett, discussion leader

Speakers: J. Blakely, M. Ruhle

Disorder and diffusion in oxides: A. Atkinson, discussion leader

Speakers: R. Dieckmann, H. G. Sockel

Sulfides and sulfidation: F. Gesmundo, discussion leader

Speakers: S. Mrowec, D. L. Douglass

Oxidation-sulfidation of high-temperature alloys: F. H. Stott, discussion leader

Speakers: R. E. Lobnig, J. A. Colwell

Relations between high-temperature corrosion and aqueous corrosion: R. Baboian, discussion leader

Speakers: R. Ramanarayanan, J. Robertson

Mechanical properties and oxide adhesion: A. Rahmel, discussion leader

Speakers: M. Manning, G. Beranger

Oxidation of composites, ceramics, and intermetallics: G. Meier, discussion leader

Speakers: K. Luthra, K. Nickel

Ceramic oxides: P. Kofstad, discussion leader

Speakers: R. J. Brook

Protection methods: R. A. Rapp, discussion leader

Speakers: E. L. Courtright, J. R. Nicholls

Developmental Biology

Proctor Academy

D. Melton, J. Kimble, co-chairmen

26–30 June

Embryonic pattern formation I: G. Struhl, discussion leader

Speakers: C. Nusslein-Volhard, J. Gerhart, D. Melton

Embryonic pattern formation II: E. Weischaus, discussion leader

Speakers: P. Ingham, B. Edgar, E. Hedgecock

Cellular interactions during early development: M. Kirschner, discussion leader

Speakers: J. Gurdon, C. Stern, J. Smith, S. Artavanis-Tsakonis, J. Kimble

The role of oncogenes in normal development: G. Martin, discussion leader

Speakers: T. Schupbach, M. Hoffman, A. Bernstein

Pathways of developmental control: M. McKeown, discussion leader

Speakers: J. Hodgkin, D. Beach

Pattern formation in later development: T. Jessell, discussion leader

Speakers: C. Goodman, P. Sternberg, G. Eichele, G Rubin, S. Poethig

Specification of cell fate: H. Weintraub, discussion leader

Speakers: J. McGhee, G. Felsenfeld, D. Paige, J. Williams

Molecular control of gene expression I: T. Maniatis, discussion leader

Speakers: I. Herskowitz, E. Davidson

Molecular control of gene expression II: M. Levine, discussion leader

W. Gehring, M. Scott, P. Gruss

Drug Metabolism

Holderness School

P. F. Hollenberg, chairman; S. K. Figdor, vice chairman

17–21 July

J. F. Newton, "Design of metabolically stable peptidoleukotriene receptor antagonists."

Speaker to be announced, "The role of drug disposition in the selection and design of new drugs."

J. P. Snyder, "Molecular modeling and the development of anti-ulcerogenic prostaglandins."

M. Green, "Comparison of properties of UDP GTs isolated from animal and human liver."

K. W. Bock, "Role and regulation of glucuronidation in animals and humans."

F. J. Gonzalez, "cDNA-directed expression of human cytochrome P-450 in cell culture."

U. Meyer, "Genetic polymorphisms of drug metabolizing enzymes: Molecular mechanisms."

P. B. Watkins, "Use of invasive and non-invasive techniques to compare cytochrome P-450 present in rat and man."

M. Vore, "Mechanisms and substrate specificities of hepatic organic anion transport."

D. K. J. Meijer, "Rate limiting steps in the hepatic transport of drugs and drug metabolites at the sinusodial and bile canalicular level."

K. V. Rajagopalan, "Enzyme-substrate interactions in molybdenum hydroxylases."

D. M. Ziegler, "Substrate specificities of microsomal flavin-containing monooxygenases."

P. Levi, "Role of flavin-containing monooxygenases in pesticide oxygenation."

D. G. Graham, "Molecular pathogenesis of γ-diketone neuropathy."

M. W. Anders, "Mechanisms of glutathione-dependent bioactivation of xenobiotics."

N. P. E. Vermeulen, "Mechanism-

based prevention of hepatotoxicity of paracetamol."

S. Lau, "Determinants of quinol-linked glutathione conjugate-mediated toxicity."

B. Gold, "Metabolism and toxicity of carcinogens."

M. J. Coon, "Cytochrome P-450 and drug metabolism: recent developments and future prospects."

A. Ewing, "Capillary zone electrophoresis."

R. Strife, "Simplified analysis of biological extracts by ion trap tandem MS."

Dynamics of Gas-Surface Interactions

Proctor Academy

D. Auerbach, chairman; P. Estrup, vice chairman

7–11 August

Sticking probabilities and quantum effects: R. Madix, discussion leader

Speakers: S. Andersson, D. Menzel, W. Brennig

State selected scattering and potentials: J. Tully, discussion leader

Speakers: W. Kohn, A. Kleyn, K. Lykke

Surface diffusion: R. Gomer, discussion leader

Speakers: H. Metiu, J. Reutt-Robey, J. Hinch

Surface photo processes: W. Gadzuk, discussion leader

Speakers: R. Cavanagh, J. Cowin, J. Polyani

Ultrafast phenomena and techniques: M. Cardillo, discussion leader

Speakers: A. Harris, B. Persson

STM and surface reactions: P. Estrup, discussion leader

Speakers: P. Avouris, J. Behm, N. Lang

Ion scattering from surfaces:

Speakers: B. Cooper, P. Nordlander

Reactive processes: C. Friend, discussion leader

Speakers: S. Holloway, S. Sibener, J. Yates

Elastin and Elastic Tissue

Kimball Union Academy

J. M. Davidson, chairman; F. W. Keeley, vice chairman

7–11 August

Elastin structure and function as deduced from genetic analysis—elastin polymorphism: J. Rosenbloom, discussion leader

Speakers: M. Bashir, Z. Indik, W. Parks

Responses of cells to elastin-elastin receptors: R. P. Mecham, discussion leader

Speakers: J. A. Foster, L. Liotta, L. Robert

The microfibrillar problem—other elements of the elastic fiber: L. Y. Sakai, discussion leader

Speakers: M. A. Gibson, R. Glanville, R. Pyeritz

Cutaneous elastic tissue—regulation in acquired and genetic disease: J. Uitto, discussion leader

Speakers: M. Fazio, M. Goldfine, M. Lebwohl, G. Prince

Control of elastin accumulation and repair: G. Bressan, discussion leader

Speakers: M. Banda, J. M. Davidson

Evolution and biomechanics of elastic tissue: J. Gosline, discussion leader

Speakers: R. Shadwick, G. Wright, D. Ury

Control of elastin destruction—pulmonary diseases: G. L. Snider, discussion leader

Speakers: A. Cohen, U. Kucich, P. Stone, J. Powers

Prospects for genetic therapy of pulmonary diseases: R. G. Crystal, speaker

Vascular responses to stress, injury and disease, F. W. Kelley, discussion leader

Speakers: A. Clowes, B. L. Langielle

Elastomers

Colby-Sawyer College (N)

G. Ver Strate, chairman; G. Holden, vice chairman

10–14 July

Networks-gelation: W. Graessley, R. F. T. Stepto, T. A. Vilgis, R. Colby

Introduction to posters

Elastomer modified engineering thermoplastics: M. J. Doyle, H. E. H. Meijer, E. Martuscelli, J. Heuschen

Slip: W. R. Showalter

Black interaction: J. Harbour, B. Haidar

Segment deformation: J. Stanford

Off lattice polymer modeling-density, diffusion: R. H. Boyd

Fatigue failure: B. L. Lee

Structure control in manufacture: J. W. Miller

New thermoplastic elastomers: J. Rich, R. Greene

Elastomers and AIDS: W. Potter

Rubber deformation, processing: D. Goeritz, N. Nakajima, I. Duvdevani

Electron Distributions and Chemical Bonding

Plymouth State College (N)

B. Craven and R. Messmer, co-chairmen

3–7 July

Applications of synchrotron radiation: P. Coppens, M. Cooper, discussion leaders

Speakers: G. Landers, A. Kvick, A. Kirfel, N. Sakai, S. Manninen

Charge density and the theory of chemical bonding: R. Messmer, M. Newton, discussion leaders

Speakers: M. Levy, W. Kutzelnigg, W. Goddard, P. Schultz

Electrostatic properties from diffraction and theory: R. Stewart, R. Bader, discussion leaders

Speakers: J. Spence, J. Downs, R. Destro, M. Spackman, K. Ruedenberg

Studies of chemical bonding: J. Schneider, P. Becker, discussion leaders

Speakers: W. Klemperer, R. Smalley, J. Dye, W. Jauch

Charge and spin densities in oxide superconductors: E. Stevens, discussion leader

Speakers: S. Sinha, J. Jorgensen, E. Mele

Enzymes, Coenzymes and Metabolic Pathways

Kimball Union Academy

J. P. Klinman and V. L. Schramm, co-chairmen

3–7 July

Structure and dynamics: D. Ringe, discussion leader

Speakers: R. Wolfenden, G. Rose, G. McLendon

Regulatory enzymes: B. Ray, discussion leader

Speakers: W. W. Cleland, P. Reichard

Mechanistic probes: R. Stein, discussion leader

Speakers: P. Cook, S. Lindskog and D. Silverman, R. Callender

"Unnatural" catalysis: J. Kirsch, discussion leader

Speakers: A. Klibanov, P. Schultz

Cofactors: M. Jorns, discussion leader

Speakers: W. Hol, K. Karlin, P. Ortiz de Montellano

Biological regulation: R. Matthews, discussion leader

Speakers: B. Shapiro, S. Taylor

Enzymology of nucleic acids: A. Mildvan, discussion leader

Speakers: K. Nierhaus, A. Kornberg, I. Russu

Metabolic pathways: J. Knowles, discussion leader

Speakers: D. Dunaway-Mariano, C. Walsh

Inhibitor design: G. Cordes, discussion leader

Speakers: M. Gelb, A. Krantz, M. Navia

Epithelial Differentiation and Keratinization

Tilton School

S. H. Yuspa, chairman; B. A. Dale, vice chairman

31 July–4 August

Regulation of expression and function of intermediate filament proteins: G. Rogers, discussion leader

Speakers: D. Roop, E. Fuchs, F. McKeon

Extracellular Ca^{2+} as a regulator of differentiation: J. Fairley, discussion leader

Speakers: J. Exton, H. Hennings

Extracellular matrix, cell-cell communication and differentiation: T. Krieg, discussion leader

Speakers: H. Kleinman, M. Bernfield, J. Pitts

Cell surface changes in differentiation—poster discussion: H. Sun, F. Watt, discussion leaders

Post-translational processing of differentiation products: P. Stienert, discussion leader

Speakers: R. Goldman, K. Resing, P. Jensen

Lipids: Structural and signaling properties—poster discussion: D. Downing, R. Isseroff, discussion leaders

Mechanisms of action of modifiers of differentiation: H. Green, discussion leader

Speakers: M. Pfahl, E. Stanbridge, T. Broker

Morphogenesis and differentiation of the hair follicle: W. Francke, discussion leader

Speakers: K. Holbrook, G. Vogeli

Clinical correlates to basic science: Molecular mechanisms of cutaneous diseases: I. Freedberg, discussion leader

Speakers: J. Stanley, B. Nickoloff, H. Green

Extrachromosomal Elements

Colby-Sawyer College (S)

B. Polisky, chairman

26–30 June

Bacterial plasmid replication: D. Bastia, discussion leader

Speakers: J. I. Tomizawa, D. Chattoraj, S. Cohen, D. Figurski

Bacterial plasmid replication II: R. Rownd, discussion leader

Speakers: K. Nordstrom, S. Khan, J. Zyskind, B. Polisky

Partition mechanisms: S. Austin, discussion leader

Speakers: S. Hiraga, D. Womble, M. Yarmolinsky, M. Davis

Yeast replication mechanisms: J. Broach, discussion leader

Speakers: W. Fangman, G. Cesareni, M. Cox, M. Douglas

Eukaryotic viral replication: M. Botchan, discussion leader

Speakers: B. Sugden, R. Lehmann, J. Yates, M. Lusky

In vitro replication systems: B. Stillman, discussion leader

Speakers: M. DePamphilis, G. Wahl, M. Challberg, T. Baker

Centromeres and telomeres: V. Zakian, discussion leader

Speakers: E. Blackburn, M.-C. Yao, K. Bloom, M. Fitzgerald-Hayes

Transposition and recombination: R. Kolodner, discussion leader

Speakers: P. Zambryski, J. Scott, D. Ehrlich

Plasmids and pathogenesis: J. Crosa, discussion leader

Speakers: S. Normark, M. So, R. Curtiss, J. Goguen, C. Kado

Fertilization and Activation of Development

Holderness School

V. D. Vacquier, chairman; B. T. Storey, vice chairman

7–11 August

Activation and regulation of flagellar

motility: C. Lindeman, discussion leader

Speakers: J. Tash, G. Orr, G. Wittman

Ion channels in sperm: H. Lee, discussion leader

Speakers: A. Darszon, H. Florman

Molecular biology of gamete recognition proteins: V. Vacquier, discussion leader

Speakers: C. Glabe, J. Dean, D. Wothe

Protein kinases of eggs: G. Kopf, discussion leader

Speakers: W. Kinsey, L. Meijer

Membrane proteins of sperm: B. Storey, discussion leader

Speakers: P. Primakoff, B. Shur, R. Jones

Phosphatidylinositol cascades and G-proteins in egg activation: R. Nucitelli, discussion leader

Speakers: M. Whitaker, L. Jaffe

Egg activation: Surface events and sperm nuclei: T. Ducibella, discussion leader

Speakers: R. Schultz, J. Stewart-Savage, Y. Iwao

Molecular approaches to vertebrate development: J. Hedrick, discussion leader

Speaker: D. Melton

Egg activation: Ions and enzymes: E. Chambers, discussion leader

Speakers: S. Miyazaki, S. Shen, D. Epel

Fiber Science

Colby-Sawyer College (N)

B. C. Goswami, chairman; A. S. Abhiraman, vice chairman

3–7 July

Fiber/polymer spinning/characterization: J. E. Spruiell, discussion leader

Speakers: J. Zimmerman, M. Matsuo, St. J. Manley

Fiber/polymer spinning/characterization: J. H. Southern, discussion leader

Speakers: L. Slutsker, A. K. Misra, B. Dutta

Structure modification and surface characterization: J. O. Casey, discussion leader

