ISI WSC 2019 Short Course Programme

COURSE TITLE :	**SC1 - Bayesian Biopharmaceutical Applications Using SAS®**
DURATION :	0.5 Day
DATE :	16 August 2019
VENUE :	Sasana Kijang
REGISTRATION FEES :	Developed Country MYR 1,140 (Approximately EUR 240)
	Developing Country / Student* MYR 710 (Approximately EUR 150)
	For student, proof of enrolment is required

INSTRUCTOR 1

Fang Chen
Director, Advanced Statistical Methods
SAS Institute Inc.
U.S.A.

Fang Chen is a Director of Advanced Statistical Methods at SAS Institute Inc. Among his responsibilities are development of Bayesian analysis software and the MCMC procedure. He also oversees software development in various mixed models, nonlinear models, causal inferences, survival analysis, Bayesian hierarchical models, and discrete choice models. Before joining SAS, he received his PhD in statistics from Carnegie Mellon University in 2004.

INSTRUCTOR 2

Frank Liu
Distinguished Scientist
Merck, Sharp & Dohme, Corp
U.S.A.

Dr. G. Frank Liu is a distinguished scientist at Merck, Sharp & Dohme, Corp and a Fellow of the American Statistical Association (ASA). For the past 20 years at Merck, he has worked in a variety of therapeutic areas, including neuroscience, psychiatry, infectious disease, and vaccines. His research interests include methods for longitudinal trials, missing data, safety analysis, and noninferiority trials. He co-leads a Bayesian missing data analysis team in the DIA Bayesian Working Groups. He received a PhD in statistics from UCLA in 1994.

COURSE DESCRIPTION

This half-day tutorial first introduces the general-purpose simulation MCMC procedure in SAS, then presents pharma-related data analysis examples and case studies in detail. The objective is to equip attendees with useful Bayesian computational tools through a series of worked-out examples drawn from situations often encountered in the pharmaceutical industry.

The MCMC procedure is a sampling-based general software that provides full Bayesian inference for parametric statistical models, in estimation, analysis, and prediction. The first part of the tutorial introduces PROC MCMC and demonstrates its use with simple applications, such as regression models and random-effects models.

The second part of the tutorial takes a topic-driven approach to explore case studies in clinical and nonclinical applications. Topics include Bayesian design and simulation, predicting relative potency range, posterior predictions, use of historical information, drug safety evaluation, and analysis of missing data.

SYLLABUS

Part I: Introduction to the MCMC Procedure

Part II: Applications and Case Studies
  A. Evaluating Biomarker Cutoffs
  B. Bayesian Predictive Probability Designs for Phase IIA Trials
  C. Posterior Predictions
  D. Using Historical Information
  E. Predicting Relative Potency Range for Drug Substance
  F. Repeated Measurement Models in Drug Safety Evaluation
  G. Case Studies of Missing Data Analysis

TARGET AUDIENCE

This tutorial is intended for statisticians who are interested in Bayesian computation. Attendees should have a basic understanding of Bayesian methods and experience using the SAS language. The tutorial is based on SAS/STAT® 14.3.