Modeling and Data Analysis in Pharmacokinetics and Pharmacodynamics Using ADAPT 5

Dresden, Germany
Max Planck Institute for Physics of Complex Systems
15-16 July, 2008

Course Instructors

David Z. D'Argenio, Ph.D.
University of Southern California
Los Angeles

Michael Weiss, Ph.D.
Martin Luther University Halle-Wittenberg
Halle (Saale)

With Support From

The Biomedical Simulations Resource, University of Southern California
Section of Pharmacokinetics, Martin Luther University

Preface

The Short Course is intended for basic and clinical research scientists who are actively involved in the application of modeling, computational and data analysis methods to problems involving drug kinetics and drug response. Background lectures and case studies will cover the following topics: population modeling – theory and applications; PK/PD models (indirect & target mediated response models); modeling with covariates; modeling using inverse Laplace transformation (absorption, metabolite PK); least squares, maximum likelihood and Bayesian estimation; estimation with multiple response models.

It is hoped that this Short Course will give the participants a thorough exposure to the broad class of pharmacokinetic/ pharmacodynamic modeling and data analysis problems that can be solved using ADAPT 5.

David Z. D'Argenio
Los Angeles

Michael Weiss
Halle (Saale)

ADAPT Short Course Schedule
Tuesday, 15 July 2008

8:30	Background: **Modeling with ADAPT 5**
9:45	Case Study: **Doses and Covariates**
10:30	**Break**
10:45	Background: **Parameter Estimation – Individual**
11:45	Case Study: **WLS/ML Estimation**
12:30	**Lunch Break**
13:30	Background: **Multiresponse Estimation**
14:15	Case Study: **Recirculatory Modeling of Disposition**
15:00	**Break**
15:15	Case Study: **Models for Drug-Receptor Interaction**
16:00	Case Study: **Direct Response PK/PD Models**
17:00	**Dinner Excursion**

ADAPT Short Course Schedule
Wednesday, 16 July 2008

9:00 Case Study: **Indirect Response PK/PD Models**

9:45 Background: **Parameter Estimation - Population**

10:45 **Break**

11:00 Case Study: **The MLEM Program Examples**

11:45 Case Study: **Absorption/Disposition Modeling**

12:30 **Lunch Break**

13:30 Background: **Population Modeling with Covariates**

14:15 Case Study: **Covariate Model Example**

15:00 **Break**

15:15 Case Study: **Modeling Building with Covariates**

15:45 Case Study: **Population PK/PD Modeling Example**

16:30 **Summary Comments**

16:45 **Adjourn**