SUMMER INSTITUTE 2010

Workshops In Quantitative Research Methodology

Division of Biostatistics and Epidemiology
Medical University of South Carolina
Charleston, South Carolina
May 3-7, 2010
The 2010 Summer Institute 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 3rd-4th Workshops:**

► Bayesian Biostatistics

► Analysis of Genetic Association Studies

**May 6th-7th Workshops:**

► Design of Early Phase Clinical Trials

► Analysis of Complex Sample Survey Data
Workshop Information

Bayesian Biostatistics (May 3-4)

This course is intended to provide a basic introduction to the principles and use of Bayesian methods in biostatistics. Day 1 will be an introduction to Bayesian hierarchical modeling and to the use of Winbugs. Day 2 features hands on by the participant and will cover a series of topics and particular interest in biostatistics applications including longitudinal analysis, missing data methods, survival analysis and measurement error modeling.

Who Should Attend:
Those interested in extending their knowledge of statistics and modeling into hierarchical multi-level modeling using powerful Bayesian methodology. Class size will be approximately 20 students.

Short Bios:

Mulugeta Gebregziabher is Assistant Professor of Biostatistics in the Division. He collaborates with clinicians at MUSC in several health related topics and teaches design of experiments and advanced regression methods in the graduate program. He has expertise in missing data and statistical methods for epidemiological studies and has published methodological papers in these topics.

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. He is co-author with Emmanuel Lesaffre (KU Leuven) of a new volume entitled Bayesian Biostatistics published by Wiley.
Analyses of Genetic Association Studies (May 3-4)

This course will include an introduction to basic genetic vocabulary and concepts, such as Hardy-Weinberg equilibrium, linkage disequilibrium, and Mendelian errors. It will also cover in detail the data features of pedigree files, map files, and covariate files required to conduct genetic association studies. Quality control methods necessary for determining genotyping errors and population substructure will be emphasized. Examples of family-based association studies and population based genome-wide association studies will be examined in the workshop. Data analyses will be illustrated using freeware such as PLINK. In addition, HapMap.org and Haploview will be explored.

Who Should Attend:
The course is geared to students and junior investigators with an interest in learning tools for analyses of genome-wide association data. Each participant is encouraged to bring a laptop computer for hands-on applications. Class size will be approximately 20 students.

Short Bios:
Emily Kistner-Griffin is Assistant Professor in the Division who was recently recruited from the University of Chicago. Her research focuses on developing statistical methods for testing genetic predictors of disease susceptibility. She has worked extensively on genome-wide association studies which have informed a wide range of fields including the study of autoimmune disorders such as inflammatory bowel disease (IBD) and type I diabetes, autism spectrum disorders (ASD), and investigations into possible genetic predictors of patient response to anticancer agents, contributing publications to Science, Nature Genetics, and Proceedings of the National Academy of Sciences (PNAS).

Andrew Skol is Assistant Professor in the Section of Genetic Medicine at the University of Chicago. His research focuses on developing statistical methods and tools that aid in identifying genetic variants involved in complex human disease. His current research interests include exploring efficient designs for genome-wide association studies, identifying genetic variants predisposing individuals to secondary cancers resulting from treatment to earlier primary cancers, and adapting variance component methods for QTL mapping in complex pedigrees of experimental organisms.
Design of Early Phase Clinical Trials (May 6-7)

This workshop provides hands-on experience with the latest developments and best practices in the design of early phase clinical trials. Topics will include dose finding studies, futility studies, pilot/feasibility studies, appropriate outcomes selection and sample size estimation. Attendees will learn the basic principles of the design of early phase trials and will work together on real case studies that represent the true challenges that clinical and statistical investigators face when planning these trials.

Who Should Attend:
Clinical researchers, biostatisticians and students having an interest in clinical trial design and methodology. Class size will be approximately 20 students.

Short Bios:
Valerie Durkalski is Associate Professor in DBE and Director of The Data Coordination Unit (DCU), a statistical and data mgmt center in DBE. She collaborates on several clinical trials in various therapeutic areas and teaches ‘Design & Conduct of Clinical Trials’ to graduate students and healthcare professionals.

Jordan Elm is Assistant Professor in DBE and a member of the DCU. She has 8 years experience as a biostatistician for NIH-funded clinical trials, and designs Phase II & III clinical trials for an NIH-funded Parkinson’s Disease Network (NET-PD). Her research interests are in statistical methods for adaptive, multi-armed clinical trial design.

Renee Martin is Assistant Professor in DBE 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 and II therapeutic studies predominantly in neurology and stroke.

Yuko Palesch is Professor in DBE and Chair of the Division. Her expertise is in the design and analysis of clinical trials, particularly in neurological disorders. She has co-authored numerous manuscripts and book chapters on clinical trials methods, including several on the value of a futility design in stroke clinical trials.

