

BIOMEDICAL SIMULATIONS RESOURCE
UNIVERSITY OF SOUTHERN CALIFORNIA

Workshop On

**ADVANCED METHODS OF
PHARMACOKINETIC AND PHARMACODYNAMIC
SYSTEMS ANALYSIS**

May 18-19, 1990

Marina International Hotel
4200 Admiralty Way
Marina del Rey, California

Sponsored by

**BIOMEDICAL RESEARCH TECHNOLOGY PROGRAM
NATIONAL CENTER FOR RESEARCH RESOURCES
NATIONAL INSTITUTES OF HEALTH**

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Chairman and Organizer:
David Z. D'Argenio

Associate Director, Biomedical Simulations Resource

Friday, May 18, 1990

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|-------|---|--|
| 8:30 | Introductory Remarks | David Z. D'Argenio
University of Southern California |
| 8:45 | Predicting Drug Absorption in Humans | Gordon L. Amidon
University of Michigan |
| 9:15 | Pharmacokinetics of Reversible Metabolic Systems | Haiyung Cheng
Merrell Dow Pharmaceuticals, Inc. |
| 9:45 | Genetic Polymorphisms of Drug Metabolism | Mary V. Relling
Saint Jude Children's Research Hospital |
| 10:15 | Discussion | |
| 10:30 | Break | |
| 10:45 | The Significance of Marked Universal Dependence of Drug Concentration on Blood Sampling Site in Pharmacokinetics and Pharmacodynamics | Win L. Chiou
University of Illinois at Chicago |
| 11:15 | Pharmacokinetic Models for Anticancer and Antiviral Drugs Following Administration as Novel Drug Delivery Systems | James M. Gallo
University of Georgia |
| 11:45 | Discussion | |
| 12:00 | Lunch Break | |
| 1:30 | Residence Time Distributions in Pharmacokinetics: Behavioral and Structural Models | Michael Weiss
Martin-Luther-Universität,
Halle-Wittenberg |
| 2:00 | Relationships Between Intra or Interindividual Variability and Biological Covariates: Application to AZT Pharmacokinetics | France Mentre
INSERM U194, Paris |
| 2:30 | On the Single-Point, Single-Dose Problem | George D. Swanson
University of Colorado Medical Center |
| 3:00 | Discussion | |
| 3:15 | Break | |
| 3:30 | Application of Stochastic Control Theory to Optimal Design of Dosage Regimens | Alan Schumitzky
University of Southern California |
| 4:00 | Incorporating Model Uncertainty in Pharmacokinetic Parameter Estimation | David Z. D'Argenio
University of Southern California |
| 4:30 | Discussion | |
| 5:00 | Reception | |

Saturday, May 19, 1990

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|-------|--|---|
| 8:30 | Algebraic and Differential Relations for Membranes in Series: Permeabilities, Lag Times, Mean Residence Times, and Solute Consumption | Ronald A. Siegel
University of California at San Francisco |
| 9:00 | Physiological Alternatives to the Effect Compartment Model | Nicholas H.G. Holford
University of Auckland |
| 9:30 | Pharmacokinetics/Dynamics of Corticosteroids | William J. Jusko
State University of New York at Buffalo |
| 10:00 | Discussion | |
| 10:15 | Break | |
| 10:30 | Impact of Age and Disease on Intra- and Inter-individual Variability in Human Cardiovascular Pharmacodynamics | Darrell R. Abernethy
Brown University |
| 11:00 | Pharmacodynamic Modeling of Thiopental Depth of Anesthesia | Donald R. Stanski
Stanford University |
| 11:30 | Discussion | |
| 11:45 | Lunch Break | |
| 1:30 | A Bayesian Kinetic Control Strategy for Cyclosporin in Renal Transplantation | Brian Whiting
University of Glasgow |
| 2:00 | Targeted Systemic Exposure for Pediatric Cancer Therapy | John H. Rodman
University of Tennessee at Memphis |
| 2:30 | Targeting the Effect Site with a Computer Controlled Infusion | Steven L. Shafer
Stanford University |
| 3:00 | Discussion | |
| 3:15 | Break | |
| 3:30 | Pharmacokinetic-Dynamic Models for Feedback Controlled Drug Administration in Anaesthesia: The Use as Therapeutic System and Research Tool | Helmut Schwilden
Rheinische Friedrich-Wilhelms
Universität, Bonn |
| 4:00 | Development of a Fiber Optic Biosensor for Measurement of General Anesthetics | Paul Yager
University of Washington |
| 4:30 | Closing Remarks | David Z. D'Argenio
University of Southern California |
| 5:00 | Reception | |

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