

POPULATION MODELING IN PK/PD USING ADAPT 5

Department of Pharmaceutical Sciences
University at Buffalo
April 4-5, 2012

Course Coordinators

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Preface

The course includes background lectures on mathematical, statistical, and computational aspects of pharmacokinetic/pharmacodynamic modeling, with an emphasis on the theory and application of population analysis methods. Case studies will illustrate the application of the ADAPT software, and will involve hands-on computer work cover the following topics: pharmacokinetic/ pharmacodynamic modeling; least squares and maximum likelihood estimation; Bayesian estimation; estimation with multiple response models; population modeling; covariate model building. It is hoped that this Short Course will give the participants an exposure to the broad class of pharmacokinetic/ pharmacodynamic modeling problems that can be solved using ADAPT.

ADAPT is made available through the Biomedical Simulations Resource at the University of Southern California, which is supported by the Bioengineering Program of the National Institute for Biomedical Imaging and Bioengineering at the NIH (P41-EB001978).

David Z. D'Argenio
Los Angeles
April 2012



ADAPT Short Course Schedule
Wednesday, 4 April 2012

8:30 Background: **Modeling with ADAPT 5**

9:45 Case Study: **Model Building (SIM)**

10:15 **Break**

10:30 Background: **Individual Estimation: Fundamentals**

11:45 Case Study: **WLS/ML Estimation (ID)**

12:30 **Lunch Break**



ADAPT Short Course Schedule
Wednesday, 4 April 2012

1:30 Background: **Population Modeling: Fundamentals**

2:30 Case Study: **PK Modeling Example (MLEM)**

3:15 **Break**

3:30 Case Study: **Indirect Response PD Model (MLEM)**

4:15 Case Study: **IVGTT Glucose/Insulin
Model (MLEM)**

5:00 **Adjourn**



ADAPT Short Course Schedule

Thursday, 5 April 2012

9:00 Background: **Population Modeling with Covariates**

9:30 Case Study: **Modeling Building with Covariates (MLEM)**

10:15 **Break**

10:30 Case Study: **Modeling Building with Categorical Covariates (MLEM)**

11:15 Case Study: **Categorical Data Modeling (ID)**

12:00 **Lunch Break**



ADAPT Short Course Schedule

Thursday, 5 April 2012

1:00 Case Study: **Metabolite Modeling (ID)**

1:30 Case Study: **Absorption Modeling (ID)**

2:00 Case Study: **Tumor Xenograft PD Response (ID)**

2:30 Case Study: **Transit Compartment Signal Transduction Modeling (ID)**

3:00 Discussion: **Other Program Features and Q&A**

3:30 **Adjourn**