Speakers: R. W. Miller, S. Wang, E. Schollmeyer

Fiber modifications: K. E. Duckett, discussion leader

Speaker: T. L. Vigo

Poster session

Kinetics of dying: H. Zollinger, discussion leader

Speakers: W. Beckmann, T. Hori, H.-D. Weigmann

Formation and characterization of ceramic fibers: K. Wynne, discussion leader

Speakers: O. R. Hughes, D. V. Varaprasad

Fibrous composites: S. K. Batra, discussion leader

Speakers: A. El-Sheikh, D. Lloyd, J. I. Curiskis

Mechanics of fiber structure: R. Shishoo, discussion leader

Speakers: M. Schoppee, N. Mendelson, J. J. Thwaites

End use analysis: E. A. Vaughn, discussion leader

Speakers: S. Backer, T. K. Ghosh

Fluids in Permeable Media

Tilton School

H. J. Ramey, Jr., chairman; R. J. Blackwell, vice chairman

24–28 July

Pore level characterization of porous media: J. J. Taber, discussion leader

Speakers: H. H. Yuan, J. J. Howard, R. Ehrlich

Wetting behavior at solid-fluid interfaces: H. J. Ramey, Jr., discussion leader

Speakers: J. Buckley, S. W. Yeh

Direct measurements of properties of porous media: F. M. Orr, Jr., discussion leader

Speakers: A. Nur, S. Dominique, H. S. Fogler

Mass transport in nonpetrologic systems: R. J. Blackwell, discussion leader

Speakers: I. Fatt, J. M. Vergnaud

Flow of dispersions and foams in porous media: S. C. Jones, discussion leader

Speakers: P. A. Gauglitz, W. R. Rosen, C. J. Radke, E. E. Isaacs

Fundamentals of multiphase flow in porous media: S. C. Jones, discussion leader

Speakers: M. J. King, Y. Yortsos

New concepts in single and multiphase flow in porous media: J. Bredehoeft, discussion leader

Speakers: F. Kalaydjian, E. A. Boucher

Multiphase flow in heterogeneous porous media: C. J. Radke, discussion leader

Speakers: A. Firoozabadi, R. E. Hinkley

Viscous instability in heterogeneous porous media: R. A. Greenkorn, discussion leader

Speakers: R. Lenormand, P. Sigmund, D. A. Puckett

Free Radical Reactions

Colby-Sawyer College (N)

F. D. Greene, chairman; D. Tanner, vice chairman

24–28 July

Free radicals and biological systems: T. G. Traylor, discussion leader

Speakers: J. T. Groves, J. Stubbe

Free radicals and drug metabolism, T. G. Traylor, discussion leader

Speaker: V. Malatesta

Free radicals and electron transfer: Electrochemistry, nucleophilic substitution: S. Nelsen, discussion leader

Speakers: D. D. M. Wayner, J. M. Saveant

Electron transfer in free radical reactions of organometallics: K. U. Ingold, discussion leader

Speaker: G. A. Russell

Stereoselective radical reactions and rearrangements: A. L. J. Beckwith, discussion leader

Speakers: D. Crich, N. A. Porter

Stereochemistry of radical reactions: D. Tanner, discussion leader

Speaker: B. Giese

High spin organic molecules and assemblies: J. M. McBride, discussion leader

Speakers: H. Iwamura, D. A. Dougherty

The radical route to tinkertoys (construction set for "nanotechnology"): F. D. Greene, discussion leader

Speaker: J. Michl

Odd-electron pericyclic reactions and radical cations: T. Clark, discussion leader

Speakers: J. P. Dinnocenzo, H. Roth

Genetic Toxicology

Colby-Sawyer College (S)

D. A. Casciano, chairman; R. J. Albertini, vice chairman

19–23 June

DNA adducts, mutation and carcinogenesis: F. Kadlubar, discussion leader

Speakers: F. Beland, N. Drinkwater

New methods in molecular mutagenesis: B. Glickman, discussion leader

Speakers: W. Thilly, M. Paterson

In vivo somatic mutations in humans: R. Albertini, discussion leader

Speakers: R. Jensen, J. Cole, T. Skopek

New cytogenetic techniques for human monitoring: J. Preston, discussion leader

Speakers: K. Sanford, M. Cornforth

Recent advances in the development of transgenic mice and cells: R. Tennant, discussion leader

Speakers: K. Tindall, P. Leder

Cellular and molecular analysis of non-genotoxic events in carcinogenesis: W. Greenlee, discussion leader

Speakers: N. Colburn, D. Kaufman

Industrial approaches to applying genetic toxicology to human risk assessment: S. Aaron, discussion leader

Speakers: F. Oleson, S. Aaron

Future directions in experimental mutagenesis: speaker: H. Malling

Future directions in genetic toxicology: V. Ray, discussion leader

Gravitational Effects in Materials and Processes

Plymouth State College (S)

S. R. Coriell, chairman; F. Rosenberger, vice chairman

31 July–4 August

M. Debe, "Thin films by PVT."

R. J. Naumann, "Critical issues in microgravity."

R. W. Gammon, "Xenon critical dynamics."

M. E. Glicksman, "Flows and interfaces."

G. Muller, "Floating zone GaAs."

S. L. Lehoczky, "Growth of II–VI semiconductors."

B. Roux, "Unsteady convection."

J. I. D. Alexander, "g-jitter."

F. Spaepen, "Crystal-melt interface."

B. Feuerbacher, "Nucleation in metallic melts."

J. H. Perepezko, "Metastable phases."

H. Ross, "Flame propagation."

D. Saville, "Electrokinetics in fractionation."

S. Ostrach, "Thermocapillary space experiment."

D. Schwabe, "Thermocapillary convection."

L. J. Delucas, "Protein crystal growth: international programs."

B. Billia, "Cells and dendrites."

G. J. Abbaschian, "Kinetics of faceted growth."

Hemostasis and Thrombosis

Proctor Academy

C. T. Esmon, chairman; H. R. Roberts, vice chairman

12–16 June

B. Dahlback, "C4BP and protein S, structure-function relationships."

F. Walker, "Structural basis of protein S function."

G. Long, "Protein S gene and molecular defects."

B. Osterud, "Cellular interactions in stimulation of monocytes to generate tissue factor in the whole blood: Something to do with atherosclerosis?"

J. Morrissey, "Control of tissue factor gene expression."

K. Bauer, "Relationship of the intrinsic and extrinsic coagulation pathways."

F. Taylor, "Selective inhibition of coagulation cascades in septic shock."

M. Bevilacqua, "Molecular characterization of endothelial-leukocyte adhesion molecules."

R. McEver, "Molecular features of GMP-140, an inducible receptor on platelets and endothelium."

P. Friedman, "Inhibitors of adhesive interaction."

S. Shapiro, "Lupus anticoagulants as modifiers of the coagulation response."

P. Sims, "The platelet and endothelial response to activated complement."

D. Altieri, "Mac-1 regulation of coagulation."

T. Maciag, "Molecular mechanisms of angiogenesis."

D. Rifkin, "Control of endothelial cell phenotype by basic fibroblast growth factor and TGF-β1."

D. Li, "PDGF: mechanisms of normal and abnormal growth regulation."

L. T. Williams: "Signal transduction by PDGF and FGF receptors."

B. Edwards, "Crystal structure of bovine thrombin."

A. Tulinsky, "The structures of native and Ca^{2+}-prothrombin fragment 1."

J. Stenflo, "The structure and function of the EGF domains."

Y. Nemerson, "Convection, collisions and coagulation."

L. McIntire, "Control of cellular adhesion and metabolism under shear stress."

G. Nelsestuen, "Properties of reac-

tions at the collisional limit."

Plenary speaker: D. W. Russell, "Structure function relationships in the LDL receptor."

Heterocyclic Compounds

New Hampton School

D. C. Liotta, chairman; I. Shinkai, vice chairman

10–14 July

L. Paquette, "Approaches to structurally unusual heterocyclic natural products."

P. Beak, "Investigations of heterocyclic transition structures: Evaluation of mechanisms by the endocyclic restriction."

I. Shinkai, "The chemistry of the immunosuppressant FK-506."

U. Schollkopf, to be announced.

A. Meyers, "Asymmetric synthesis of alkaloids."

T. Goodwin, "New applications of carbohydrates, quinine and other heterocycles in organic synthesis."

M. Kurth, "Pericyclic and cyclization reactions in tandem."

C. Maryanoff, "Stereoselective synthesis of pyrroloisoquinoline CNS agents."

A. Ganguly, to be announced.

J. Stille, "Heterocyclic synthesis via palladium catalyzed organotin coupling reactions."

L. Liebeskind, "Transition metal π-complexes of unsaturated heterocycles. Precursors to highly substituted heterocycles."

T. Livinghouse, "Heterocycles as reactive intermediates and molecular targets: Synthesis of polyannulated systems via zirconacycles, acynitrilum ions and episulfuranes."

P. Wender, "Novel organometallic and photochemical reactions for the synthesis of biologically active compounds."

A. Dondoni, "Heterocycles in organic synthesis. Use of thiazoles as aldehyde equivalents in acyclic stereoselective strategies."

P. Reider, "Heterocycles and practical asymmetric syntheses."

W. Pearson, "Cycloaddition based methodology for the assembly of pyrrolidine-containing natural products."

P. Dervan, "Sequence specific recognition of double helical DNA. A design-synthesis approach."

G. Painter, "Structural factors affecting bioavailability: The role of molecular conformation in passive membrane permeation."

J. Partridge, "AIDS: Understanding a Twentieth Century Plague."

J. McCarthy, "New approaches to the synthesis of vinyl fluorides and their applications to heterocyclic compounds."

Holography and Optical Information Processing

Plymouth State College (S)

S. A. Benton, chairman; J. F. Walkup, vice chairman

7–11 August

W. T. Cathey, Jr., "Opto-electronic computing."

H. J. Caulfield, "Page-oriented memory applications."

J. C. Dainty, "Correlation imaging through turbulence."

L. Hesselink, "Photo-refractives, introduction/background."

Y. Ichioka, "Parallel processing with optical array logic on optical parallel array logic systems."

E. N. Leith, "Some ideas for imagery through inhomogeneous media."

S. H. Lee, "Computer holography."

G. Moss, "Applications of holographic optical elements."

A. Lohmann, to be announced.

G. Moss, "Applications of holographic optical elements."

M. Ojima, "Magneto-optical memory."

N. J. Phillips, "Recording materials and processes."

D. Psaltis, "Parallel axis optical memory-holographic images on disc."

W. B. Veldkamp, "Binary optics: next generation anachronic detectors."

Hormonal Carcinogenesis

New Hampton School

J. A. McLachlan, chairman; G. M. Stancel, vice chairman

3–7 July

Keynote address: B. E. Henderson, "Hormones and human cancers."

Breast cancer mechanisms: K. B. Horwitz, discussion leader

Speakers: B. S. Katzenellenbogen, M. R. Stampfer, I. H. Russo

Steroid hormone metabolism: P. K. Siiteri, discussion leader

Speakers: M. Negishi, A. M. Brodie

Cell differentiation and cancer: S. Sukumar, discussion leader

Speakers: R. E. Scott, R. E. Parchment

Molecular genetics of cancer: J. C. Barrett, discussion leader

Speakers: W. K. Cavenee, A. Balmain

Androgens and cancer: J. S. Norris, discussion leader

Speakers: R. J. B. King, E. M. Wilson

Prostate cancer: D. S. Coffey, discussion leader

Speakers: G. R. Cunha, J. T. Isaacs

Negative controls of cell proliferation: C. Sonnenschein, discussion leader

Speakers: H. L. Moses, B. M. Markaverich, S. Bourgeois

R. Hertz, "Steroid-induced, steroid-producing and steroid-responsive tumors."

Growth factors and oncogenes: R. B. Dickson, discussion leader

Speakers: K. G. Nelson, L. J. Murphy

Hormone Action

Kimball Union Academy

D. J. Shapiro and F. M. Finn, co-chairmen

31 July–4 August

Plenary lecture: D. Brown, "Differential gene expression."

