



Advanced Bayesian Disease Mapping

A Two-Day Course

June 3 – 4 th, 2010

Historic Charleston, South Carolina

COURSE CONTENT

This course is designed to provide advanced coverage of Bayesian disease mapping topics in applications to Public Health and Epidemiology: It is intended as an extension to the course: 'An Introduction to Bayesian Disease Mapping'. Emphasis on the course is placed on spatial and spatio-temporal Bayesian modeling issues, and some knowledge of Bayesian computation and WinBUGS is assumed.

The two-day course consists of sessions dealing with:

DAY 1 Spatial topics

- Spatial models and simple variants: convolution, proper CAR, full MVN
- Special applications: sparse count data: zip and factorial regression
- Special applications: latent structure (L&C and mixtures)
- Spatial survival modelling
- Measurement error, SEMS and Joint modelling.
- WinBUGS, R2winBUGS, BRugs and JAGS

DAY 2 Spatio-temporal modelling topics

- Basic ST models: Bernardinelli, Knorr-Held, Waller; seasonal effects
- ST Kalman-filtering
- Infectious disease models: FMD and influenza outbreaks

This is designed for those who want to cover advanced BDM methods, and includes advanced use of WinBUGS and related R functions: R2WinBUGS, BRugs. The course will include theoretical input, but also practical elements and participants will be involved hands-on in the use of R and WinBUGS in disease mapping applications. Both spatial and spatio-temporal analyses will be considered. Examples will range over childhood asthma data from Georgia, influenza in South Carolina, foot-and-mouth disease in the UK and prostate cancer in Louisiana,

THE SPEAKER

Professor Andrew B. Lawson (Division of Biostatistics & Epidemiology, College of Medicine, Medical University of South Carolina) is a World Health Organization (WHO) advisor on Disease Mapping and organized with the WHO an International workshop on this topic which has led to an edited volume "Disease Mapping and Risk Assessment for Public Health". He has published a number of books focused on disease mapping and spatial epidemiology. In particular, a new volume entitled **Bayesian Disease Mapping: hierarchical modeling in spatial epidemiology** will be a course text for this course.

WHO SHOULD ATTEND

The course is intended for epidemiologists and public health workers who need to analyse geographical disease incidence. In addition, the course may be of interest to statisticians or geographers and planners who deal with spatial and spatio-temporal disease data. Some statistical/epidemiological background would be beneficial but is not essential.

WHY ATTEND

Participants will gain an in-depth understanding of the basic issues, methods and techniques used in the analysis of spatial health data using a Bayesian approach. They will gain insight into the detailed analysis of practical problems in risk estimation and cluster detection. The course is presented by a leading researcher in the field of disease mapping and spatial epidemiology.

COURSE FEES

Two-day Course - \$500.00

Two-day course fee includes comprehensive course notes, lunch, refreshments. The course is based on topics covered in *Bayesian Disease Mapping: Hierarchical Modeling in Spatial Epidemiology*, Lawson, A. B., (2008), CRC press, New York.

- ❖ **Attendees must bring a laptop with R and WinBUGS 1.4.3 software preloaded.** Datasets will be provided. R and WinBUGS software can be downloaded from the following websites: <http://cran.wustl.edu> and/or www.mrc-bsu.cam.ac.uk/bugs

VENUE

The course 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.

AREA ACCOMODATIONS:

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

Holiday Inn Historic District
125 Calhoun Street
Charleston, SC 29401
(843)805-7900 Phone
<http://www.charlestonhotel.com/>

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

The Courtyard by Marriott
35 Lockwood Drive
Charleston, SC 29401
(843) 722-7229

Additional information on Charleston and area hotel accommodations may be found at www.charlestoncvb.com. Download a campus map at www.musc.edu. If you plan to drive to Charleston and to campus, parking is available in the President Street Garage for \$5 per day. Please contact June Watson (843-876-1578 or watsonju@musc.edu) for further information on parking.



REGISTRATION INFORMATION
Advanced Bayesian Disease Mapping

June 3 – 4th 2010
Medical University of South Carolina

Registration is limited to 20 participants

Deadline for Registration is May 21st 2010

Conference Registration is \$500 per person

Name _____

Title _____

Company/Organization _____

Address _____

City _____ State _____ Zip _____

Phone () _____ Fax () _____

E-mail _____

METHODS OF PAYMENT

Registration fees are payable in U.S. dollars only. Personal checks are acceptable if payable through a U.S. bank.

___ Enclosed is a check in the amount of \$ _____

___ Charge \$ _____ to my credit card.

___ Discover

___ MasterCard

___ Visa

Card# _____ Exp. Date _____

Authorizing Signature _____

Refund Policy: Requests for refunds must be made in writing. There will be a \$75 processing fee for cancellations before **May 21st 2010**. Beginning **May 21st**, no refunds can be given.



___ If you will require special accommodations, please specify:

REGISTRATION OPTIONS

- Mail registration form and fee to:
Advanced Bayesian Disease Mapping
Medical University of South Carolina
Division of Biostatistics & Epidemiology
135 Cannon Street, Suite 303
Charleston, South Carolina 29425-8350
- Phone registration to:
Division of Biostatistics & Epidemiology
(843) 876-1578
- Fax registration form to:
Division of Biostatistics & Epidemiology
(843) 792-6000
- E-mail to watsonju@musc.edu