

SUMMER INSTITUTE 2014



Workshops In Quantitative Research Methodology

**Department of Public Health Sciences
Medical University of South Carolina**

Charleston, South Carolina

May 5-13, 2014





The 2014 Summer Institute in the Department of Public Health Sciences in the College of Medicine at the Medical University of South Carolina (MUSC) offers 4 two-day workshops that introduce current quantitative methods in key areas of biomedical and clinical research and offer hands on experience with implementing these methods. The targeted audience includes graduate students, residents, fellows, clinical researchers, biostatisticians, biomedical researchers and epidemiologists.

May 5-6 (2-full days)	Introductory Bayesian Biostatistics (IBB)
May 8-9 (2-full days)	Advanced Bayesian Biostatistics (ABB)
May 5-6 (1 1/2 days)	Longitudinal & Multilevel Modeling of Continuous and Categorical
May 12-13 (1 1/2 days)	Phase 2 and 3 Clinical Trial Design

Phase 2 and 3 Clinical Trial Designs (May 12-13)

This workshop provides an overview of study designs available for Phase 2 and 3 randomized clinical trials, and hands-on experience with the latest developments. Day 1 reviews various study designs including parallel arm, factorial, non-inferiority, and adaptive designs. Day 2 applies Day 1 information by reviewing real trials and discussing the pros/cons to the chosen trial design. Attendees will learn the basic principles of the design of randomized clinical trials and will work together on real case studies that represent the true challenges that clinical and statistical investigators face when designing these trials.

Who Should Attend:

Clinical researchers, biostatisticians and students having an interest in clinical trial design and methodology.

Short Bios:



Valerie Durkalski is Associate Professor of Biostatistics and Director of The Data Coordination Unit (DCU), a statistical and data management center housed in the Department. The DCU specializes in the design of clinical trials and analysis of their data and in establishing, implementing and maintaining data and project management systems for multicenter clinical trials. Dr. Durkalski collaborates on several large multicenter clinical trials in various therapeutic areas, serves on several Data and Safety Monitoring Boards (DSMBs) and NIH peer-review panels. She publishes and presents on various topics related to the design and conduct of clinical trials and teaches 'Design & Conduct of Clinical Trials' to graduate students and healthcare professionals.



Renee Martin is Assistant Professor of Biostatistics and Associate Director of Biostatistics in the DCU. Her area of expertise includes design and analysis of clinical trials, with vast experience in Phase I - III therapeutic studies predominantly in neurology and stroke. Through her collaboration as a lead statistician on a number of clinical trials in the areas of ischemic and hemorrhagic stroke and other trials, Dr. Martin has extensive experience and knowledge on the design, implementation and analysis of clinical trials from an internal point of view. From an external view, Dr. Martin has served as an independent statistician for industry sponsored trials and she currently serves on the DSMB for an international, randomized Phase III, NINDS sponsored trial. The combination of her advanced biostatistical training and management skills provides a solid resource for the planning, oversight and implementation of clinical trials.

Workshop Information

Bayesian Biostatistics (Intro May 5-6; Advanced May 8-9)

A course sequence of 2 workshops will be presented. The sequence will consist of an Introductory Bayesian Biostatistics course (IBB), and an Advanced Bayesian Biostatistics course (ABB). The IBB course is designed to provide a basic grounding in Bayesian modeling methods and hands-on experience with WinBUGS and demonstration of SAS capabilities. The ABB course covers specific application areas in more depth and is designed to be a continuation of the IBB course. The IBB course fee includes the text, Lasaffre and Lawson (2012) *Bayesian Biostatistics*, Wiley, NY.

IBB Topics:

- Bayesian Basics
- Hierarchical models; DAGS; MCMC
- Comparison with conventional analysis
- Random effect models: LMM and GLMM,
- Other software: R2WinBUGS, OpenBUGS, BRUGS, JAGS, INLA

ABB Topics:

- Parametric survival modeling
- Longitudinal modeling
- Measurement error
- Handling Missing data
- Special Topics:
 - Imaging/disease mapping
 - Variable selection
 - INLA examples

Who Should Attend:

Those interested in extending their knowledge of statistics and modeling into hierarchical multi-level modeling using powerful Bayesian methodology.



Andrew B. Lawson is Professor of Biostatistics and has a wide experience of the development and application of Bayesian methods in Biostatistical problems. He has published a number of papers and books focused on Bayesian applications, in particular in spatial Biostatistics.



