

Gordon research conference programs

Stereochemistry

June 9–14 1996

Salve Regina University

Newport, RI, USA

Sarah E Kelly, Chair, and Franklin A Davis, Vice Chair

Scott Denmark, University of Illinois at Urbana-Champaign, USA: **Asymmetric catalysis with chiral Lewis bases**

Amir Hoveyda, Boston College, USA: **Recent advances in asymmetric catalysis**

Stuart Schreiber, Harvard University, USA: **Studies at the interface of chemistry and biology**

Gregory L Verdine, Harvard University, USA: **Stereochemical perspective on protein DNA interactions**

Samuel Danishefsky, Sloan Kettering Institute for Cancer Research, USA: **Glycals in organic synthesis: the evolution of new strategies for the convergent assembly of oligosaccharides and other glycoconjugates**

Stephen Buchwald, Massachusetts Institute of Technology, USA: **Asymmetric reductions using early transition metal catalyst**

Clayton Heathcock, University of California at Berkeley, USA: **Why is a natural product with eight stereocenters racemic?**

W Clark Still, Columbia University, USA: **Synthetic receptors of peptides**

Erick Carreira, California Institute of Technology, USA: **Catalytic enantioselective aldehyde addition reactions**

Gregory Fu, Massachusetts Institute of Technology, USA: **New reactions of organotin reagents**

Frank Fang, Glaxo-Wellcome, USA: **Enantioselective synthesis of new drug candidates**

Laura Kiessling, University of Wisconsin-Madison, USA: **Saccharide-protein interactions: exploring and exploiting multivalency**

Tarek Sammakia, University of Colorado at Boulder, USA: **Synthetic and mechanistic studies of oxocarbenium ions and carbanions**

Kendall N Houk, University of California at Los Angeles, USA: **Theoretical models of stereoselective reactions**

Andreas Pfaltz, Max-Planck-Institute, Germany: **Asymmetric catalysis with chiral metal complexes: C₂-symmetric versus non-symmetric ligands**

Edward Grabowski, Merck Research Laboratories, USA: **Addition of lithium acetylides to prochiral imines and ketones mediated by chiral lithium alkoxides**

Steven Burke, University of Wisconsin-Madison, USA: **Design, synthesis and study of unnatural ionophores**

William Pirkle, University of Illinois at Urbana-Champaign, USA: **Determinations of enantiomeric purity and assignment of absolute configuration using a rationally designed chiral stationary phase**

Enzymes, coenzymes and metabolic pathways

July 14–18, 1996

Kimball Union Academy

Meriden, NH, USA

David E Cane and Michael A Marletta, co-chairs

Frontiers of enzymology

Christopher T Walsh, Harvard Medical School, USA: **Molecular studies on bacterial resistance to vancomycin**

Gregory A Petsko, Brandeis University, USA: **Crystallography and mechanism: where are we and where are we going?**

Radical enzymes

JoAnne Stubbe, Massachusetts Institute of Technology, USA: **Radicals, radicals, and yet more radicals**

John Lipscomb, University of Minnesota, USA: **Intermediates in the substrate and oxygen activation cycle of methane monooxygenase**

Ruma Banerjee, University of Nebraska, USA:
**Characterization of biradical intermediates on
methylmalonyl-CoA mutase**

Perry A Frey, University of Wisconsin-Madison, USA: **Lysine
2,3-amino mutase: characterization of substrate-based
radical intermediates**

Enzyme mechanisms

Duilio Arigoni, ETH — Swiss Federal Institute of
Technology, Switzerland: **Recent discoveries in the
isoprenoid biosynthetic pathway**

Barbara Imperiali, California Institute of Technology, USA:
Protein glycosylation: specificity and function

Chris Abell, University of Cambridge, UK: **Mechanistic
studies on biosynthetic enzymes**

Natural product enzymology/genetics

Chaitan Khosla, Stanford University, USA: **Non-template
based multi-enzyme assemblies: the polyketide
synthase example**

Mohamed A Marahiel, Phillips-University of Marburg,
Germany: **Biosynthesis, regulation and design
of peptide antibiotics**

Toni N Kutchan, University of Munich, Germany: **New
insights into the mechanisms of the enzymes of
isoquinoline alkaloid biosynthesis**

C Dale Poulter, University of Utah, USA: **Farnesyl
diphosphate synthase: structure and function**

Signal transduction

Susan Taylor, University of California at San Diego, USA:
**Structure and function relationships in the cAMP-
dependent protein kinase**

Zhong-Yin Zhang, Albert Einstein College of Medicine, USA:
Mechanism of catalysis by protein-tyrosine phosphatases

Gregory L Verdine, Harvard University, USA: **Keepers of the
code: structural and mechanistic studies on proteins that
decorate and mend the genome**

Redox enzymology

Gerald T Babcock, Michigan State University, USA:
Water/oxygen metabolism in metalloprotein active sites

Shinya Yoshikawa, Himeji Institute, Japan: **Structure of
cytochrome *c* oxidase**

Dennis H Flint, Central Research, DuPont, USA: **Initial steps
in the synthesis of Fe-S clusters**

Enzymes in disease

Peter T Lansbury, Jr, University of Minnesota, USA:
**Molecular mechanism of amyloid formation in
neurodegenerative diseases**

David Bramhill, Merck Sharpe & Dohme, USA: **The role of
the tubulin-like FtsZ protein as a component of bacterial
cell division machine**

Mark Levy, Smith Kline Beecham, USA: **Cathepsin O:
a novel cysteine protease selectively expressed
in human osteoclasts**

Evolution of catalysis

Thomas Scanlan, University of California at San Francisco,
USA: **Enzyme design and evolution**

David Bartel, Whitehead Institute, USA: **New ribozymes
from random RNA sequences**

Short talks (three) selected from posters

Protein engineering

Charles Craik, University of California at San Francisco, USA:
Engineered metalloregulation of proteolytic activity

William F DeGrado, DuPont-Merck, USA: ***De novo*
protein design**

All applications must be received six weeks prior to the
conference. Early application is recommended. Application
forms and programs for all the Summer and Fall 1996 Gordon
Research Conferences are published in *Science* during early
February. For more information, contact
grc@grcmail.grc.uri.edu, or write:

Gordon Research Conferences
University of Rhode Island
PO Box 984
West Kingston, RI 02892-0984, USA