Programme

Monday, December 17, 2012

8.30   Registration

9.00   Welcome by Joan Joan J. Guinovart, IRB Barcelona Director

Session I. INNOVATIVE DESIGN OF EXPERIMENTS (I)
Chair: Josep Ginebra, Universitat Politècnica de Catalunya (Barcelona, Spain)

9.15   Donald Berry
Adaptive Design and Personalized Medicine: The Future Is Now

9.50   Roger Lewis
An Overview of Bayesian Adaptive Clinical Trial Design

10.25  Beat Neuenschwander
Historical Data Priors: Methodological and Practical Aspects

11.00  Coffee break

Session II. INNOVATIVE DESIGN OF EXPERIMENTS (II)
Chair: Donald Berry, MD Anderson Cancer Center (Houston, TX, USA)

11.20  Michele Guindani
Test-based phase II time-to-event targeted therapy trials

11.55  Lisa Hampson
Combining opinion with clinical data in rare disease trials

12.30  Michael Parides
Making more with less—Bayesian approaches in exploratory trials

12.50  Nicky Welton
Value of Information for research prioritisation and optimal trial design

13.10 - 15.00 Lunch (FrescCo, C/ Carme, 16)
Session III. BIOSSTATISTICS & EPIDEMIOLOGY
Chair: Nikolaos Demiris, Athens University of Economics and Business (Athens, Greece)

15.00 Julian Higgins
Bayesian applications in evidence synthesis

15.30 David Dunson
Bayes learning of conditional response distributions

16.10 Sonia Malefaki
Threshold Regression Models with Random Effects for Recurrent Events

16.30 Marc Baguelin
Reconstructing past influenza epidemics from consultation, virological surveillance
data and a contact survey

16.50 Ramón Cèries
Bayesian approach to predicting cancer incidence for an area without cancer
registration by using cancer incidence data from nearby areas

17.10-19.30 Poster session

Tuesday, December 18, 2012

Session IV. BAYESIAN INFERENCE FOR BIG DATA (I)
Chair: David Rossell, IRB Barcelona (Barcelona, Spain)

9.15 Marina Vannucci
Bayesian Approaches for Large-Scale Data Integration

9.50 Chris Holmes
Auxiliary counting variables for posterior decoding of Hidden Markov Models with
applications in the analysis of structural variation arising in cancer genomics

10.25 Zhaohui Qin
Towards the understanding of the three-dimensional genome organization
Statistical challenges and opportunities for analyzing Hi-C data

11.00 Coffee break

Session V. BAYESIAN INFERENCE FOR BIG DATA (II)
Chair: Valen Johnson, Texas A&M University (College Station, USA)

11.20 Mark Girolami
Bayesian Inference in Systems-Based Biology
11.55  Laura M. Sangalli  
Studying blood-flow velocity field and other hemodynamical quantities via spatial regression models with differential regularization  

12.30  Veera Baladandayuthapani  
Integrative Bayesian Analysis of Multi-platform Genomics Data  

12.50  Mark van de Wiel  
Bayesian analysis of RNA sequencing data by estimating multiple shrinkage priors  

13.10 – 15.00 Lunch (FrescCo, C/ Carme, 16)  

Session VI. MODELING DEPENDENCE  
Chair: Robert Castelo, Universitat Pompeu Fabra (Barcelona, Spain)  

15.10  Sach Mukherjee  
Scalable exploration of signalling networks  

15.45  Peter Green  
Bayesian graphical model determination  

16.20  Michail Papathomas  
Using the Dirichlet process clustering model to assist graphical linear model selection: investigation of high order interactions between environmental/genetic covariates  

16.40  Coffee break  

Session VII. APPLICATIONS IN -OMICS  
Chair: Michele Guindani, MD Anderson Cancer Center (Houston, TX, USA)  

17.00  Luis Carvalho  
Graph-regularized centroid estimation on a hierarchical Bayesian model for genome-wide association studies  

17.20  Eduardo Eyras  
Epigenetic regulation of RNA  

17.40  Victor Manuel Bellon  
Cancer diagnosis with mass spectrometry and Gaussian Join Tree classifiers  

18.00  Rebecca Graziani  
Bayesian Non parametric identification of Pre-versus-Post treatment biomarker effects on Progression free survival  

20.30  Speakers’ dinner
Wednesday, December 19, 2012

Session VIII. HYPOTHESIS TESTING, MODEL CHOICE AND COMPUTATION (I)
Chair: M.J. Susie Bayarri, University of Valencia (Valencia, Spain)

9.15 Valen Johnson
Phase II clinical trials based on uniformly most powerful Bayesian tests

9.50 Gonzalo García-Donato
On sampling strategies in Bayesian variable selection problems with large model spaces

10.25 Steve McEachern
The Calibrated Bayes Factor

11.00 Coffee break

Session IX. HYPOTHESIS TESTING, MODEL CHOICE AND COMPUTATION (II)
Chair: Omiros Papaspiliopoulos, Universitat Pompeu Fabra (Barcelona, Spain)

11.20 Harvard Rue
Towards “relaxed models” in R-INLA

11.55 Martyn Plummer
Bayesian modelling with JAGS

12.30 David Conesa
Assessing the spatial distribution of species

12.50 Simon Heath
A Bayesian model for the analysis of methylation probabilities and genotypes in individual and multiple samples from whole genome bisulfite sequence data

13.10 Concluding remarks