Mulugeta Gebregziabher is Associate Professor of Biostatistics. He collaborates with clinicians/health services researchers in several topics and has published collaborative and methodological work that involves longitudinal and missing data. He has extensive experience and teaches advanced regression methods for graduate students.

Workshop Information

Longitudinal/Multilevel Data (May 5-6)

Frequently in medical research, data are collected longitudinally and/or in clusters. This workshop will focus on familiarizing the participants with the appropriate analyses for such data. Linear Mixed Models ANOVA (including random effects, fixed effects, nesting, repeated measures, missing data), Generalized Linear Mixed Models for analyzing categorical data and introduction to growth models will be presented. The workshop will be divided into three modules. Module I - multilevel data, Module II - longitudinal data, Module III—SAS software and hands-on experience in using SAS for topics covered in Modules I&II. *Module II requires participants to have SAS installed on their laptops. The Modules I and II will be presented on Day 1 and the Module III will be presented on Day 2.*

Who Should Attend:

Clinical researchers, biostatisticians and students who have not been exposed to these topics.



Short Bios:

Sharon Yeatts is an Assistant Professor of Biostatistics in the Department. She collaborates with clinicians at MUSC and around the country in several health related topics, with a focus on neurological trials. She oversees design and biostatistical analyses of several multicenter longitudinal studies. She teaches regression and factorial analyses in the graduate program.



V. Ramakrishnan (Ramesh) is a Professor of Biostatistics in the Department. He has extensive experience in Multilevel and Longitudinal data methods. He has authored or coauthored methodological articles in several areas of biostatistics, including missing data, genetic epidemiology, longitudinal growth models, mixture normal models. He has developed and taught graduate courses on several topics including a course in longitudinal and multilevel data analyses.



VENUE

The courses will take place on the campus of the Medical University of South Carolina, Department of Public Health Sciences, Room 301 and 305V, 135 Cannon Street, Charleston, South Carolina.

Recommended Area Accommodations:

Charleston Marriott Hotel
170 Lockwood Boulevard
Charleston, SC 29403
(843)723-3000/(800)968-3569
www.marriott.com/chsmc

Springhill Suites/Charleston Riverview
90 Ripley Point Drive
Charleston, SC 29407
(843) 266-8081
www.marriott.com/chssh

Comfort Inn
144 Bee Street
Charleston, SC 29401
(843)577-2224

The Courtyard by Marriott
35 Lockwood Drive
Charleston, SC 29401
(843) 722-7229
www.marriott.com/chscy

Inquire about an MUSC discount when making reservations.
Additional information on Charleston and area hotel accommodations may be found at www.charlestoncvb.com. Download a campus map at www.musc.edu.

Daily Schedule:

8:00 - 8:30am	Coffee/Registration
8:30 - 10:00 am	Workshop Session
10:00 - 10:30 am	Break
10:30 - 12:00 pm	Workshop Session (End of Day 2 for the 1 1/2day workshops)
12:00 - 1:00 pm	Lunch (provided)
1:00 - 3:00 pm	Workshop Session
3:00 - 3:30 pm	Break
3:30 - 5:00 pm	Workshop Session



Summer Institute 2014

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Through Numbers to Knowledge
Through Knowledge to Health

We're on the Web!
www.musc.edu/phs

Registration Deadline: April 30, 2014

Refund Policy: Requests for refunds must be made in writing. There will be a \$75 processing fee for cancellations made before the registration deadline. Following the registration deadline, no refunds can be given.

Please notify us about special accommodations or dietary restrictions.

Registration Form:

Last Name: _____ First Name: _____

Institution: _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ E-mail: _____

☐ Student ☐ Professional

Registration Fee: \$600 each Bayesian Workshop (\$1000 for both)

\$400 Clinical Trial Workshop/Longitudinal Workshop

Students and MUSC faculty receive \$100 discount.

- ☐ Intro Bayesian Biostatistics (May 5-6)
- ☐ Advanced Bayesian Biostatistics (May 8-9)
- ☐ Design of Clinical Trials (May 12-13)
- ☐ Longitudinal Data (May 5-6)

Total Amount: \$_____

Payment can be made by phone, fax or mail. Contact information is on the top left corner of this page. Registration fees are payable in U.S. dollars only. Personal checks are acceptable if payable through a U.S. bank.

Payment Method: ☐ IIT (MUSC internal registrations only)

☐ Check (make payable to MUSC, DPHS)

☐ Visa ☐ Mastercard ☐ American Express

Card #: _____ Exp Date: _____

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