Hormone control of development, J. Rosen, discussion leader

Speakers: R. Evans, D. Hogness, R. Scheller

Growth factors and oncogenes: M. Lippman, discussion leader

Speakers: C. Stiles, D. Clemmons, A. Aaronson

Molecular biology of nuclear receptor action: C. Bancroft, discussion leader

Speakers: B. O'Malley, M. Beato, L. Freedman, G. Eichle, poster session

Hormone control of transcription: B. O'Malley, discussion leader

Speakers: P. Mellon, J. Cidlowski, S. Bourgeois

Signal transduction: S. McKnight, discussion leader

Speakers: S. Taylor, J. Corbin, S. McKnight, J. Moss

Posttranscriptional control mechanisms: D. Shapiro, discussion leader

Speakers: T. Sakakura, D. Cleveland, J. Rosen

Reproduction: M. Nemer, discussion leader

Speakers: C. Bancroft, D. Shapiro, K. Mayo, poster session

Hormone control of protein translocation and secretion: M. Levine, discussion leader

Speakers: I. Simpson, G. Firestone

Calcium homeostasis: F. Finn, discussion leader

Speakers: J. Potts, M. Rosenblatt, M. Levine

Inorganic Chemistry

Brewster Academy

T. J. Marks, chairman; J. S. Bradley, vice chairman

31 July–4 August

G. D. Stucky, "Inclusion synthesis and tuning of nonlinear optic materials."

G. A. Ozin, "Luminescent aluminophosphate-based molecular sieves."

N. S. Lewis, "Chemical investigations of semiconductor/liquid junctions."

J. M. Williams, "Synthesis, structure, and physical properties of organic semiconductors."

G. S. Girolami, "Organometallic routes to the low-temperature chemical vapor deposition of metals and ceramics."

J. T. Spencer, "Synthesis and properties of new borane, heteroborane, and metallaborane cluster systems."

D. Gatteschi, "Magnetic materials from metal ions and organic radicals."

O. Kahn, "Chemistry and physics of molecular-based inorganic compounds exhibiting a spontaneous magnetization."

J. S. Miller, "Magnets based upon molecules."

R. H. Holm, to be announced.

K. D. Karlin, "Reversible binding and activation of dioxygen by copper complexes."

S. J. Lippard, "Polymetal oxo aggregates in chemistry and biology."

L. Que, "Models for dinuclear iron-oxo proteins."

J. S. Valentine, "The coordination chemistry of a binuclear metalloenzyme: Copper-zinc superoxide dismutase."

J. S. Thompson, "Bioinorganic chemistry of copper and iron: The coordination chemistry of enzymatic reactions."

W. H. Armstrong, "Toward models for biological manganese centers and oxide mineral surfaces."

G. Christou, "Manganese carboxylates as models for manganese biomolecules."

W. A. Herrmann, "Synthetic and structural aspects and consequences in catalysis."

J. E. Ellis, "Highly reduced carbonyls of the early transition metals."

R. D. Ernst, "Metal pentadienyl chemistry."

F. A. Cotton, "The molecular rubix cube."

F. J. Feher, "Coordination chemistry of silsesquioxanes."

G. C. Stanley, "Bimetallic complexes based on binucleating polyphosphine ligands."

R. H. Crabtree, "Dihydrogen complexes and polyhydrides: Structure and reactivity."

G. J. Kubas, "Metal-dihydrogen coordination: An occult phenomenon in modern chemistry."

R. H. Morris, "η^2-dihydrogen complexes of the iron group metals."

Inorganic Geochemistry

Proctor Academy

D. M. Rye, chairman; D. A. Sverjensky and N. Williams, vice chairmen

Regional Ore-Forming Systems

14–18 August

Petrology and chemistry I: P. Bethke, discussion leader

Speakers: C. Schiffries, J. Ague

Petrology and chemistry II: N. Williams, discussion leader

Speakers: M. Goldhaber, P. Dixon

Isotopic systematics I: D. M. Rye, discussion leader

Speakers: A. Lehuray, J. Banner

Isotopic systematics II: H. P. Taylor, Jr., discussion leader

Speakers: S. Wickham, J. M. Palin

Fluid flow and chemical reactions I: G. Brimhall, discussion leader

Speakers: G. Garven, C. Bethke, L. Cathles

Fluid flow and chemical reactions II: J. Walther, discussion leader

Speakers: A. Lasaga, W. Murphy

New techniques I: S. Kesler, discussion leader

Speakers: G. Landis, S. Eldridge

New techniques II: D. Crerar, discussion leader

Speakers: J. Pasteris, R. Bodnar

New techniques III: D. Sverjensky, discussion leader

Speakers: E. Shock, M. Ghiorso

Inorganic Thin Films and Interfaces

Plymouth State College (S)

G. W. Cullen, chairman; M. Olmstead, vice chairman

3–7 July

B. J. Garrison, "Molecular dynamics

simulations of reactions at semiconductor surfaces."

R. D. Bringans, "Initial stages of semiconductor heteroepitaxy."

M. Zinke-Allmang, "Diffusion on semiconductor surfaces."

A. Zangwill, "Macroscopic approaches to thin-film morphology and stability."

J. D. Porter, "Stochastic and deterministic processes at ideal metal surfaces."

J. F. Gibbons, "Limited reaction processing: A role in the future of silicon processing?"

B. S. Meyerson, "Material characteristics and heterojunction device performance in UHV/CVD fabricated non-equilibrium structures."

C. G. Fonstad, "The heterojunction revolution: Why III-V's are better than IV's."

H. Koremer, "Issues of interface control and optimization in III-V heteroepitaxy."

J. Maijs, "Morphology controlled band gap: Device performance implications in silicon-based hetero-emitter structures."

D. E. Aspnes, "In situ optical characterization of GaAs film growth by OMCVD: Microscopic mechanisms and kinetic limits."

P. H. Fuoss, "In situ x-ray scattering studies of CVD film growth."

R. Hull, "In situ electron microscope observations of relaxation in strained epitaxial films."

R. Feenstra, "Structural and electronic properties of metal-semiconductor interfaces characterized with scanning tunneling microscopy."

P. Pianetta, "Core level photoelectron microscopy of surfaces with synchrotron radiation."

T. Yao, "The mechanism of lattice mismatched heteroepitaxial growth."

P. D. Kirchner, "Dislocation nucleation and propagation in III/V heterostructures grown by MBE."

M. P. A. Viegers, "What can we do to suppress dislocations in heteroepitaxy."

W. Walukiewicz, "Defects at metal/semiconductor and semiconductor/semiconductor interfaces."

L. Jastrzebski, "Defect formation in silicon–on-insulator thin films: How does the impact of defects device performance differ from bulk silicon technology."

J. M. Philips, "High T_c superconducting films: What will they ever be good for?"

D. Shaw, "GaAs on silicon: Potential applications."

M. Yoder, "Prospects for, and status of, diamond thin films."

Chemistry at Interfaces

Kimball Union Academy

R. E. Johnson, chairman; B. Haendler, vice chairman

17–21 July

Advances in microscopy: L. Abrams, discussion leader

Speakers: R. Hamers, R. Merrill

Gas-solid interactions: G. Allen, discussion leader

Speakers: W. Steele, J. Rouquerol

Electrodynamics of concentrated dispersions: M. Hair, discussion leader

Speakers: R. Hunter, D. Henderson, D. Feke

Microemulsions: B. Haendler, discussion leader

Speakers: W. Wade, M. Pileni

Concentrated dispersions: M. Wolfe, discussion leader

Speakers: J. Mewis, M. Croucher, B. Ackerson

New directions in biomedical surface chemistry: E. Vogler, discussion leader

Speakers: B. Pethica, E. Vogler

Polymer inorganic fiber interface: W. Bascom, discussion leader

Speakers: W. Bascom, A. Benedetto, W. Jensen

Biomedical surface chemistry: E. Vogler, discussion leader

Speaker: L. Vroman

Advances in wettability: R. Johnson, discussion leader

Speakers: B. Zelinski, A. Bose

Ion Containing Polymers

Colby-Sawyer College (S)

G. L. Wilkes, chairman; R. Lundberg, vice chairman

31 July–4 August

D. F. Shriver, "New single-ion polymer conductors."

P. Markusch, "Polyurethane ionomers."

R. F. Storey, "Star-branched block copolymers ionomers: Synthesis, characterization and properties."

M. Moeller, "Synthesis and association of macromolecules with ionic end groups of varying length."

J. C. Salamone, "Associated polymers in solution."

J. S. Higgins, "Single chain dimensions and aggregate formation in dilute ionomer solutions."

R. Davis, "The electrostatic wormlike chain theory: Its applicability to dilute polyelectrolyte solutions."

T. A. Witten, "Relaxation kinetics in strongly associated ionomers."

R. Duplessix, "Single ended halato polymers: A tool in the approach to ionomer structures SANS and SAXS studies."

J. Koberstein, "Synchrotron x-ray characterization of aggregate formation and dissolution in polymers containing metal-sulfonate complexes."

B. Chu, "Small angle x-ray scattering studies of sulfonated polystyrene ionomers."

M. Hara, "Deformation and fracture behavior of ionomers and ionomer blends."

G. Bazuin, "Ionomer oligomer blends."

D. Wollmann, "Control of phase behavior in ionomers and ionomer containing blends."

R. Prud'homme, "Solvent and metal effects on rheology of dilute ionomer solutions."

L. Pottick, "Recent investigations on polystyrene-polyethylene/butylene-polystyrene ionomers."

P. Raynolds, "Rheology of aqueous dispersions of charge stabilized polyesters."

Laser Diagnostics in Combustion

Plymouth State College (N)

R. K. Chang, chairman; L. A. Rahn, vice chairman

17–21 July

Challenges for laser diagnosticians: R. Goulard, discussion leader

Speakers: R. W. Bilger, N. Peters, G. M. Faeth

Multidimensional imaging: R. Dibble, discussion leader

Speakers: M. B. Long, P. Paul

Multiphoton ionization and excitation: J. E. M. Goldsmith, discussion leader

Speakers: W. K. Bischel, T. A. Cool, K. C. Symth

Fluorescence: N. Laurendeau, discussion leader

Speakers: J. B. Jeffries, J. Wolfrum

New techniques: D. Greenhalgh, discussion leader

Speakers: W. S. Warren, R. Strickland, M. Alden

Surfaces, particles, and solid propellants: L. Goss, discussion leader

Speakers: T. P. Parr, R. Anderson

CARS: A. C. Eckbreth, discussion leader

Speakers: R. L. Farrow, G. J. Rosasco, W. P. Stricker

Spectroscopy in the UV: M. Drake, discussion leader

Speakers: P. Andresen, R. W. Pitz

Supersonic flow: R. Cattolica, discussion leader

R. Miles, R. K. Hanson, J. C. McDaniel

Lipid Metabolism

Kimball Union Academy

E. A. Dennis, chairman; A. Jonas, vice chairman

26–30 June

Ether lipids and the regulation of membrane structures: H. Goldfine, discussion leader

J. Seelig, "Phospholipid head groups as sensors of electric charge in membranes." F. Paltauf, "Plasmalogens as components of biological and model membranes." D. J. Hanahan, "Biochemical observations on inhibitors of platelet activating factor."

Cloning and genetic approaches to gene regulation: W. Dowhan, discussion leader

S. A. Henry, "Genetic and molecular approaches to phospholipid biosynthesis in yeast." J. Cronan, "Genetic regulation of *E. coli* fatty acid synthesis."

Role of lipids in cell signaling: R. Bell, discussion leader

R. Kolesnick, "Sphingomyelinase and a potential inhibitory pathway for protein kinase C." S. Hakomori, "Gangliosides and other sphingolipids as modulators of receptor-associated kinases." L. D. Bergelson, "Role of dynamic lipid structures in receptor events."

Inositol phosphates and signal transduction: J. Exton, discussion leader

J. Putney, "Relationship of ionsitol phosphate metabolism to calcium signaling." A. Saltiel, "Metabolism of novel phosphoinositides."

Phospholipases as mediators of signal transduction: R. Gross, discussion leader

K. Inoue, "Characterization and pathological roles of phospholipases involved in inflammation." S. G. Rhee, "Phosphoinositide-specific phospholipase C isozymes." M. Low, "Phospholipase D specific for glycosyl-phosphatidylinositol anchors."

Lung surfactant structure and roles: L. van Golde, discussion leader

J. Whitsett, "Structure and function of surfactant proteins." D. Voelker, "Regulation of surfactant secretion by surfactant protein A."

Cell surfaces and receptors: C. Raetz, discussion leader

H. G. Khorana, "Signal transduction by rhodopsin and bacterial rhodopsin." P. A. Dawson, "Cloning and characterization of the oxysterol receptor." P. Elsbach, "Structure and function of a bacterial cytotoxin from mammalian leukocytes that is also a selective phospholipase activator."

Neutral lipid function and metabolism: J. Law, discussion leader

J. Glomset, "Role of LDL pathway in eicosanoid production." R. Verger, "The lipases of the digestive tract."

Phospholipid regulation, turnover and control: D. Vance, discussion leader

Y. Akamatsu, "Regulation of phosphatidylserine biosynthesis in mammalian cultured cells." E. Kennedy, "Cell signaling and the turnover of membrane lipids in bacteria.

Liquid Crystals

Brewster Academy

A. C. Griffin, chairman; N. A. Clark, vice chairman

19–23 June

Novel structures: A. M. Giroud, discussion leader

Speakers: A. Skoulios, N. H. Tinh, B. K. Sadashiva

Photochemistry: C. E. Hoyle, discussion leader

Speakers: D. J. Broer, R. G. Weiss

Ferroelectrics: E. P. Janulis, discussion leader

Speakers: T. Geelhaar, J. W. Goodby, G. Heppke

Ferroelectrics: M. Wand, discussion leader

Speakers: C. Escher, R. J. Twieg

Polymers: E. T. Samulski, discussion leader

Speakers: G. R. Luckhurst, R. Zentel, M. Ballauff

Polymers: R. S. Porter, discussion leader

Speakers: G. Kothe, T. G. Ryan

Lyotropics: P. E. Cladis, discussion leader

Speakers: H. Hoffmann, J. Charvolin, J. E. Lydon

Optics: D. Robello, discussion leader

Speakers: Y. R. Shen, J. W. Doane

Lyotropics: N. A. Clark, discussion leader

Speakers: C. Safinya, M. M. Labes

Chemistry and Physics of Liquids

Holderness School

S. C. Greer, chairman; H. C. Andersen, vice chairman

14–18 August

Complex liquids: Micelles and microemulsions: S.-H. Chen, discussion leader

Speakers: M. Kahlweit, S. Safran, K. Dawson

Simple liquids: Dynamic properties: D. Kivelson, discussion leader

Speaker: J. V. Sengers

Liquids in pores and at interfaces: G. Stell, discussion leader

Speakers: R. Evans, J. Jonas, L. Leger

Simple liquids: Static properties: F. Stillinger, discussion leader

Speaker: R. Lovett

Complex liquids: Colloids: D. Ronis, discussion leader

Speakers: C. A. Murray, P. Pincus, E. G. D. Cohen

Complex liquids: Glasses: E. A. DiMarzio, discussion leader

Speakers: D. Thirumalai, A. Wright

Chemical reactions in liquids: J. T. Hynes, discussion leader

Speakers: D. Chandler, P. Barbara, A. Myers

Complex liquids: Polymers: G. Frederickson, discussion leader

Speakers: H. Yu, M. E. Cates

Phase transitions: A. D. J. Haymet, discussion leader

Speakers: R. Desai, R. Whetten, R. S. Berry

Magnetic Resonance

Plymouth State College (N)

W. G. Clark, chairman; R. Griffin, vice chairman

19–23 June

R. Tycko, "Zero field resonance in a magnetic field."

P. C. Hammel, "Anisotropic Knight shifts and relaxation rates in $YBa_2Cu_3O_7$."

R. Orbach, "Magnetic resonance and relaxation in disordered materials."

O. Chapman, "What spectra reveal about the spectroscopist: The interactive database."

D. Singel, "Frequency dependent electron spin echo envelope modulation."

A. Pines, "Magic and other angles."

W. W. Warren, Jr., "NMR and NQR studies of $YBa_2Cu_3O_{6-x}$."

R. E. Norberg, "Matrix isolated HD and D_2."

M. Bowman, "Fourier Transform ESR."

R. Griffin, "Rotational resonance."

D. L. Williams, "Probing high-temperature superconductors with muon spins."

Mammary Gland Biology

Colby-Sawyer College (S)

