Gordon research conference programs

Natural products chemistry
July 2–7, 1995
New England College
Henniker, NH, USA

Synthetic chemistry

Robert K Boeckman, Jr, University of Rochester, USA: **New developments and applications of bicyclic lactam based chiral controller molecules to asymmetric synthesis**

Stephen L Buchwald, Massachusetts Institute of Technology, USA: **A catalytic method for the formation of carbon–nitrogen bonds**

Dennis P Curran, University of Pittsburgh, USA: **Recent applications of radical reactions in organic synthesis**

Scott E Denmark, University of Illinois, USA: **Tandem cycloadditions of nitroalkenes in natural product synthesis**

Eiichi Nakamura, Tokyo Institute of Technology, Japan: **Organic chemistry of Buckminsterfullerenes**

Scott D Rychnovsky, University of Minnesota, USA: **Structures, syntheses and biological activities of polyene macrolide antibiotics**

K Barry Sharpless, Scripps Research Institute, USA: **Noncovalent binding phenomena in asymmetric catalysis**

Keisuke Suzuki, Keio University, Japan: **Synthetic strategies for natural products with arene–sugar and arene–isoprenoid hybrid structures**

Natural products isolation and structure elucidation

Eric Block, State University of New York at Albany, USA: **Isolation, structure elucidation, synthesis and study of organoselenium and organosulfur natural products from common plants and vegetables: recent results**

Daniel Schroeder, Bristol-Myers Squibb Research Institute, USA: **Studies on maduropeptin chromophore**

Sheo B Singh, Merck Research Laboratories, USA: **Isolation, structure and synthesis of inhibitors of endonuclease and Ras farnesyl-protein transferase**

Wolfgang Steglich, University of Munich, Germany: **Hunting the mushrooms for chemicals**

Bioorganic chemistry of natural products

Jon C Clardy, Cornell University, USA: **Natural products and their macromolecular receptors**

Daniel E Kahne, Princeton University, USA: **Chromomycin as a blueprint for designed metal complexes**

Alanna Schepartz, Yale University, USA: **The chemistry of transcriptional activation**

Natural products and drug discovery

Bruce A Lefker, Pfizer Central Research, USA: **Structure-based design of non-peptide renin inhibitors**

Michael Lewis, Eisai Research Institute, USA: **Inhibitors of isoprenyl transferases**

Daniel Sternbach, Glaxo Research Institute, USA: **Progress toward small molecule inhibitors of src SH3-SH2/phosphoprotein interactions**

Molecular diversity and natural products

Manoj Desai, Chiron Corporation, USA: **Recent advances in the generation of chemical diversity libraries**

Jonathan A Ellman, University of California, Berkeley, USA: **Simultaneous synthesis and evaluation of organic compound libraries**

Michael Ohlmeyer, Pharmacopeia, Inc., USA: **Encoded organic syntheses**

Applications may be found in the February 3 issue of *Science* or requested from the conference chairmen:

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Purines, pyrimidines and *related substances*

July 2–7, 1995
Salve Regina University
Newport, RI, USA

Enzyme mechanisms: deaminases

Charles W Carter Jr, University of North Carolina at Chapel Hill, USA: **Cytidine deaminase: crystal structure of an enzyme:transition-state complex**

Richard Wolfenden, University of North Carolina at Chapel Hill, USA: **Extreme examples of structural discrimination by deaminases: results of substrate and site-directed modifications**

Larry Chan, Baylor College of Medicine, USA: **Apolipoprotein B mRNA editing protein: structure and biological significance**

Enzyme mechanisms: DNA methylases

Xiaodong Cheng, Cold Spring Harbor Laboratory, USA: **DNA modification by methyltransferases**

Judy K Christman, University of Nebraska, USA: **Use of cytidine analogs in defined oligodeoxyribonucleotides to explain the mechanism of action of mammalian DNA methyltransferase**

Enzyme mechanisms: dehydrogenases

Krzysztof W Pankiewicz, Memorial Sloan-Kettering Cancer Center, USA: **Synthesis of NAD analogs designed as potential anticancer agents**

Barry M Goldstein, University of Rochester, USA: **Crystallographic studies of dehydrogenase–inhibitor complexes: structural determinants of specificity**

Structure and function of nucleic acids and oligonucleotides

Jyoti Chattopadhyaya, University of Upsala, Sweden: **How do the gauche and anomeric effects drive the pseudorotational equilibrium of the pentofuranose moiety of nucleosides?**

Cornelis Altona, Leiden University, Netherlands: **Three-way and four-way junctions in DNA**

Shih-Fong Chen, Institute for Drug Development, USA: **Interference of telomere/telomerase activity by nucleoside/nucleotide analogs**

Carbocyclic nucleosides

Stewart W Schneller, Auburn University, USA: **5'-Norcarbocyclic nucleosides and nucleotides**

Ronald J Parry, Rice University, USA: **Recent investigations of the biosynthesis of carbocyclic nucleosides**

Karl H Altmann, Ciba-Geigy, Basel, Switzerland: **6'-Substituted carbocyclic nucleosides: a novel class of oligonucleotide building blocks**

Biochemistry and pharmacology

Thomas Spector, Wellcome Research Laboratories, Research Triangle Park, USA: **5-Ethynyluracil (776C85)/5-fluorouracil: preclinical and clinical studies**

Joseph Bertino, Memorial Sloan-Kettering Cancer Center, USA: **Protracted use of 5-FU and the re-establishment of sensitivity: new scheduling protocols**

Walter Wolf, University of Southern California, Los Angeles, USA: **Tumoral pharmacokinetics of antitumor drugs can be estimated from non-invasive measurements, such as ^{19}F MRS and ^{18}F PET**

Synthetic methodology

Michael E Jung, University of California, Los Angeles, USA: **New synthetic methods for the preparation of nucleoside analogs**

Tarek S Mansour, BioChem Therapeutic, Inc., Canada: **Challenges and solutions to the diastereoselective synthesis of 2',3'-dideoxy and heterosubstituted nucleoside analogs**

Oligonucleotides: synthesis, structure and function

Leigh Anderson, Large Scale Biology Corporation, USA: **Large scale solid-phase synthesis of oligonucleotides in centrifugal systems**

Hideo Inoue, Hokkaido University, Japan: **A specific reaction of a damage base 8-oxoguanine residue in DNA fragments starts successive modifications on the neighboring nucleotide residues**

Yogesh Sanghvi, ISIS Pharmaceutical, USA: **Beyond phosphorothioates: second generation antisense oligonucleotides**

Pro-drugs

Elie Abushanab, University of Rhode Island, USA: **Neutral phosphotriesters as novel drug delivery systems**

Gilles Gosselin, University of Montpellier, France: **Neutral nucleotides bearing enzyme-labile transient phosphate protecting groups: antiviral and antitumor pro-drugs endowed with enhanced potency and bioavailability**

Applications may be found in the February 3 issue of *Science* or requested from the conference chairmen:

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