

Short course on:

# Topics in High-dimensional Genetic Data Analysis

Lecturer: Andrea S. Foulkes

Barcelona, September 7<sup>th</sup> 2010



## Course description

**Morning** (9:00 to 13:00)

- Classification and Regression trees (including the construction of a tree and cost-complexity pruning)
- Random Forests (including the definition of variable importance)


**Afternoon** (14:00 to 17:30)

- Additional Topics in High-dimensional Data Methods (including an introduction to Logic Regression and Multivariate Adaptive Regression Splines).

## Instructor

**Andrea S. Foulkes**, Sc.D. is an Associate Professor of Biostatistics at the University of Massachusetts School of Public Health and Health Sciences.

Her research includes developing analytic methods for characterizing the relationships among high-dimensional molecular and cellular data and measures of disease progression. These methods draw from cluster analysis, recursive partitioning, mixed effects modelling and Markov modelling. She currently collaborates with investigators across multiple disciplines ranging from oncology to immunology to identify and develop appropriate techniques for analyzing single nucleotide polymorphisms (SNPs) and disease outcomes. In addition, Dr. Foulkes is working on establishing methods for understanding the complex relationships among HIV-1 genotypic markers of resistance to antiretroviral drugs, cellular immune modulation and

clinical outcomes. She is contributor in Multiple Imputation and Random Forests for Unobservable Phase (mirf) -Package, <http://cran.r-project.org/>. Recently she has published “Applied Statistical Genetics with R For Population-based Association Studies”

## Venue

**IMIM (Institut de Recerca de l’Hospital del Mar)** is located in the Barcelona Biomedical Research Park building (PRBB), 88 Doctor Aiguader Street, Barcelona - 08003.

There are good bus and metro communications from the downtown to the PRBB

See “How to reach us” at: <http://www.imim.es/>

## Fees & registration

Course Fee:

- Academic: 160€
- Non academic: 200€

The fee includes all materials required for the course as well as on-site coffee breaks and lunch. The number of places is limited to 20.

Please complete the registration form at: [http://www.regicor.org/inscripciones/hgda\\_pres](http://www.regicor.org/inscripciones/hgda_pres)

## Additional information

Participants are expected to bring their own laptops (facilities to recharge batteries will be provided).

Previous basic knowledge of  is assumed.

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