I. H. Mather, chairman; D. Medina, vice chairman

12–16 June

Regulation of milk-protein gene expression: cis- and trans-acting factors: M. J. Bissell, discussion leader

Speakers: M. J. Bissell, S. Penman, R. Ball, S. I. Gorodetsky

Structure and function of milk proteins: H. M. Farrell, discussion leader

Speakers: H. M. Farrell, S. Gendler, L. Sawyer

Growth and inhibitory factors in mammary development: I: B. K. Vonderhaar, discussion leader

Speakers: B. K. Vonderhaar, D. Sirbasku, S. Bates, G. Silberstein

Growth and inhibitory factors in mammary development: II: W. R. Kidwell, discussion leader

Speakers: W. R. Kidwell, R. Grosse, C. Wilde, B. Markaverich

Intracellular sorting and secretory mechanisms: G. Parry, discussion leader

Speakers: G. Parry, G. L. Firestone, T. W. Keenan, R. Kelly

Protein hormone lactogens: P. A. Kelly, discussion leader

Speakers: P. A. Kelly, R. P. C. Shiu, F. Talamantes

The genetics of breast cancer: R. D. Cardiff, discussion leader

Speakers: R. D. Cardiff, E. J. Stanbridge, D. J. Slamon, D. O. Peterson

Mucosal immunity: I. H. Mather, discussion leader

Speaker: J.-P. Kraehenbuhl

Growth hormone action, insulin and insulin-like growth factors: D. Bauman, discussion leader

Speakers: D. E. Bauman, W. Wood, R. Vernon, R. J. Collier

Mechanisms of Membrane Transport

Holderness School

C. Miller, chairman; R. Frizzell, vice chairman

3–7 July

Fundamental aspects of membrane structure and function:

Speakers: F. Richards, J. Lear, W. P. Jencks, S. McLaughlin

Recent progress in new transport systems:

Speakers: M. L. Garcia, U. B. Kaupp, B. Kanner

Basic mechanisms of transport proteins:

Speakers: P. Dimroth, R. Kaback, B. Forbush, A. M. Garcia

Targeting of membrane proteins:

Speakers: D. Vestweber, W. J. Nelson, K. Mostov

Membrane protein structure:

Speakers: M. Garavito, F. A. Quiocho, N. Unwin

Multicomponent interactions in transporters:

Speakers: D. Stone, B. Ehrlich, J. Neyton

Manipulation and dissection of ion channels:

Speakers: H. Betz, W. Stuhmer, D. Papazian

Plenary lecturer: A Lektin, "Membranes, schmembranes: My life in the lipids."

Channels involved in membrane pathology:

Speakers: K. Beam, Q. Al-Awqati, R. Bridges

Mechanisms of Toxicity

Kimball Union Academy

J. A. Thomas, chairman; W. O. Berndt, vice chairman

24–28 July

Perturbation of hormone receptors by xenobiotics: M. Gallo, discussion leader

Speakers; T. Gasiewicz, J. Whitmock, G. Lucier, C. Kemp, W. Bulger

Pancreative islet cell toxicity: L. Fischer, discussion leader

Speakers: G. Wilson, K. Lafferty, M. McClain, G. Boorman

Prolactin: physiology and pathology: C. Robinette, discussion leader

Speakers: D. Russell, M. Prystowsky, D. Hartman, D. Larson

Toxicity and neoplastic diseases: E. Keenan, discussion leader

Speakers: R. Shomaker, W. Henner, J. Greiner

Drug/chemical-induced changes in the kidney: W. Berndt, discussion leader

Speakers: B. Davis, L. Walker, J. Fisher

Medicinal Chemistry

Colby-Sawyer College (N)

R. Allen, chairman; C. Harbert, vice chairman

31 July–4 August

Anti-retroviral therapy: S. Broder, discussion leader

Speakers: S. Broder, W. Haseltine, T. Meek, D. Capon

Recent developments in cancer research: T. Doyle, discussion leader

Speakers: T. Doyle, W. Hait, D. Vyas

New lipid regulating agents: J. Bristol, discussion leader

Speakers: R. Fears, D. S. Karanewsky, B. Roth

IL-1 as a target for arthritis therapy: A. Allison, discussion leader

Speakers: A. C. Allison, J. C. Lee, S. B. Kadin

Zn-dependent metalloproteinase inhibitors: S. Campbell, discussion leader

Speakers: J. E. Hanson, K. James, W. H. Johnson

Antiischaemic agents: J. McCall, discussion leader

Speakers: S. Panter, E. J. Jacobsen, J. A. Panetta

Selective muscarinic agents: G. Lambrecht, discussion leader

Speakers: N. J. M. Bridsall, B. Wetzel, R. Tacke, J. Saunders

Special session, R. Allen, discussion leader

Special topics in medicinal chemistry: J. LaMattina, discussion leader

Metal and Semiconductor Clusters

Holderness School

P. A. Montano, chairman; M. L. Mandich, vice chairman

31 July–4 August

K. H. Meiwes-Broer, "Unsupported metal clusters: Photoelectron and charge transfer collisions."

C. Brechignac, "Electronic structure of metal cluster investigated by synchrotron radiation."

K. Balasubramanian, "Electronic structure of heavy transition metal and semiconductor clusters."

D. E. Cox, "Photoemission studies of mass selected Pt clusters."

W. Harbich, "Matrix deposition of mass selected neutralized clusters."

M. Jarrold, "Single size Al and Si clusters in gas phase and on surfaces."

R. Messmer, "Chemical bonding in silicon clusters."

J. Chelikowski, "Structure and electronic properties of silicon clusters."

P. Armentrout, "Chemistry of atomic and cluster metal ions."

M. Morse, "Spectroscopic studies of gas phase metal and semiconductor dimers and trimers."

G. Scoles, "Infrared spectroscopy of molecular clusters."

A. Stace, "Chemical reactions in ions clusters."

U. Landman, "Classical and quantum simulation of the structure and dynamics of cyanide aggregates and of the excess electron migration localization in the spectra of clusters."

A. Buttet, "Geometrical and electronic studies on single and double negative charge column II clusters."

H. Haberland, "Electric charging and discharging of metal clusters."

G. Schmid, "On the way from molecular cluster to bulk metal."

R. Kortan, "Structure of semiconductor nanoclusters."

A. Rosen, "Electronic structure calculations of metal containing carbon clusters."

R. Smalley, "Clusters and materials sciences."

A. Kaldor, "Gas phase and supported metal clusters."

E. Park, "Chemical probes of metal clusters; Ionization potentials and structural changes."

A. Masson, "Size and concentration effects on selective hydrogenation by bimetallic clusters."

D. Jacobson, "New methods for probing the state of absorbates on microclusters ions surfaces."

Metal Hydrides

Tilton School

F. D. Manchester, chairman; R. M. Colts, vice chairman

10–14 July

Tunneling and diffusion of H and its isotopes in metals: K. W. Kehr, discussion leader

Speakers: H. Wipf, H. Grabert, J. Peisl

Electronic properties of metal hydrides: A. C. Switendick, discussion leader

Speakers: D. Papaconstantopoulos, P. Jena

"Design" of hydrogen storage alloys: J. R. Johnson, discussion leader

Speakers: J. H. Harris, H. Uchida, P. Dantzer

Phase transitions in metal-hydrogen and other guest-host systems: R. M. Cotts, discussion leader

Speaker: H. A. Goldberg

Influence of hydrogen on producing order and disorder in alloys: C. Satterthwaite, discussion leader

Speakers: T. B. Flanagan, K. Samwer, J. M. Sanchez

Novel and improved experimental methods for studying metal-hydrides: G. Sicking, discussion leader

Speakers: D. H. Carstens, F. E. Wagner

Lattice sites, potentials, lattice gas behavior for H in Nb/transition metal systems: H. K. Birnbaum, discussion leader

Speakers: D. Richter, P. F. Miceli

Pressing for the ultimate hydride: metallic hydrogen: C. P. Flynn, discussion leader

Speaker: I. F. Silvera

Recently discovered metal hydrides and new cautions about M-H phase diagrams: J. S. Cantrell, discussion leader

Speakers: A. Percheron-Guegan, R. G. Leisure

Panel discussion on future prospects for M-H systems research: F. D. Manchester, discussion leader

Molecular and Genetic Basis for Cell Proliferation

Colby-Sawyer College (S)

W. J. Pledger, chairman; C. D. Stiles, vice chairman

10–14 July

Growth factor receptors: G. Carpenter, chairman

Speakers: D. Bowen-Pope, C. J. Sherr, S. Dower

Transducing signals: T. Roberts, chairman

Speakers: E. B. Leof, F. McCormik

Control of gene expression: P. Reddy, chairman

Speakers: T. Curran, B. Cochran, A. Richmond

Gene expression controlling proliferation: G. Stein, J. Lian, chairmen

Speakers: R. Baserga, R. Weinberg

Growth control in non-mammalian systems: D. Beach, chairman

Speakers: J. Ruderman, P. O'Farrell, S. Osmani

Growth inhibitors: H. Moses, chairman

Speakers: P. D'Amore, J. Massague

Differentiation-cellular: B. Spiegleman

Speakers: H. Blau, E. Fuchs, A. B. Lassar

Differentiation and development: E. M. DeRobertis, chairman

Speaker: J. Smith

Oncogene and growth control: C. Basilico, chairman

An application blank for attendance at the Gordon Research Conferences may be found on page 1218.

Speakers: G. Vande Woude, M. Barbacid

Molecular Energy Transfer

Brewster Academy

E. Weitz and G. C. Schatz, co-chairmen

10–14 July

Gas phase collisional energy transfer: R. J. Gordon, discussion leader

Speakers: D. Pritchard, R. Gentry, J. Steinfeld

Collisional energy transfer in ions and open shell molecules: E. Gislason, discussion leader

Speakers: S. Leone, M. Alexander

Photodissociation dynamics I: F. Crim, discussion leader

Speakers: P. Houston, R. Schinke, L. Butler

Photodissociation dynamics II: D. Imre, discussion leader

Speakers: H. Reisler, J. Simons

Energy transfer in molecular clusters: M. Child, discussion leader

Speakers: R. Miller, D. Clary, C. Parmenter

Intramolecular energy transfer: N. Sibert, discussion leader

Speakers: M. Quack, R. Field

Energy transfer in liquids and solids: R. B. Gerber, discussion leader

Speakers: V. Apkarian, C. Harris, J. T. Hynes

Collisional energy transfer in small molecules: J. Reuss, discussion leader

Speaker: G. Flynn

Energy transfer in gas-surface interactions: S. Sibener, discussion leader

Speakers: J. Stephenson, J. Tully, J. Polanyi

Molecular Genetics

Salve Regina College

R. S. Kucherlapati, chairman; F. Collins, vice chairman

7–11 August

Mammalian chromosome structure: U. Laemmli, discussion leader

Speakers: W. Earnshaw, J. Lawrence, R. Moyzis

Physical maps of human chromosomes: C. Cantor, discussion leader

Speakers: N. Arnheim, C. Smith

Genetic maps of human chromosomes: R. White, discussion leader

Speakers: D. Cox, D. Patterson, J. Wasmuth

Human disease genes: R. Worton, discussion leader

Speakers: J. Gusella, R. Williamson

Gene modification and animal models for human disease: O. Smithies, discussion leader

Speakers: M. Capecchi, R. Jaenisch

Mammalian development: F. Ruddle, discussion leader

Speaker: J. Rossant

Sex determination: B. Migeon, discussion leader

Speakers: E. Eicher, P. Goodfellow, D. Page

DNA-protein interactions: R. Evans, discussion leader

Speakers: M. Karin, K. Struhl, R. Tjian

Recessive oncogenes: J. Minna, discussion leader

Speakers: W. Cavanee, D. Housman, W.-W. Lee

Molecular Mechanisms of Microbial Adhesion

Salve Regina College

B. I. Eisenstein, chairman; S. Kjellberg, vice chairman

3–7 July

Adhesion biophysics: K. Marshall, discussion leader

Speakers: M. Fletcher, R. Doyle, H. Busscher

Fungal adhesion: B. Nordbring-Hertz, discussion leader

Speakers: H. Hoch, H. B. Jansson

Sensing at surfaces: M. Simon, discussion leader

Speakers: J. Meklanos, M. Silverman, T. Silhavey

Lectin-like substances: W. Paranchych, discussion leader

Speakers: K.-A. Karlsson, R. Isberg

Molecular biology of bacterial fimbriae: S. Normark, discussion leader

Speakers: S. Hultgren, R. Taylor, T. Meyer

Plant-bacterial interactions: A. Matthysse, discussion leader

Speakers: B. Lutgenberg, A. Anderson

Bacterial cell-cell interactions: D. Kaiser, discussion leader

Speakers: H. Kaplan, P. Kolenbrander, D. Clewell

Organized outer layers: T. Trust, discussion leader

Speakers: W. W. Kay, E. Rosenberg

Functional consequences of adhesion: C. Svanborg-Eden, discussion leader

Speakers: F. deGraaf, J. Hacker, A. G. Gristina

Molecular Membrane Biology

Proctor Academy

H. Lodish, chairman; P. Walter, vice chairman

3–7 July

Protein translocation: W. Wickner, discussion leader

Speakers: P. Lazarow, M. Wiedmann, W. Neupert

Transport and sorting of secretory proteins: J. Rothman, discussion leader

Speakers: H. Pelham, R. Schekman, P. Novick

Structure and function of membrane proteins: D. Rees, discussion leader

Speakers: P. Bjorkman, J. Brunner, H. G. Khorana

Transmembrane signaling: P. Devreotes, discussion leader

Speakers: A. Ullrich, B. Kobilka, S. Fleischer

Membrane-cytoskeleton interactions: V. Bennett, discussion leader

Speakers: J. Nelson, T. Reese, T. Kreis

Contributed 20-minute talks: P. Walter, discussion leader

Six or seven speakers will be selected from one-page abstracts that all applicants are expected provide with application.

