Bayesian Biostatistics (Part I May 1st – 2nd ; Part II May 3rd - 4th)

A course sequence of 2 workshops will be presented. The sequence will consist of an introductory Bayesian Biostatistics course (Part I), and a special topics Bayesian Biostatistics course (Part II). The Part I course is designed to provide a basic grounding in Bayesian modeling methods with SAS applications. The Part II course will cover the use of OpenBUGS and INLA for Bayesian modeling and focus on specific application areas in more depth and is designed to be a continuation of the Part I course. The course fee for either course (taken separately) includes the text Lesaffre and Lawson (2012) Bayesian Biostatistics, Wiley, New York

Bayesian Biostatistics I: SAS applications

Topics covered

* What is Bayesian Biostatistics

* Bayesian Basics: likelihood, priors, posterior

* Hierarchical models; Posterior sampling; MCMC;

* Examples comparing conventional and Bayesian analyses will be covered

* Demo of basic SAS examples

* Random effect models: LMM and GLMM

*Survival analysis; meta analysis

*Missingness

Presenter:

Professor Mulugeta Gebregziabher

Bayesian Biostatistics II: Special Topics with OpenBUGS and INLA

Topics covered

* Review of Basic Bayesian methods and introduction to OpenBUGS and INLA

* Regression; LMMs and GLMMs

* Variable Selection

* Survival analysis

* Meta analysis

* Measurement error/SEMs and missing data

*Spatial applications: Imaging and disease mapping

Presenter:

Professor Andrew B. Lawson

Who should attend:

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