

INSPIRE 2010

Conference on information representation and estimation

Anatomy JZ Young LT

University College London, London, UK.

September 6-8, 2010



Programme:

Monday 6/9

9:00-9:30 Coffee and welcome from the organizers

9:30-12:00 Session 'Sparse Inference', Organizer P. Fryzlewicz.

9:30-10:00 Haeran Cho, High-dimensional variable selection via tilting

10:00-10:30 Clifford Lam Estimation of large latent factor models for time series data

10:30-11:00 Patrick Wolfe, 'Model Selection for Time-Varying Autoregressions'

11:00-11:30 Ming Yuan High dimensional inverse covariance matrix estimation

12:00-13:00 Lunch

13:00-14:00 Plenary by V. Goyal - MIT

14:00-17:30 Session 'Overcomplete representations', Chair Z. Cvetcovic

14:00-14:30 Patrick Wolfe, 'Frame Theory and Algorithms for Time Series Estimation'

14:30-15:00 Mathew Fickus, 'Filter bank fusion frames'

15:00 -15:30 Petros Boufounos, 'Distributed Scalar Quantization'

15:30-16:00 Kjersti Engan, 'Learning overcomplete dictionaries for sparse representation of images'

16:00-16:30 Coffe Break

16:30-17:00 Anna Scaglione, 'Signal recovery based on sparse representations: ideas and solution for communication systems'

17:00-17:30 Alex Powell, 'Coarse quantization for random interleaved oversampling of bandlimited signals'

Tuesday 7/9

9:00: 9.30 Alessandro Verri - 'Regularized Nonlinear Variable Selection'

9:30: 13:00 Tutorial Session: 'Methods of analysis in compressed sensing', Dr Jared Tanner (coffee break at 11:00)

13:00-14:00 Lunch

14:00:16:30 Session: "Signal processing and information estimation problems in neuroscience", Chair S. Schultz

14:00-14:30 Marcelo Montemurro (Manchester) 'Accurate assessment of timing information in neural signals'

14:30-15:00 Simon Schultz (Imperial) 'Analysis of neural population coding using two-photon calcium imaging'

15:00-15:30 Coffe Break

15:30-16:00 Ken Harris (Imperial) 'Data analysis and visualization for multi-neuron recordings'

16:00-16:30 Jakob Macke (UCL) 'Gaussian process methods for estimating orientation preference maps'

16:30-18:30 Poster session and Demo from Cortexica (<http://www.cortexica.com/>)

19:00-22:00 Banquet

Wednesday 8/9

9:30-10:30 Plenary Speaker Prof. K. Oweiss, Michigan State University "An engineer's view of the brain: can we electronically read and write to the mind?"

10:30-11:00 Coffee break

11:00-13:00 Session "Estimation and Optimization in Machine Learning". Chair Massimiliano Pontil

11:00-11:30 Alain Rakotomamonjy "Learning large-margin discriminative wavelet dictionaries"

11:30-12:00 Raphael Hauser "A Parallel SVD Algorithm for Use in Matrix-Completion Problems"

12:00-12:30 Mark Herbster "Resistive geometry for graph-based transduction"

12:30-13:00 Jean Morales "Structured sparsity with convex penalty functions"

13:00-14:00 Lunch

14:00-15:00 Session "New frontiers in machine learning" Cont'd Chair Massimiliano Pontil

14:00-14:30 Andreas Argyriou "Spectral Regularization and Multi-task Learning"

14:30-15:00 Curzio Basso "Learning Frames for Sparse Coding"

15:00-15:30 Coffee Break

15:30-17:10 Contributed talks.

15:30-15:55 B. Bah, 'Improved bounds on restricted isometry constants for Gaussian matrices',

15:55-16:20 Y.Zhang, 'Fast and accurate l0-based sparse signal recovery'

16:20-16:45 A. Gretsistas, 'Stagewise Conjugate Gradient Polytope Faces Pursuit for large-scale sparse recovery problems'

16:45-17:10 Kezhi Li, 'Deterministic Compressed-Sensing Matrices: Where Toeplitz Meets Golay'

Posters:

1. Dictionary learning of convoluted signals, Daniele Barchiele and Mark Plumbley
2. Compressed Sensing beyond Sparsity, Linear Measurements and Finite Dimensions, Thomas Blumensath
3. Reconstructing a Sparse Trigonometric Polynomial, Annie Cuyt and Wen-shin Lee
4. Sparse Representations and Dictionary Learning Evaluation Framework – SMALLbox, Ivan Damnjanovic, Matthew Davies, Mark Plumbley
5. High Throughput Time-Series Analysis, B. D. Fulcher, M. A. Little, N. S. Jones
6. Graph-Constrained Group Testing, M. Cheraghchi, A. Karbasi, S. Mohajer, and V. Saligrama.
7. Adaptive Plenoptic Sampling Using Essential Bandwidth Analysis, Christopher Gilliam, Pier Luigi Dragotti and Mike Brookes

8. Heart Sound Segmentation for Digital Stethoscope Integration , Fabio Hedayioglu, Sandra Mattos and Miguel Coimbra
9. A doubly sparse dictionary learning algorithm for large-scale data in noise, Maria G. Jafari and Mark D. Plumbley
10. SVM Classification of Tongue Movement Ear Pressure Signals for Human Machine Interface, K. A. Mamun¹, M. Mace², M. E. Lutmen¹, R. Vaidyanathan², S. Wang
11. Multi-Dimensional Nested Lattice Wyner-Ziv Coding, Su Gao and Cong Ling
12. Learning dictionaries for underdetermined blind speech separation based on compressed sensing methods, Tao Xu and Wenwu Wang
13. Rrepresenting Species Groupings and Spatio-Temporal Structure in the CPR using SPARSE PCA, Victoria Harris and Sofia Olhede