Endocytosis: R. Anderson, discussion leader

Speakers: T. Kirschhausen, G. Griffiths, Y. Henis

Protein and lipid sorting and cell polarity: A. Hubbard, discussion leader

Speakers: H.-P. Moore, K. Mostov, R. Pagano

Assembly of complex membrane and membrane proteins: L. Gerace, discussion leader

Speakers: M. Rose, R. Klausner

Molecular Pharmacology

Tilton School

P. W. Taylor, chairman; E. Ross, vice chairman

12–16 June

G-protein coupled receptors: E. Ross, discussion leader

Speakers: G. H. M. Helmreich, R. Dixon, D. Capon, B. Kobilka

G-proteins: H. Bourne, discussion leader

Speakers: S. Masters, K. Matsumoto, F. McCormick

Receptor-mediated transmembrane signaling: L. Limbird, discussion leader

Speakers: H.-G. Khorana, J. Konopka, G. Carpenter

Intracellular communication and secretion: D. Gill, discussion leader

Speakers: B. Gomperts, D. Baker, P. Melancon

Computer aided drug design: G. Marshall, discussion leader

Speakers: Z. Wasserman, G. Smith, P. Kollman

Voltage-sensitive ion channels: W. Catterall, discussion leader

Speakers: R. Coronado, R. Miller, B. Tempel

Ligand gated channels: S. Heinemann, discussion leader

Speakers: J. Merlie, H. Betz, P. Seeburg

Thursday evening: R. Evans, "The steroid family of receptors."

Signal transduction by antigens and peptides: G. Johnson, discussion leader

Speakers: A. Weissman, J. Cambier, M. Waite

Molten Salts and Liquid Metals

Brewster Academy

M.-L. Saboungi, chairman; F. Hensel, vice chairman

7–11 August

P. Wolynes, "A scenario for the glass transition."

L. Torell, "Scaled relaxation behavior in glass forming ionic liquids."

F. Mezei, "The liquid-glass transition: Scaling behavior and critical instability in the liquid phase."

S. Moss, "Structure and modeling of 2D liquids intercalated in graphite."

F. Ercolessi, "Structure and dynamics of the liquid gold surface: A molecular dynamics study."

K. Seddon, "Structural studies of ambient room temperature chloroaluminates."

J. S. Wilkes, "Chemistry of ambient room temperature chloroaluminate molten salts."

R. Berg, "Experimental studies of phase relations in low melting salts."

W. Freyland, "Ellipsometric study of bulk and surface properties of M-MX solutions."

P. Edwards, "Structure and dynamics of metal anions."

J. Stebbins, "NMR studies of structure and dynamics of liquid silicates."

A. Angell, "Strong and fragile oxide melts at positive and extreme negative pressure by molecular dynamics."

A. Navrotsky, "Energetics as a probe of liquid silicates structure."

A. Pelton, "Thermodynamics of multicomponent oxide systems."

R. Winter, "Structure of expanded liquid metals."

R. Goldstein, "Fluctuating pseudo atoms and particle hole symmetry at the liquid-vapor critical point of a metallic fluid."

S. W. Orchard, "Zebra cells: Studies of the cathode electrochemistry."

B. Gilbert, "Reinvestigation of cryolite structure and its oxide solutions by Raman spectroscopy."

D. Inman, "Electrochemistry in molten $ZnCl_2$-alkali chloride mixtures."

A. Bienenstock, "Studies of liquids with synchrotron radiation: Present and future."

P. Chieux, "Small angle neutron scattering in metal-ammonia solutions."

W. Knight, "Metal clusters: Solid or liquid?"

R. Whetten, "Electrons in metal clusters and in ionic clusters, metal-insulator and solid-liquid transition."

W. Andreoni, "Micro clusters: Temperature effects from ab initio molecular dynamics."

Mycotoxins and Phycotoxins in Human and Animal Health

Plymouth State College (N)

H. L. Trenholm, chairman; W. Carmichael and P. Hart, vice chairmen

26–30 June

Chronic, low dose effects of mycotoxins and phycotoxins: W. L. Bryden, W. Norred, discussion leaders

Speakers: I. Falconer, K. Ohtsubo, D. Lauren

Chemical analysis of phycotoxins: K.-I. Harada, discussion leader

Speakers: K. Rinehart, R. E. Moore, T. Yasumoto

Environment interactions associated with mycotoxin contamination of grain and phycotoxin occurrence in water: D. T. Wicklow, discussion leader

Speakers: P. Dowd, J. D. Miller, H. Paerl

Health/economic impact of mycotoxins and phycotoxins on humans and farm animals: P. Krogh, discussion leader

Speakers: J.-S. Wang, J. Worms, B. Underdahl, J. Eriksson

Chemistry/toxicology of new metabolites: J. ApSimon, discussion leader

Speakers: A. Dahlem, R. Dickey, A. Visconti

Chemical analysis of mycotoxins: P. M. Scott, discussion leader

Speakers: F. S. Chu, K. W. Hunter

Pharmacology/toxicology of mycotoxins and phycotoxins: M. Runnegar, discussion leader

Speakers: T. Yoshizawa, Y. Ueno, R. Wei

Mode of action of mycotoxins and phycotoxins: J. Pace, discussion leader

Speakers: J. J. Pestka, V. Beasley, J. Pace

Perspectives re "Frontiers of Mycotoxin/Phycotoxin Science": W. Carmichael, P. Hart, discussion leaders

Speakers: W. F. O. Marasas, C. J. Mirocha

Natural Products

New Hampton School

J. V. Heck, chairman; G. D. Prestwich, vice chairman

24–28 July

P. Bartlett, "Targets for synthesis: From discovery to invention."

G. Bringmann, "Stereocontrolled synthesis of axially chiral natural products."

R. Danheiser, "New strategies for the synthesis of carbocyclic and heterocyclic compounds."

W. Fenical, "Recent frontiers in marine natural products chemistry."

P. Fuchs, "The Bruceantin safari."

R. Hoffmann, "Towards the syntheses of natural products of polyketide orgin: The crotylboronate approach."

R. Holton, "Synthesis of taxol and taxol mimics."

R. Magolda, "Design and synthesis of cholesterol biosynthesis inhibitors."

J. Morris, "Synthesis of LTB4/thromboxane antagonists."

K. Narasaka, "Asymmetric reaction catalyzed by a chiral titanium reagent."

B. O'Neill, "Synthesis of CP-70,429: A potent antibacterial penem."

G. Olson, "Concepts and progress in the development of peptide mimetics."

L. Paquette, "Carbonyl group regeneration with structural embellishment as a tool in natural product synthesis."

A. Schepartz, "Self-assembling ionophores."

B. Trost, "Synthetic strategy for the synthesis of natural products emanating from intramolecular carbometallation for ring construction."

A. Vasella, "New carbohydrate derivatives and intermediates."

J. Vederas, "Amino acid analogs: Synthesis and use in enzymatic studies."

R. P. Volante, "Chemistry and synthesis of FK-506."

P. Wender, "Recent synthetic, modeling, and pharmacological studies on carcinogenesis."

R. Williams, "Study and synthesis of biologically significant nitrogenous substances."

Neural Development

Salve Regina College

J. M. Lauder, chairman; U. Rutishauser, vice chairman

26–30 June

Cell lineage and determination: R. Adler, S. C. Landis, discussion leaders

Speakers: J. Sanes, C. Cepko, S. Fraser, C. Kimmel, M. Dubois-Dalcq

Pathways and targets: P. Patterson, N. Seeds, discussion leaders

Speakers: J. Dodd, J. Silver, L. Landmesser, F. Bonhoeffer, R. Pittman

Neurotransmitters: A. Vernadakis, J. Lauder, discussion leaders

Speakers: J. Lauder, J. Goldberg, P. Whitaker-Azmitia, M. Constantine-Paton, P. Rakic

Neural induction: C. Kintner, U. Rutishauser, discussion leaders

Speakers: M. Kirschner, C. Sharpe, J. C. Smith, C. Kintner, I. Dawid

Neural crest: G. Ciment, discussion leader

Speakers: M. Bronner-Fraser, C. Stern, M. Sieber-Blum

Neural Plasticity

Brewster Academy

C. J. Shtatz, chairman; R. Zigmond, vice chairman

17–21 July

Cellular and molecular models of learning: T. Carew, discussion leader

Speakers: R. Nicoll, D. Madison, T. Crow, J. Bryne

How the cerebral cortex learns to represent sensory information: S. Lisberger, discussion leader

Speakers: R. Anderson, J. Maunsell, R. Granger

Genetic models of neuronal development: J. Eisen, discussion leader

Speakers: M. Chalfie, C. Goodman

Characterization and regulation of neuronal nicotinic receptors: R. Zigmond, discussion leader

Speakers: R. Loring, L. Role, D. Berg

NMDA-mediated mechanisms of synaptic plasticity: M. Kennedy, discussion leader

Speakers: R. Dingledine, T. Bliss, M. Constantine-Paton, N. Daw

Three ways that ion channels participate in neural plasticity: C. F. Stevens, keynote address. Poster session follows

Oncogenes and neural plasticity: L. Dokas, discussion leader

Speakers: J. Brugge, J. Morgan, M. Greenberg

Hormonal control of neuronal development and plasticity: J. Truman, discussion leader

Speakers: M. Breedlove, A. Arnold

What can neural grafts reveal about neural plasticity? D. Landis, discussion leader

Speakers: F. Gage, C. Sotelo, R. Lund

Nonlinear Optics and Lasers

Brewster Academy

J. Feinberg, chairman

24–28 July

R. L. Byer, "Diode-pumped lasers."

C. V. Shank, "Femtosecond physics."

D. C. Hanna, "Fiber lasers."

D. Z. Anderson, "Frequency doubling in fibers."

Y. Silberberg, "Guided wave solitons."

E. Yablonovitch, "Inhibited spontaneous emission."

S. Chu, "Laser cooling of atoms."

M. Stuke, "Laser/surface interactions."

R. R. Freeman, "Multiphoton processes and high fields."

A. E. Kaplan, "Nonlinear optics of single electrons."

R. Blumel, H. Walther, "Phase transitions of stored laser-cooled atoms."

H. G. Winful, "Phase-locked laser arrays."

Y. R. Shen, "Surface diffusion."

M. Fejer, "Synthetic nonlinear materials."

Y. Yamamoto, "Enhanced spontaneous emission in semiconductors."

Nuclear Chemistry

Colby-Sawyer College (N)

T. L. Khoo, chairman; U. Schroeder, vice chairman

12–16 June

Superdeformation in A:150 region: Panel discussion: J. C. Waddington, M.-A. Deleplanque, M. A. Bentley

J. Kuehner, "Methods for identifying superdeformed bands."

Superdeformation in other regions: Panel discussion: R. Chasman, R. V. F. Janssens

Population and depopulation of superdeformed bands: Panel discussion: K. Schiffer, B. Haas

S. Aberg, "Superdeformation: What we have learned and open problems."

P. A. Butler, "New results on octupole correlations near Z-90."

B. Herskind, "Multifold gamma correlations."

Y. Alhassid, A. L. Goodman, "Phase transitions above the Yrast line."

P. J. Daly, "Proton-rich N:82 nuclei: Exotic but exoteric."

P. Armbruster, "Effects of nuclear structure in the stability and formation of the heaviest elements."

P. Moller, "Shell structure in bimodal symmetric fission."

G. F. Bertsch, "Pairing and large amplitude motion."

B. Jonson, "Neutron halo of nuclei near the neutron drip line."

W. Mittig, "Measurements of masses and reactions induced by secondary beams."

J. R. Beene, "Giant resonance excitation and decay."

W. E. Ormand, "Motional narrowing in hot nuclei."

P. Morsch, "Shape effects and thermal narrowing of giant resonances in hot nuclei."

H. E. Gove, "Dating the Shroud of Turin."

J. P. Huchra, "Large-scale structure in the Universe."

R. Chapman, "Is there an M1 scissor mode in nuclei?"

R. Laszewski, "M1 strength distribution in heavy closed shell nuclei."

Nuclear Physics

Tilton School

S. Kowalski, chairman; J. P. Vary, vice chairman

17–21 July

Heavy ion physics: HI physics at CERN; BNL Exp-802; Collective flow/entropy production; Structure of hot nuclei; Positronium signals at GSI.

Speakers: R. Ledoux, G. Westfall, J. Greenberg

Nuclear structure/nuclear reactions: Charge exchange: (n,p), (p,n); LAMPF-NTOF; Charge symmetry breaking; Double charge exchange and N-N correlations; Relativistic nuclear physics.

Speakers: P. Jackson, S. Wissink, R. Perry

Subnucleon effects: Drell-Yan/FNAL; Quark rescattering and μ-N interactions; Nuclear physics and QCD; Color transparency.

Speakers: J. Peng, F. Close, J. Ralston

Electromagnetic physics: Deuteron electrodisintegration; (e,e'd), (e,e'd) clusters in nucleic.

Speakers: R. Holt, H. Blok

Detector initiatives for nuclear physics: Pegasys; LCD; Gamma sphere; SNOW.