Sharon Yeatts is Assistant Professor in DBE and a member of the DCU. As part of the DCU, she collaborates on several clinical trials in the area of neurological emergencies with a particular focus on early phase designs.
Analyses of Complex Sample Survey Data (May 6-7)

In-class instruction in the use of STATA (version XX) for data analysis will be provided for topics including: point and interval estimation, comparisons of means and proportions, ratio estimation, subpopulation (domain) analyses, combining data across years to gain precision, comparing data across years to investigate trends, and multivariable modeling approaches (e.g. multiple linear and logistic regression). An overview of complex sample survey designs and analytic principles will be provided. Examples will be drawn from analysis of NHANES data, but modifications for the analysis of other common sample survey designs will be presented.

Who Should Attend:
This course is designed for individuals who want to learn how to perform secondary analyses of existing complex sample survey data. Students are expected to bring a laptop to the course to participate in data analysis. Temporary STATA licenses will be available onsite. Class size will be approximately 20 students.

Short Bios:
Elizabeth Hill is Assistant Professor of Biostatistics in DBE and a member of the Biostatistics Shared Resource at MUSC’s Hollings Cancer Center. Dr. Hill has broad research interests in oncology, with expertise ranging from analysis of high throughput proteomic and protein assay data, to the analysis of complex sample survey data. She teaches statistical methods courses to MUSC clinicians and has previously conducted and co-instructed workshops on the analysis of sample survey data.

Kelly Hunt is Assistant Professor of Epidemiology in DBE. Her research focuses on diabetes and cardiovascular disease with a recent interest in trans-generational risk. She has over 10 years of experience with the design and analysis of observational data from large epidemiologic cohort studies of diabetes and cardiovascular disease. In addition, her recent work incorporates national complex survey sample data from the Behavioral Risk Factor Surveillance System and the National Health and Nutrition Examination Survey.
VENUE
The courses will take place on the campus of the Medical University of South Carolina, Division of Biostatistics & Epidemiology, Room 301, 135 Cannon Street, Charleston, South Carolina.

Recommended Area Accommodations:

<table>
<thead>
<tr>
<th>Hotel 1</th>
<th>Hotel 2</th>
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</thead>
<tbody>
<tr>
<td>Charleston Marriott Hotel</td>
<td>Holiday Inn Historic District</td>
</tr>
<tr>
<td>170 Lockwood Boulevard</td>
<td>125 Calhoun Street</td>
</tr>
<tr>
<td>Charleston, SC  29403</td>
<td>Charleston, SC 29401</td>
</tr>
<tr>
<td>(843)723-3000/(800)968-3569</td>
<td>(843)805-7900</td>
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<tr>
<td><a href="http://www.marriott.com/chsmc">www.marriott.com/chsmc</a></td>
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<thead>
<tr>
<th>Hotel 3</th>
<th>Hotel 4</th>
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</thead>
<tbody>
<tr>
<td>Comfort Inn</td>
<td>The Courtyard by Marriott</td>
</tr>
<tr>
<td>144 Bee Street</td>
<td>35 Lockwood Drive</td>
</tr>
<tr>
<td>Charleston, SC  29401</td>
<td>Charleston, SC 29401</td>
</tr>
<tr>
<td>(843)577-2224</td>
<td>(843) 722-7229</td>
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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:

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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</thead>
<tbody>
<tr>
<td>8:00 - 8:30am</td>
<td>Coffee/Registration</td>
</tr>
<tr>
<td>8:30 - 10:00 am</td>
<td>Workshop Session</td>
</tr>
<tr>
<td>10:00 - 10:30 am</td>
<td>Break</td>
</tr>
<tr>
<td>10:30 - 12:00 pm</td>
<td>Workshop Session</td>
</tr>
<tr>
<td>12:00 - 1:00 pm</td>
<td>Lunch (provided)</td>
</tr>
<tr>
<td>1:00 - 3:00 pm</td>
<td>Workshop Session</td>
</tr>
<tr>
<td>3:00 - 3:30 pm</td>
<td>Break</td>
</tr>
<tr>
<td>3:30 - 5:00 pm</td>
<td>Workshop Session (Day 2 will end at 4pm)</td>
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Registration Form:

Last Name: __________________  First Name: __________________

Institution: _______________________________________________

Mailing Address: _______________________________________

City: __________________  State:____  Zip: __________

Phone: _______________  E-mail: __________________

O Student  O Professional

Registration Fee: $400 per Workshop ($300 for students & MUSC faculty)
$700 for Two Workshops ($600 for students & MUSC faculty)

O Bayesian Biostatistics (May 3-4)
O Analysis of Genetic Associations (May 3-4)

O Design of Early Phase Clinical Trials (May 6-7)
O Analysis of Complex Survey Data (May 6-7)

Total Amount: $_________

Payment can be made by phone, fax, e-mail 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: o Visa  o Mastercard

O Check (make payable to MUSC, Division of Biostatistics and Epidemiology)

Card #: ________________________  Exp Date: _________

Name on Card: _______________________________________

Authorized Signature: __________________________________

If you will require special accommodations, please specify:
______________________________________________________

Registration Deadline: Mar. 31, 2010

Refund Policy: Requests for refunds must be made in writing. There will be a $75 processing fee for cancellations before April 23rd, 2010. Beginning April 23rd, no refunds can be given.