

**Sparse structures: statistical theory and practice**  
**Research workshop: 16-18 June 2010, Bristol, UK**

**Workshop programme**

**Wednesday 16 June**

|               |   |  |
|---------------|---|--|
| 09:00         | <b>Registration</b>                           |  |
| 09:25         | <b>Opening remarks</b>                        |  |
|               | <b>Invited 1</b>                              |  |
| 09:30         | Alexandre Tsybakov<br>( <i>Paris VI</i> )     | Estimation of high-dimensional low rank matrices   |
| 10:20         | Marten Wegkamp<br>( <i>Florida</i> )          | Dimension reduction in multivariate regression models  |
| 11:15 – 11:45 | <b>coffee break</b>                           |  |
|               | <b>Contributed 1</b>                          |  |
| 11:45         | Jianxin Pan<br>( <i>Manchester</i> )          | Modelling of large covariance matrices   |
| 12:10         | Barbara Engelhardt<br>( <i>Chicago</i> )      | Sparse low-dimensional matrix factorization methods applied to biological data with latent structure |
| 12:45 – 14:15 | <b>Lunch</b>                                  |  |
|               | <b>Invited 2</b>                              |  |
| 14:15         | Martin Wainwright<br>( <i>Berkeley</i> )      | Graphical model selection in high dimensional settings: Practical methods and fundamental limits     |
| 15:05         | Christophe Ambroise<br>( <i>CNRS, Paris</i> ) | Inferring Sparse Gaussian Graphical Models for Biological Networks                                   |
| 16:00 – 16:30 | <b>coffee break</b>                           |  |
|               | <b>Contributed 2</b>                          |  |
| 16:30         | Guillaume Obozinski<br>( <i>INRIA</i> )       | Structured Sparse Principal Component Analysis   |
| 16:55         | Kevin Sharp<br>( <i>Manchester</i> )          | Dense Message Passing for Sparse Principal Component Analysis  |
| 17:30 – 18:30 | <b>Reception and Poster session</b>           |  |

## Thursday 17 June

|               |   |  |
|---------------|---|--|
|               | <b>Invited 3</b>  |  |
| 09:45         | Chris Holmes<br>( <i>Oxford</i> )                                     | Bayesian nonparametric clustering of sparse signals                                  |
|               | <b>Contributed 3</b>  |  |
| 10:40         | Haeran Cho<br>( <i>LSE</i> )  | Variable selection via tilting   |
| 11:05         | Silvia Liverani<br>( <i>Bristol</i> )                                 | Bayesian Partition Model selection for high-dimensional time series                  |
| 11:30 – 12:00 | <b>coffee break</b>   |  |
|               | <b>Contributed 4</b>  |  |
| 12:00         | Florian Frommlet<br>( <i>Vienna</i> )                                 | Bayes oracle and asymptotic optimality of multiple testing procedures under sparsity |
| 12:25         | Andrew Smith<br>( <i>Bristol</i> )                                    | Penalised regression on a Graph  |
| 12:50 – 14:30 | <b>Lunch</b>  |  |
|               | <b>Invited 4</b>  |  |
| 14:30         | David Madigan<br>( <i>Columbia</i> )                                  | High-dimensional modelling for drug safety surveillance                              |
| 15:20 – 15:50 | <b>coffee break</b>   |  |
|               | <b>Contributed 5</b>  |  |
| 15:50         | Sarel Steel<br>( <i>Stellenbosch</i> )                                | Variable selection for kernel methods  |
| 16:15         | Colin Campbell<br>( <i>Bristol</i> )                                  | Multiple kernel learning methods for handling large and complex datasets             |
| 18:30         | <b>Workshop Dinner (SS Great Britain)</b> – NB it is a 35 minute walk |  |

## Friday 18 June

|                      |                                       |   |
|----------------------|---------------------------------------|---|
| <b>Invited 5</b>     |                                       |   |
| 09:30                | Sara van de Geer<br>( <i>Zurich</i> ) | The Lasso with within group structure                                     |
| 10:20                | Francois Caron<br>( <i>Bordeaux</i> ) | Hierarchical models for sparse linear regression                          |
| 11:15 – 11:45        | <b>coffee break</b>                   |   |
| <b>Contributed 6</b> |                                       |   |
| 11:45                | Keith Knight<br>( <i>Toronto</i> )    | An adaptive lasso for correlated predictors                               |
| 12:10                | Paul Kirk<br>( <i>Imperial</i> )      | Stability Selection Methods for Biomarker Discovery                       |
| 12:35                | Nicolas Brunel<br>( <i>Evry</i> )     | Sparse autoregressive models for module extraction in biological networks |
| 13:00 – 14:15        | <b>Lunch</b>                          |   |
| <b>Invited 6</b>     |                                       |   |
| 14:15                | Ann Lee<br>( <i>Carnegie Mellon</i> ) | Exploiting sparse structure by Spectral Connectivity Analysis             |
| 15:10 – 15:45        | <b>coffee break</b>                   |   |
| 15:45 – 17.15        | Closing Discussion                    |   |