Speakers: K. van Bibber, H. White, F. Stephens, A. McDonald

Nuclear physics long range plan:

Speaker: P. Paul

Nucleic Acids

New Hampton School

P. Dervan and W. McClure, co-chairmen

12–16 June

DNA-protein structures: S. Harrison, discussion leader

Speakers: R. Brown, C. Pabo

Recombination and transposition: N. Craig, discussion leader

Speakers: K. Mizuuchi, H. Nash

DNA conformation and dynamics: J. Dahlberg, discussion leader

Speakers: J. Barton, D. Lilley

RNA-protein interactions: J. Abelson, discussion leader

Speakers: L. Schulman, T. Steitz

DNA replication: R. McMacken, discussion leader

Speakers: S. Benkovic, A. Kornberg

DNA repairs: S. Linn, discussion leader

Speakers: H. Echols, L. Grossman, P. Modrich

Methodological advances and large DNA: C. Cantor, discussion leader

Speakers: R. Davis, D. Ward

Transcription mechanisms and control: L. Guarente, discussion leader

Speakers: M. Ptashne, R. Roeder, R. Tjian

RNA processing and splicing: T. Cech, discussion leader

Speakers: C. Guthrie, J. Steitz, O. Uhlenbeck

Organic Photochemistry

Proctor Academy

G. B. Schuster, chairman; D. Eaton, vice chairman

17–21 July

H. Iwamura, "Generation of high-spin carbenes."

M. Alfimov, "Photoinitiated phase transitions."

J. Winkler, "Synthesis of natural and unnatural products: The stereochemistry of the [2 + 2] reaction."

D. Gust, "Mimicry of photosynthetic energy and electron transfer."

R. DeVoe, "Electron transfer sensitization of onium salts."

P. Davis, "Photochemistry and applications of cyanine borates."

J. Guillet, "Polymer photocatalysts."

N. Turro, "Photochemistry in restricted places."

G. Closs, "Electron, hole and energy transfer: How are they related?"

G. McLendon, "Photoinduced electron and hole transfer in protein complexes."

F. DeSchryver, "Inhomogeneity probed by luminescence spectroscopy."

P. S. Mariano, "Electron transfer photochemistry. Mechanistic and synthetic aspects."

J. Wirz, "Structural effects on biradical lifetimes in the singlet and triplet state."

K. McLauchlan, "Flash photolysis ESR and spin-correlated radical pairs."

R. Ramumurthy, "Photochemical reactions in organized media."

M. Kasha, "From flower colors to the proton-transfer laser."

J. Simon, "Time-resolved studies of intramolecular charge transfer reactions in polar solvents."

W. Agosta, "Alkyl propargyl biradicals."

E. Hilinksi, "Picosecond spectroscopy of bond-dissociated species in solution."

H. Roth, "Electron-transfer induced rearrangements."

G. Fleming, "Solvation dynamics of excited states."

H. Ringsdorf, "Photoreactions in oriented systems: Liquid crystals, monolayers and liposomes."

Organic Reactions and Processes

New Hampton School

B. E. Maryanoff, chairman; W. Berkowitz, vice chairman

17–21 July

W. F. Bailey, "Preparation and cyclization of alkenyl- and alkynyllithiums."

P. Beak, "Recent efforts to use and understand organic reactions."

G. I. Georg, "Stereoselective synthesis of β-lactam antibiotics."

C. Kowalski, "New chemistry of ynolate anions and silyloxyacetylenes."

B. H. Lipshutz, "New methods and applications based on transmetalations."

J. R. Behleing, "Prostaglandin syntheses via 'in situ' generated cuprate reagents."

S. H. Bertz, "New organocopper chemistry: Mechanistic and spectroscopic investigations."

R. J. P. Corriu, to be announced.

R. J. Linderman, "Synthesis and reactions of α-alkoxyorganosilanes."

D. Liotta, "New applications of intramolecular addition processes."

R. J. Pariza, "The acyloin condensation: New connections from an old reaction."

J. M. Muchowski, "New ionic and radical routes to substituted pyrroles."

R. Schwesinger, "Extremely strong neutral bases."

Y. Guindon, "Acyclic stereoselection via tandem cyclic iodoetherification—ring-opening processes."

D. B. Collum, "Structure and reactivity of lithium amides."

S. D. Burke, "Development and application of vinylsilane-mediated cyclizations."

S. Shinkai, to be announced

D. M. Walba, "Host-guest chemistry in liquids: Design of organic materials for optical computing."

R. Grubbs, "Polymer synthesis through stable organometallic intermediates."

J. P. Marino, "New strategies for annulations based on homoenolates."

Organometallic Chemistry

Salve Regina College

R. T. Baker and H. E. Bryndza, co-chairmen; R. G. Bergman, vice chairman

17–21 July

J. Maher, "Organometallics in industry: Running the gauntlet."

D. Darensbourg, "Transition-metal mediated C-H and C-O bond forming reactions involving carbon dioxide."

H. Turner, "Selective reagents for synthesis of polyolefins."

B. Sharpless, "Ligand-assisted catalysis."

V. Mainz, "NMR and organometallic chemistry: Teaching old dogs new tricks."

R. Squires, "Reactions of dioxygen with organometallioc ions in the gas phase."

R. Madix, "Selective oxygen addition reactions on silver single crystal surfaces."

S. Tremont, "Development of new selective methods of aromatic substitution: The reaction of *ortho*-palladated aromatics with electrophiles."

S. Pedersen, "Practical applications of low valent metals in organic synthesis."

T. Aratani, "Asymmetric catalysis."

W. Nugent, "An organometallic chemist looks at cyclopentanes."

J. Villafranca, "Enzyme catalysis at metal ion centers."

M. Andrews, "Transition metal-mediated reactions of carbohydrates."

A. Davison, "Some aspects of the organometallic chemistry of Technetium."

N. Doherty, "Transition metal munitride compounds: From bimetallic to polymeric metallonitrides."

F. Feher, "Sesquisiloxanes as models for silica surfaces."

R. Hughes, "Transition metal promoted cleavage and formation of carbon-carbon bonds."

M. Veith, "Newly designed organoderivatives of main group metals."

L. Gilliom, "Catalytic modification of polymers."

D. Berry, "Transition metal complexes of unsaturated organosilicon ligands."

F. Tebbe, "Organometallic synthons for high-performance materials."

M. Fryzuk, "Phosphine deficiency as a strategy to generate binuclear metal hydrides."

G. Hillhouse, "Synthesis and reactivity of *cis*-NH=NR."

M. Chisholm, "Hydrocarbon activation at ditungsten centers."

C. Amatore, "Mechanism of activation of organic molecules by organometallics; An electrochemical approach."

M. L. H. Green, "Ups and downs in early transition metal chemistry and unrelated aspects."

H. Gray, "A photochemical transient."

Molecular and Immunological Aspects of Parasitology

Colby-Sawyer College (S)

E. R. Pfefferkorn, chairman; D. Despommier, vice chairman

7–11 August

Molecular immunology of the filariae: R. Maizels, discussion leader

Speakers: L. McReynolds, M. Selkirk, T. Nutman

Genetic flexibility: L. van der Ploeg, discussion leader

Speakers: M. So, J. Ravetch, D. Santi

Molecular targets for the design of antihelminth drugs: J. Bennett, discussion leader

Speakers: H. Einspahr, J. A. Lewis, J. Schaeffer

Biogenesis of protozoan organelles: C. C. Wang, discussion leader

Speakers: M. Parsons, G.-A. Keller

Virulence and host resistance in hemoflagellate infections: J. Mansfield, discussion leader

Speakers: E. Handman, D. McMahon-Pratt, M. J. Turner

Cellular host defense mechanisms: D. Wyler, discussion leader

Speakers: F. Zavala, P. Scott, J. Caulfield

Cell-mediated immunity in malaria:

W. P. Weidanz, discussion leader

Speakers: M. Troy-Blomberg, I. A. Clark, M. P. Good

Regulation of the immune response to helminths: D. Wassom, discussion leader

Speakers: M. Capron, E. Pearce, F. D. Finkelman

Molecular genetics of hemoflagellates: K. Stuart, discussion leader

Speakers: N. Agabian, J. Feagin, A. Tait

Phagocytic Cells

Holderness School

R. Snyderman, chairman; J. I. Gallin, vice chairman

26–30 June

E. R. Stadtman, "Mechanism of oxidative injury."

Mechanisms of leukocyte-endothelial cell adhesion and egress: M. C. Pike, discussion leader

Speakers: T. A. Springer, E. Butcher, J. M. Harlan

Cytoskeleton-membrane interactions in phagocytes: S. H. Zigmond, discussion leader

Speakers: T. P. Stossel, L. A. Sklar, A. A. Aderem

Stimulus-response coupling of phagocyte membrane receptors: J. I. Gallin, discussion leader

Speakers: R. Snyderman, S. C. Silverstein, D. P. Lew, M. Baggiolini, L. C. McPhail

Open plenary session: R. Snyderman, S. J. Klebanoff, discussion leaders

Secretion/exocytosis by phagocytes: R. Snyderman, discussion leader

Speakers: S. Cockcroft, M. M. Billah

Regulation of phagocytes by cytokines: Biologic and therapeutic implications: P. Elsbach, discussion leader

Speakers: D. W. Golde, A. Cerami, C. A. Dinarello

Mechanisms of macrophage activation and its role in AIDS: R. A. Clark, discussion leader

Speakers: D. O. Adams, C. F. Nathan, M. S. Meltzer

Phagocyte receptors and their regulation: C. G. Cochrane, discussion leader

Speakers: D. T. Fearon, J. C. Unkless, B. Seed

The respiratory burst and chronic granulomatous disease: J. I. Gallin, discussion leader

Speakers: B. Babior, S. Orkin, A. Segal, H. L. Malech, D. Roos

Physical Metallurgy

Tilton School

J. C. Williams, chairman; W. Boettinger and J. Perepezko, vice chairmen

The Use of Fundamentals in Alloy Design

7–11 August

The use of theory in alloy design: A. Freeman, chairman

Speaker: M. Stocks

Uses of simulation in alloy design:

Speakers: D. Srolovitz, M. Baskes

The role of micromechanics in prescribing microstructures: B. Budiansky, chairman

Speakers: J. Hutchinson, A. Evans

Selection of processing and microstructure for alloy performance: J. Perepezko, chairman

Relations between microstructure and alloy properties:

Speakers: J. Hirth, A. Thompson

What we know about the performance of "real" systems—Al and Ti alloys: M. Bernstein, chairman

Speakers: E. Starke, M. Gigliotti

What we know about the performance of "real" systems—steel and Ni alloys: W. Nix, chairman

Speaker: W. Garrison

What we know about the performance of "real" systems—intermetallic compounds: M. Blackburn, chairman

Speakers: H. Lipsett, D. Pope

What we know about the performance of "real" systems—composites:

Speakers: R. Ritchie, R. McMeeking

Physical Organic Chemistry

Holderness School

B. E. Smart, chairman; S. W. Staley, vice chairman

12–16 June

R. W. F. Bader, "A theory of atoms in molecules."

A. Streitwieser, "Electronic structures of some transition states."

W. P. Dailey, "Fluorine substituent effects in reactive intermediates."

W. T. Borden, "Synthesis and study of pyramidalized alkenes."

R. D. Bach, "Theoretical studies on the mechanism of oxygen transfer in organic systems."

J. R. Scheffer, "Chemical reactions of organic crystals."

N. J. Turro, "Photochemistry in constrained environments."

D. F. Eaton, "Linear and non-linear optics in host-guest molecular inclusion complexes."

L. L. Miller, "Molecular lines—pictures of single molecules, organized monolayers."

J. Rebek, Jr., "Progress in molecular recognition."

A. Tramontano, "Binding interactions and catalysis in antibodies."

C. J. Burrows, "Mechanisms of nickel(II)-catalyzed olefin oxidation."

K. Bock, "Molecular modeling and recognition of complex carbohydrate structures."

W. F. DeGrado, "Protein design, a minimalist approach."

G. Boche, "The structure of organolithium compounds."

L. M. Tolbert, "^{13}C NMR and resonance stabilization in carbanions."

V. M. Bierbaum, "Gas phase acidities of alkanes and other insights from silicon chemistry."

N. True, "Gas phase conformational kinetics."

G. L. Closs, "Electron transfer, hole transfer, and energy transfer."

J. P. Dinnocenzo, "Cation radical explorations."

Pineal Cell Biology

Plymouth State College (N)

D. C. Klein, chairman; M. Zatz, vice chairman

14–18 August

The "Third Eye was First Eye" hypothesis: P. Ekstrom, discussion leader

Speakers: J.-P. Collin, A. Oksche, T. Shinohara

Receptors and receptor mechanisms: M. Ebadi, discussion leader

Speakers: C. Chik, D. C. Kelin, R. Reiter, J. Saavadra

Molecular biology of the tryptophan → melatonin pathway: E. Ginns, discussion leader

Speakers: T. Deguchi, J. Mallet, M. A. A. Namboodiri

Cell-cell communication—processes and gap junctions: M. Rollag, discussion leader

Speakers: H. Korf, J. C. Saez

Biophysics of pineal membranes: M. Tanaka, discussion leader

Speakers: L. Aguayo, J. Halperin, N. Harrison, N. Vollrath

Na^+,K^+-ATPase and cardiac glycosides: M. Zatz, discussion leader

Speakers: V. Cena, C. Gonzales, R. Levenson

Intracellular transduction mechanisms: J. Axelrod, discussion leader

Speakers: A. K. Ho, P. J. Morgan, J. A. Reig, D. Sugden

Pineal clock function: M. Menaker, discussion leader

Speakers: J. Takahashi, M. Zatz

Pineal triiodothyronine deiodinase: R. Reiter, discussion leader

Speaker to be announced

Melatonin binding sites versus melatonin receptors: N. Zisapel, discussion leader

Speakers: M. Dubokovich, S. Reppert, J. Vanecek

Plant Cell and Tissue Culture

Plymouth State College (N)

W. A. Keller, chairman; M. Crouch, vice chairman

12–16 June

Totipotent cell systems: I. Sussex, discussion leader

Speakers: P. Green, L. Fowke, T. Cooke

Applications of somatic embryogenesis: D. A. Stewart, discussion leader

Speakers: M. K. Pomeroy, B. McKersie

Gene expression in tissue culture systems: F. Constabel, discussion leader

Speakers: R. Meeks-Wagner, V. DeLuca

Molecular characterization of regeneration processes: R. Bernatsky, discussion leader

Speakers: A. Rode, B. Landry

Cell genetics:

Speakers: K. Glimelius, E. Earle, E. Swanson

Monocot protoplasts and gene transfer: K. Kartha, discussion leader

Speakers: C. Harms, H. Uchimiya

Gene transfer via microprojectile bombardment and microinjection: P. Maliga, discussion leader

Speakers: P. Christou, F. L. Olsen, I. Potrykus

Preservation of rare and endangered species through tissue culture: M. Crouch, discussion leader

