

Emmes Short Course

Course Title: Practical Bayesian Computation using SAS

Date: Tuesday, April 25, 2017

Time: 9:00 am – 2:30 pm

Instructor: Dr. Fang Chen (FangK.Chen@sas.com)

Place: The Emmes Corporation, 401 N Washington Street, Suite 700, Rockville MD 20850

This course will also be available for remote participants through webinar.

Course Content:

This three-part tutorial reviews the basic concepts of Bayesian inference and introduces Bayesian computation in SAS. The objectives are to familiarize statistical programmers and practitioners with the essentials of Bayesian computing, and to equip them with computational tools through a series of worked-out examples that demonstrate sound practices for a variety of statistical models and Bayesian concepts.

The first part of the tutorial provides an introduction to Bayesian inference, covers the fundamentals of prior distributions and concepts in estimation. The tutorial will also cover MCMC methods and related simulation techniques, emphasizing the interpretation of convergence diagnostics in practice.

The second part of the tutorial discusses applications using Bayesian capabilities in SAS/STAT software in the GENMOD, LIFEREG, and PHREG procedures. Examples will include methods such as linear regression, generalized linear models, and survival analysis.

The third part of the tutorial starts with an in-depth introduction to the general simulation procedure PROC MCMC and moves on to demonstrate its use with a series of applications. The presentation takes a topic-driven approach to cover broad Bayesian topics, such as random-effects models, sensitivity analysis, prediction, PK models, model assessment, and missing data problems.

About the Instructor:

Fang Chen is a Senior Manager of Bayesian Statistical Modeling in Advanced Analytics Division at SAS Institute Inc. Among his responsibilities are development of Bayesian analysis software and MCMC procedure. He has written about Bayesian modeling using the MCMC procedure and taught continuing education course on Bayesian computation at JSM. Prior to joining SAS Institute, he received his PhD in statistics from Carnegie Mellon University in 2004.

Course Schedule:

8:15 - 9:00	Coffee, breakfast, and check in
9:00 - 10:30	Introduction to Bayes <ul style="list-style-type: none">- Prior Distribution and Concepts in Estimation
10:30 – 10:45	Break
10:45 - 11:30	Bayesian Procedures <ul style="list-style-type: none">- SAS SAS/STAT capabilities in the GENMOD, LIFEREG, and PHREG
11:30-12:00	Introduction to PROC MCMC <ul style="list-style-type: none">- Simulation
12:00-1:30	Lunch (on your own)
1:30-2:30	Applications using PROC MCMC <ul style="list-style-type: none">- Random-effects models, sensitivity analysis, prediction, PK models, model assessment, and missing data problems

Advance registration:

There are limited seating for in-person attendance. Please click one of the following links to register:

- On-site attendee registration: <https://www.cvent.com/c/express/71ee83bf-8709-4aff-ade1-da4bec59b22a>
- Webinar registration: <https://cc.readytalk.com/r/othtbkhlm2kj&eom>

Registration will close on April 14, 2017; earlier if the course fills up.

WSS membership information: <http://washstat.org/joinus.html>

Contact person:

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