# New Trends in Mathematical Statistics

CIRM, November 28 – December 2, 2011

# Monday, November, 28:

# Session 1

- 09:00–09:10 Welcome
- 09:10–9:55 Yuri Ingster (Electrotechnical University, Saint-Petersburg) Detection of sparse submatrix of a high-dimensional matrix
- 9:55–10:40 Boaz Nadler (Weizmann Institute of Science) The distribution of Roy's largest root test under rank one alternatives: MANOVA, signal detection, canonical correlation
- 10:40–11:10 Break
- 11:10–11:55 Andrew Nobel (University of North Carolina) On the maximal size of large average submatrices in a Gaussian random matrix

# Session 2

- 16:30–17:15 Larry Brown (Wharton School, University of Pennsylvania) SURE estimates for a heteroscedastic hierarchical model
- 17:15–18:00 Yaacov Ritov (Hebrew University, Jerusalem) Bayesian analysis of large models
- $\bullet$  18:00–18:30 Break
- 18:30–19:15 Linda Zhao (Wharton School, University of Pennsylvania) Valid statistical inference after model selection.

#### Tuesday, November, 29:

# Session 1

- 09:00–09:45 Ilya Molchanov (University of Bern)
  An introduction to partially identified models and their analysis using random sets
- 09:45–10:30 Enno Mammen (University of Mannheim) Testing parametric mean specifications in semiparametric GARCH-in-mean models
- 10:30–11:00 Break

• 11:00–11:45 Eric Gautier (CREST - ENSAE) On estimation of the distribution of treatment effects

#### Session 2

- 16:30–17:15 Cun–Hui Zhang (Rutgers University) Statistical inference with high-dimensional data
- 17:15–18:00 Ery Arias-Castro (University of California, San-Diego) Do adaptive measurements really help?
- 18:00–18:30 Break
- 18:30–19:15 Rui Castro (University of Technology, Eindhoven) Adaptive sensing for sparse signal detection and localization

#### Wednesday, November, 30:

- 09:00–10:00 Oleg Lepski (Université de Provence) On adaptive estimation
- 10:00–10:20 Break
- 10:20–11:05 Peter Bickel (University of California, Berkeley) Statistical inference on unlabelled graphs
- 11:05–11:25 Break
- 11:25–12:10 Sara van de Geer (ETH, Zürich) The Bernstein-Orlicz norm and deviation inequalities.

# Thursday, December, 1:

## Session 1

- 9:00–9:45 Francis Bach (INRIA–ENS LIENS) Non-asymptotic analysis of stochastic approximation algorithms for machine learning
- 9:45–10:30 Martin Wainwright (University of California, Berkeley) Restricted strong convexity in high dimensions: fast convergence rates and guarantees for non-convex problems
- 10:30–11:00 Break
- 11:00–11:45 Alexandre d'Aspremont (CNRS-Ecole Polytechnique CMAP) Dictionary metrics

# Session 2

- 16:30–17:15 Gilles Blanchard (University of Potsdam) Transfer to an unlabeled task using kernel marginal predictors
- 17:15–18:00 Natalia Bochkina (University of Edinburgh)
  Bernstein von Mises theorem for irregular statistical models
- 18:00–18:30 Break
- 18:30–19:15 Richard Nickl (University of Cambridge) Adaptive confidence sets I

# Friday, December, 2:

- 09:00–09:25 Adam Bull (University of Cambridge) Adaptive confidence sets II
- 09:25–9:50 Itai Dattner (Eurandom, Eindhoven) On deconvolution of distribution functions
- 9:50–10:15 Celine Duval (CREST–ENSAE) Statistical inference across time scales
- $\bullet$  10:15–10:45 Break
- 10:45–11:10 Olga Klopp (CREST–ENSAE) Rank penalized estimators for high-dimensional matrices
- 11:10–11:35 Jean–Baptiste Monnier (Université Paris 7)
  Local multi-resolution regression on a random design and application to classification under the margin assumption
- 11:35 12:00 Nora Serdyukova (University of Göttingen)
  Adaptation over a scale of Nikol'skii classes in the single-index model