Genetic engineering and plant breeding: D. Tomes, discussion leader

Speakers: G. Donn, C. Newell, G. Wenzel

Plant Molecular Biology

Proctor Academy

R. N. Beachy, chairman; M. J. Chrispeels, vice chairman

Cellular and Molecular Response of Plants to Their Environment

19–23 June

Thermal stresses: Heat, cold: E. Vierling, discussion leader

Speakers: E. Craig, W. Gurley, A. Gatenby, M. Thomashaw, C. Guy

Drought and salt-induced stresses: H. Bohnert, discussion leader

Speakers: C. Higgins, J. Mullet

ABA-related gene expression: L. Dure, discussion leader

Speaker: R. Quatrano

Responses to pathogens: C. Lamb, discussion leader

Speakers: E. Farmer, R. Hodgson

Resistance to pathogens: R. Beachy, discussion leader

Speakers: N. Young, N. Tumer, W. Lucas

Responses to injury: C. Ryan, discussion leader

Speakers: G. An, D. Fischoff, R. Vierstra

Lasting impressions: special lecture. J. Varmer

Targeting proteins: M. Chrispeels, discussion leader

Speakers: G. Lampa, A. Goldstein

Point and Line Defects in Semiconductors

Plymouth State College (S)

G. A. Baraff, chairman; P. M. Mooney, vice chairman

17–21 July

Hydrogen in semiconductors: E. E. Haller, discussion leader

Speakers: B. Clerjaud, T. Estle, T. Wichert

Silicon epitaxy and interfaces: L. C. Feldman, discussion leader

Speakers: E. Lightowlers, M. Gibson

Diffusion: M. Stoneham, discussion leader

Speakers: P. Fahey, R. Car, C. Nichols

EL2: H. J. von Bardeleben, discussion leader

Speakers: M. Scheffler, M. Baj

DX: M. Mizuta, discussion leader

Speakers: J. Chadi, J. Langer, K. Khachaturyan

Lattice mismatched heteroepitaxy: J. Woodall, discussion leader

Speakers: E. Fitzgerald, F. LeGoues

Interactions among defects: J. Corbett, J. Lagowski, discussion leaders

Speakers: J. Trombetta, U. Kaufmann, W. Walukiewicz

Defects in multiquantum wells and superlattices: M. Skolnick, discussion leader

Speakers: B. Shanabrook, D. Stievenard, T.-Y. Liu

Polyamines

Salve Regina College

R. H. Davis and P. P. McCann, co-chairman; C. W. Porter and N. Seiler, co-vice chairmen

19–23 June

Gene structure and function: A. E. Pegg, E. W. Gerner, discussion leaders

Speakers: P. Coffino, C. Kahana, H. Tabor, C. W. Tabor

Molecular activity and function: L. J. Marton, T. Oshima, discussion leaders

Speakers: D. R. Morris, T. J. Thomas

Regulatory mechanisms: R. L. Malmberg, S. Hayashi, discussion leaders

Speakers: F. G. Berger, O. A. Janne, E. Holtta

Catabolism of polyamines: H. M. Wallace, U. Bachrach, discussion leaders

Speakers: P. J. Davies, P. J. Large

Specialized pathways and metabolic interactions: C. J. Bacchi, H. G. Williams-Ashman, discussion leaders

Speakers: J. E. Folk, A. H. Fairlamb, V. Zappia

Metabolic modulation of synthesis: A. J. Bitonti, O. Heby, discussion leaders

Speakers: A. Hiatt, C. V. Byus

Pools: Transport, dynamics and location: L. Persson, S. Cohen, discussion leaders

Speakers: L.-I. Larsson, K. Igarashi, R. D. Walter

Poster discussion: P. P. McCann, R. H. Davis, discussion leaders

Neoplasia and carcinogenesis: G. D. Luk, T. G. O'Brien, discussion leaders

Speakers: R. A. Casero, J. Janne, P. J. Blackshear

Polymer Colloids

Proctor Academy

I. Piirma, chairman; M. El-Aasser, vice chairman

10–14 July

R. H. Ottewill, "Particle morphology."

M. A. Winnik, "New results on latex and NAD morphology."

D. C. Sundberg, "Morphology development in polymer microparticles."

J. A. Waters, "Composite polymer particles."

O. Pekcan, "Particle morphology and film formation."

B. Vincent, "Adsorption of latex particles on larger particles and particle bridging flocculation."

T. G. M. van de Ven, "Deposition of latex particles on surfaces."

S. Granick, "Molecular tribometry of ultrathin liquid films."

R. L. Rowell, "Characterization of polymer colloids."

C. J. van Oss, "Solubility of polar polymers."

J. W. Vanderhoff, "Behavior of emulsifiers in emulsion polymerization."

D. Blackley, "Novel azo initiators for emulsion polymerization reaction."

R. Flecksteiner, "Emulsion polymerization with mixed emulsifiers."

C. Pichot, "Preparation, characterization and some properties of amphoteric, sulfobetaine-stabilized latices."

J. M. Asua, "A new approach for the estimation of kinetic parameters in emulsion polymerization systems."

M. S. El-Aasser, "Mechanism and kinetics of dispersion polymerization of styrene in ethanol."

F. Candau, "Percolation and polymer particle formation in micellar systems."

J. W. Goodwin, to be announced.

A. J. Paine, "Mechanism of dispersion polymerization of styrene in polar solvents."

R. Pelton, "Nonaqueous sterically stabilized PMMA."

W. B. Russel, "The phase behavior of latices containing associative thickeners."

T. F. Tadros, "Investigation of the interaction forces between particles in concentrated polymer colloids using viscoelastic measurements."

J. S. Dodge, "Effect of polymerization surfactant and added surfactants on the rheology of acrylic latices."

Polymers

Colby-Sawyer College (N)

J. P. Kennedy, chairman; N. Gaylord, vice chairman

26–30 June

E. Marechal, "New mesomorphic structures by polycondensation and chemical modification."

J. L. Hedrick, "Recent advances in high-performance step growth materials."

G. Wegner, "New synthetic approaches to polymer and polymer composites of rigid-rod-like chain structure."

P. Teyssie, "How to tailor chain dynamics to control the rheology and bulk properties of polymers."

M. Wilcheck, "Antibodies and polymers as carriers for cytotoxic drugs."

R. S. Langer, "Novel polymeric drug delivery systems."

F. R. Eirich, "Molecular messages."

T. Shimidzu, "Functionalized conductive polymers to fabricate molecular devices."

G. Kaszas, "Living carbocationic polymerizations mediated by electron donors: Theory and practice."

M. Sawamoto, "New initiators and concepts for living cationic polymerization and controlled polymer synthesis."

D. Y. Sogah, "Design and synthesis of novel polymers based upon living polymerization concepts."

S. Inoue, "Living and 'immortal' polymerizations with metalloporphyrin."

J. E. Guillet, "Polymers for photosynthesis."

L. Monnerie, "Local motions in bulk polymers."

R. Pariser, "Whither polymer research."

H. J. Harwood, "Solvent effects in free radical polymerization."

V. Percec, "Liquid crystalline copolymers."

J. S. Riffle, "Novel polysiloxane-containing block copolymers: Synthesis with fundamental surface and microphase characterization."

Population Biology and Evolution of Microorganisms

Plymouth State College (S)

M. Riley, chairman; C. Istock, vice chairman

24–28 July

Sources and patterns of genetic variation: D. Dykhuizen, discussion leader

Speakers: R. Milkman, I. Crawford, R. Hudson

J. Drake, discussion leader

Speakers: B. Hall, S. Levy, T. Kunkel

Variation and interaction involving plasmids and phages: S. Levy, discussion leader

Speakers: J. Adams, R. Lenski, A. Campbell

B. Levin, discussion leader

Speakers: P. Young, P. Fuerst

Genetic exchange, recombination and chromosome organization: J. Clark, discussion leader

Speakers: T. Petes, R. Welch, C. Istock

M. Schmidt, discussion leader

Speakers: L. Hirschbein, J. Roth

Evolution of genes, genomes, pathways and lineages: P. Sharp, discussion leader

Speakers: M. Gouy, G. Fox, P. Sharp

M. Riley, discussion leader

Speakers: R. Jensen, Cavalier-Smith

Proteins

New Hampton School

E. Lattman and G. Rose, co-chairmen

26–30 June

Protein folding and unfolding: R. L. Baldwin, discussion leader

Speakers: R. L. Baldwin, C. N. Pace, L. Pon

Applications of structure/function tools to DHFR: C. R. Matthews, discussion leader

Speakers: C. R. Matthews, S. J. Benkovic

Peptide models and modeling peptides: L. Gierasch, discussion leader

Speakers: L. Gierasch, J. Thornton, P. Kim

Forces in proteins: K. A. Dill, discussion leader

Speakers: K. A. Dill, R. Wood

Structures: D. Richardson, discussion leader

Speakers: P. Fitzgerald, Z. Chen, J. Richardson, D. Richardson

Statistical and molecular mechanics: J. Hermans, discussion leader

Speakers: J. Hermans, H. Scheraga

Genetic probes of structure: J. King, discussion leader

Speakers: J. King, R. T. Sauer, D. Shortle

Protein chemistry for the 90's. Old frontiers, new approaches:

Speaker: S. W. Englander

Contractile and cytoskeletal proteins:

Speakers to be announced

Purines, Pyrimidines and Related Compounds

Salve Regina College

R. E. Parks, Jr., chairman; M. J. Robins, vice chairman

10–14 July

Anti-AIDS drugs: D. Johns, discussion leader

Speakers: D. Cooney, J. Sommadossi, J. Rideout

GTP-binding proteins in transmembranal signal transductions: L. Townsend, discussion leader

Speaker: R. K. Robins

Recent develoments with pyrimidines: B. Chabner, discussion leader

Speakers: C. Cass, R. Diasio, J. A. Houghton

Viral enzymes as drug targets: W. Prusoff, discussion leader

Speakers: Y. C. Cheng, T. Spector

Enzyme reaction mechanisms: M. J. Robins, discussion leader

Speakers: J. Stubbe, D. Santi, R. Borchardt

Future chemotherapeutic targets: R. E. Parks, Jr., discussion leader

Speakers: M. J. Robins, D. L. Tyrrell, C. C. Wang

Antisense oligonucleotides: J. Secrist, discussion leader

Speakers: V. Vlassov, J. Walder, M. H. Caruthers

Inhibitors of phosphorylases and deaminases: W. Plunkett, discussion leader

Speakers: S. Ealick, E. Abushanab

Keynote address: G. Elion, "An interesting visit to Stockholm."

Quantitative Structure-Activity Relationships

Tilton School

W. J. Dunn III, chairman; J. M. Blaney, vice chairman

14–18 August

Chemical similarity: G. M. Maggioria, discussion leader

Speakers: M. A. Johnson, P. Willett, P. M. Dean

Posters: J. W. McFarland, session leader

3D-QSAR, searching and design: R. Cramer, discussion leader

Speakers: D. Weininger, J. Moon, R. DesJarlais

Experimental determination of receptor-bound ligand conformation and its use in drug design: L. F. Kuyper, discussion leader

Speakers: S. W. Fesik, J. W. Lown

New methods and parameters: P. J.

Goodford, discussion leader

Speakers: G. M. Crippen, P. G. Mezey, J. J. Morris

Posters: H. J. R. Weintraub, session leader

QSAR in ecotoxicology: J. Dearden, discussion leader

Speakers: J. L. M. Hermens, T. W. Schultz, M. Tosato

Protein-ligand interactions: Monoclonal antibodies and enzyme site-directed mutants: C. Hansch, discussion leader

Speakers: M. B. Bolger, T. Wells

Hydrophobicity and log P: A. Leo, discussion leader

Speakers: T. Fujita, A. K. Ghose, R. S. Pearlman

Reactive Polymers, Ion Exchangers and Adsorbents

Salve Regina College

N.-H. L. Wang, chairman; R. L. Albright, vice chairman

31 July–4 August

Reactive supports for controlled release, peptide synthesis, and polymer-bound transition metal catalysis: H. Allcock, chairman

Speakers: R. Langer, B. Mattiasson, J. K. Stille

Preceramic materials: K. J. Wynne, chairman

Speakers: D. Seyferth, R. Miller

Polymers as catalysts for fine chemical synthesis and other industrial applications: D. Sherrington, chairman

Speakers: H. Widdecke, G. Challa, A. Zitsmanis

Polymer-supported catalysts and synthetic polymeric metalloenzyme analogs: P. Garrou, chairman

Speakers: A. L. German, R. Nolte

Frontiers of technology: Zeolites for wastewater treatment, affinity membranes and biosensors: R. L. Albright, chairman; R. Wood, discussion leader

Speakers: J. Sherman, S. L. Matson, J. Luong

Molecular recognition in hydrophobic-interaction chromatography, reversed-phase chromatography and affinity chromatography: K. Mosbach, chairman

Speakers: W. Hancock, M. Uhlen

Characterization of peptides and proteins at interfaces—NMR, ESR, and other studies: S. Cooper, chairman; P. Didisheim, discussion leader

Speakers: J. Andrade, L. Jelinsky, D. Clark

Emerging strategies in plasma protein purification: B. McCoy, chairman

Speaker: W. Drohan

Chiral separations, protein engineering, and immobilized metal affinity chromatography of proteins: C. Horvath, chairman; W. Hancock, discussion leader

Speakers: V. A. Davankov, E. Sulkowsky, F. Arnold

Red Cells

Plymouth State college (N)

J. B. Lingrel, chairman; N. Mohandas, vice chairman

7–11 August

Membrane proteins: Organization and regulation: V. Bennett, discussion leader

Speakers: E. Lazarides, S. Lux, J. Morrow

Molecular biology of non-globin gene expression in red cells: E. Benz, discussion leader

Speakers: H. Lodish, J. Conboy, B. Forget

Membrane proteins in normal and abnormal erythrocytes: S. Marchesi, discussion leader

Speakers: P. Agre, R. Hebbel

Transacting factors in globin gene expression. J. B. Lingrel, discussion leader

Speakers: J. Lloyd, S. Orkin, D. Gumucio

Regulation of globin gene expression: G. Stamatoyannopoulos, discussion leader

Speakers: B. Emerson, F. Grosveld, M. Groudine

Gene transfer into hematopoietic cells: A. Nienhuis, discussion leader

Speakers: A. D. Miller, R. Mulligan, D. Williamson, A. Bernstein

Gene targeting and erythropoietin and its receptor: F. Bunn, discussion leader

Speakers: T. Doetschmann, A. D'Andrea

Minisymposium on the red cell: S. Lux, discussion leader

Hematopoiesis and growth factors: D. Nathan, discussion leader

Speakers: K. Kaushansky, B. Mathey-Prevot, D. L. Urdal

Reverse Osmosis, Ultrafiltration, and Gas Separation

Plymouth State College (N)

W. J. Koros, chairman; L. Errede, vice chairman

31 July–4 August

S. A. Stern, "Phenomenological and molecular interpretations of gas transport in glassy polymers."

J. Bendler, A. Jones, "Molecular modeling and NMR studies of gas transport."

D. Moll, "Measurement and characterization fundamentals for gas sorption and transport."

G. K. Fleming, "Plasticizing and conditioning phenomena in glassy polymers."

I. Cabasso, "Membrane formation protocols for gas separations."

R. Noble, "Design of carriers for facilitated transport."

R. Quinn, "Facilitated transport membranes for H_2/CO_2 separation."

E. Tsuchida, "High efficiency oxygen carriers for air separation."

E. Cussler, "Tethered carriers in liquid separation applications."

K. Sirkar, "Engineering system design concepts for liquid membrane applications."

R. Riley, "The evolving picture of reverse osmosis membranes and processes."

T. Stocker, "High flux 'nanofiltration' membranes for selective passage of solutes."

H. Strathmann, "Membranes and processes for electrodialysis and dialysis."

R. Rautenbach, A. Groeschl, "Reverse osmosis of aqueous organic solutions: Material transport in the membrane and process design considerations."

K. Boddeker, "Pervaporation of low volatility organics from water."

W. Eykamp, "Directions in ultrafiltration and microfiltration."

R. Davis, "Measuring, modeling and avoiding fouling in UF/MF applications."

S. Matson, "Active membranes in bioprocessing."

H. Lonsdale, "Synthetic membranes: a status report."

J. Koresh, "Ultramicroporous carbon membranes for gas separation."

J. Petropolous, "Modeling of transport in microporous media."

M. Anderson, "Microporous ceramic membranes."

Second Messengers and Protein Phosphorylation

Kimball Union Academy

E. J. Neer, chairman; J. Maller, vice chairman

12–16 June

Genetic analysis of G-protein structure and function: Y. Kaziro, discussion leader

Speakers: Y. Kaziro, M. Simon, H. Bourne, J. Kurjan

Structure and function of enzymes which generate second messengers: D. Garbers, discussion leader

Speakers: D. Garbers, J. Krupinski, W. Pak

Receptor interactions: E. Peralta, discussion leader

Speakers: E. Peralta, T. Springer, S. Dower, A. Weiss

Subcellular localization of transmembrane signalling systems: M. Rodbell, discussion leader

Speakers: M. Rodbell, P. Insel, J. Bockaert

Signalling systems in growth and differentiation: L. T. Williams, discussion leader

Speakers: L. T. Williams, R. Reed, L. Cantley, R. Firtel

Structure and regulation of ion channels: D. Clapham, discussion leader

Speakers: D. Clapham, L. Jan, M. Cahalan

Regulation of cell growth and differentiation by protein kinases: H. Hanafusa, discussion leader

Speakers: H. Hanafusa, C. Glover, J. Maller, M. Simon

P. Leder, "Misplacing oncogenes."

Small GTP-binding proteins:

Speakers: N. Segev, P. Novick, J. Gibbs

Solid State Ionics

Proctor Academy

J. B. Bates, chairman; M. A. Ratner, vice chairman

24–28 July

Thin-film deposition and characterization: R. Rauh, discussion leader

Speakers: M. Sayer, J. Schoonman, W. Gopel

Transport in biomembranes: B. Phipps, discussion leader

Speaker: L. Miller

Thin-film solid ionic devices: J. Akridge, discussion leader

Speakers: A. Levasseur, W. Weppner

Transport in high T_c superconductors: M. Breiter, discussion leader

Speaker: N.-C. Yeh

Relaxation in disordered systems: M. Ingram, discussion leader

Speakers: W. Dieterich, L. Torell

Electronic and ionic processes in polymer solids: R. Buck, discussion leader

Speaker: P. Wright

Transport in polymer electrolytes: R. Linford, discussion leader

Speakers: H. Cheradame, A. Nitzan

Short contributions: D. Shriver, M. Ratner

S. Whittingham, "Technology of solid-state ionics."

Oxygen exchange kinetics and electrochemical reactors: S. Whittingham, discussion leader

Speakers: B. Boukamp, B. Steele

Staphylococcal Pathogenesis

Salve Regina College

R. A. Proctor, chairman; P. Pattee, vice chairman

14–18 August

Staphylococcal cell wall: A. Tomasz, discussion leader

Speakers: W. E. Kloos, D. J. Tipper, A. Tomasz

Role of capsules in staphylococcal infections: B. J. Wilkinsin, discussion leader

Speakers: W. W. Karakawa, J. C. Lee

Role of slime in stapylococcal infections: J. W. Costerton, discussion leader

Speakers: J. W. Costerton, G. D. Christensen, M. Nobel

Genetics of staphylococci-1:

Speakers: P. A. Pattee, R. P. Novick, G. C. Stewart

Genetics of staphylococci-2: J. J. Iandolo, discussion leader

Speakers: B. N. Kriesworth, G. L. Archer, B. Weisblum

Staphyococcal toxins: E. H. Kass, discussion leader

Speakers: M. J. Betley, T. J. Foster

Adhesion of staphylococcal to tissues:

Speakers: D. G. Maki, M. Hook, R. A. Proctor

Foreign body infections: D. G. Maki, discussion leader

Speakers: S. L. Cooper, P. Vaudaux

Endothelial cell—staphyococcal interactions: R. J. Hamill, discussion leader

Speakers: A. W. Karchmer, F. D. Lowy, J. M. Vann

Statistics in Chemistry and Chemical Engineering

New Hampton School

L. B. Sheiner, chairman; J. MacGregor, vice chairman

31 July–4 August

J. Sachs, discussion leader

T. J. Mitchell, M. D. Morris, "Design and analysis of computer experiments in chemistry and chemical engineering."

R. DeVeaux, discussion leader

R. Tibshirani, "Generalized additive regression models."

R. Tobias, discussion leader

C. J. Nachtsheim, "Model and criterion robust experimental designs."

D. Rubin, discussion leader

D. M. Bates, D. G. Watts, "Use and interpretation of profile likelihoods in nonlinear regression with applications in chemical engineering."

P. Guttorp, discussion leader

N. Cressie, "Analysis, modeling, inference and design for spatial data."

S. Wold, discussion leader

R. Olshen, "Classification and regression trees, with applications to survival analysis."

J. MacGregor, discussion leader

D. Bayard, "Modern methods for optimal stochastic control."

R. Little, discussion leader

A. Tsiatis, "Breast cancer self-examination study in Russia: Survival analysis with random group effects."

W. Stuetzle, discussion leader

J. Landwehr, "Current issues in statistical graphics: research, applications, and teaching."

Structural Macromolecules: Collegen

Plymouth State College (N)

10–14 July

B. de Crombrugghe and R. Mayne, co-chairmen

Collagen types and fibrillogenesis: K. Kuhn, discussion leader

Speakers: R. Burgeson, R. Timpl, Y. Ninomiya

Cartilage macromolecules: R. Mayne, discussion leader

Speakers: D. Eyre, M. van der Rest, E. Hunziker

Transcriptional control of collagen biosynthesis: K. Kivirikko, discussion leader

Speakers: E. Poschl, Y. Yamada, K. Tryggvason, F. Ramirez

Extracellular matrix receptors: M. Ginsberg, discussion leader

Speakers: W. Carter, M. Sobel

Genetic analysis of extracellular matrix proteins: B. de Crombrugghe, discussion leader

Speakers: J. Bonadio, J. Bateman, D. Prockop

Non-collagenous extracellular matrix proteins: P. Bornstein, discussion leader

Speakers: R. Chiquet-Ehrismann, J. Engel

Factors affecting fibroblast growth and differentiation: S. Krane, discussion leader

Speakers: H. Moses, M. Klagsbrun

Special lecture: Role of transforming growth factor β in controlling cellular function: M. Sporn.

Degradation of extracellular matrix molecules: Z. Werb, discussion leader

Speakers: L. Matrisian, C. Brinckerhoff

Superconducting Films

Tilton School

D. U. Gubser, chairman; R. J. Soulen, Jr., vice chairman

17–21 July

Theory of HTS materials: D. U. Gubser, discussion leader

Speaker: J. Eliashberg

Preparation and characterization of HTS films: P. N. Peters, discussion leader

Speakers: A. Anderson, A. de Lozanne, F. Luborsky, I. K. Schuller, T. Venkatesan, S. S. Parkin

HTS film devices: R. J. Soulen, Jr., discussion leader

Speakers: R. Koch, R. Simon, J. J. Talvacchio, R. Ono

Transport properties of HTS materials: S. A. Wolf, discussion leader

Speakers: R. A. Buhrman, J. F. Kwak, K. E. Gray

Multilayer films: J. Matey, discussion leader

Speaker: Y. Bruynseraede

Disordered films: D. T. Shaw, discussion leader

Speaker: T. R. Lemberger

Magnetic field effects: B. Deaver, discussion leader

Speaker: A. F. Hebard

Fluctuation effects in HTS films: G. Deutscher, discussion leader

Speaker: A. M. Goldman

Chemistry of Supramolecules and Assemblies

Plymouth State College (S)

D. F. O'Brien, chairman; D. F. Evans, vice chairman

10–14 July

A. Parsegian, "Forces between molecules and assemblies."

L. Magid, "Polymorphism in micelles."

L. S. Romsted, "Specific counter ion effects in micelles."

F. C. DeSchryver, "Luminescence spectroscopy of supramolecular systems."

F. Candau, "Polymerized microemulsions."

D. G. Whitten, "Reactivity in reversed micelles."

R. Strey, "Metamorphosis in the microstructure in microemulsions."

K. A. Dill, "Lateral interactions among lipids in mono- and bilayers."

T. L. Penner, "Photoreactions in LB films."

Y. Kawabata, "Amphiphilic cyclodextrins and host-guest LB films."

P. Dutta, "X-ray studies of organic monolayers."

J. Zasadzinski, "STM of biomembranes."

T. Kunitake, "Cast films and aqueous dispersions of synthetic bilayers."

J. K. Hurst, "Electron transfer across bilayer membranes."

J. R. Silvius, "Polymorphism of phosphatidylethanolamines."

J. Lear, "Minimalist approach to membrane protein design."

H. Ringsdorf, "Molecular architecture and polymeric systems."

J. Michl, "A molecular-size construction set."

S. Mann, "Biomineralization and in vitro modeling."

J. L. Attwood, "Layered calix[4]arenesulfonates—organic clays."

Thermosetting Polymers

Colby-Sawyer College (S)

N. J. Johnston, chairman; H. E. Bair, vice chairman

3–7 July

New thermosets from actylene- and maleimide-terminated oligomers:

Speakers: P. M. Hergenrother, H. Stenzenberger

Novel thermosets from inorganic and organic/inorganic precursors:

Speakers: G. L. Wilkes, R. M. Laine

Toughening of epoxy matrices: thermodynamics, chemistry, morphology, fracture mechanisms, composite applications:

Speakers: B. J. Bauer, H. Jabloner, P. T. McGrail, D. K. Hoffman, A. F. Yee

Physical studies of networks: Modeling, mechanical property predictions, aging, chemistry of PMR-15 polyimide:

Speakers: B. E. Eichinger, J. T. Bendler, G. B. McKenna, D. Wilson

Solid state FTIR and NMR analysis of thermosets:

Speakers: D. A. C. Compton, J. L. Koenig

Correlations between conductivity, viscosity, Tg, degree of conversion:

Speaker: J. T. Gotro

Liquid crystal thermosets:

Speaker: M. H. Litt

Three Dimensional Electron Microscopy of Macromolecules

Plymouth State College (S)

D. J. DeRosier, chairman; J. Frank, vice chairman

19–23 June

Crystalline membranes at high resolution: C. Mannella, discussion leader

Speakers: B. Jap, W. Kuhlbrandt

Viruses in three dimensions: T. Baker, discussion leader

Speakers: V. Prasad, J. Carrascosa

Progress in techniques and methods: J. Lepault, discussion leader

Speakers: T. Wakabayashi, M. Beer, S. Darst, G. Mosser

Membrane associated assemblies: B. Fuller, discussion leader

Speakers: G. Sosinsky, C. Akey

Novel types of microscopy: A. Engel, discussion leader

Speakers: J. Pawley, C. Colliex

Advances in CTEM instrumentation: E. Zeitler, discussion leader

Speakers: J. Langmore, F. Zemlin, P. Bullough

New methods in image sorting, averaging and error analysis: R. Hegerl, discussion leader

Speakers: M. van Heel, J. Frank, J. Carazo, M. Unser

Discussion of selected posters: K. Taylor, discussion leader

Helical assemblies of macromolecules: P. Flicker, discussion leader

Speakers: C. Woodcock, T. Jeng, C. Toyoshima

X-ray Physics

Colby-Sawyer College (N)

R. Colella, chairman; B. W. Batterman, vice chairman

7–11 August

Standing waves and surfaces: B. W. Batterman, J. R. Patel, discussion leaders

Speakers: S. Durbin, M. Bedzyk, J. Zegenhagen, P. Cowan

Dynamical diffraction: N. Kato, A. Authier, V. Aristov, discussion leaders

Speakers: R. Colella, G. Materlik

Surface diffraction: G. Held, S. Sinha, P. Eisenberger, discussion leaders

Speakers: I. Robinson, S. Mochrie, J. Mizuki

High energy diffraction and scattering: M. Hart, R. Deslttes, W. Schulke, discussion leaders

Speakers: J. Schneider, M. Cooper, N. Sakai

Magnetic x-ray scattering: D. Moncton, F. de Bergevin, H. Mook, P. Platzman, discussion leaders

Speakers: M. Blume, D. Gibbs, D. McWhan, C. Majkrzac, G. Schuetz, S. Werner

Resonant nuclear x-ray scattering: U. van Burck, S. Ruby, G. Trammel, discussion leaders

Speakers: J. Hastings, J. Hannon, A. M. Afanas'ev, E. Gerdau

New techniques and materials: P. Horn, R. Birgenau, discussion leaders

Speakers: R. Cowley, P. Bancel

After dinner speech: D. Stevens