

**11th IMA International Conference on Mathematics in Signal Processing
Monday 12 - Wednesday 14 December 2016, IET Austin Court, Birmingham**

PROGRAMME

Monday 12 December

13:30 – 14:00	Registration - Tea/coffee on arrival
14:00 – 15:30	Tutorial I: Tim Field (McMaster University)
15:30 – 15:45	Tea/coffee break
15:45 – 17:15	Tutorial II: Recognition of Brain Network through Electroencephalography Saeid Sanei (University of Surrey)
17:15– 18:00	Drinks Reception

Tuesday 13 December

08:30 – 09:00	Tea/coffee on arrival
09:00 – 09:45	Plenary I: Exploiting Structure and Sparsity in Defence Signal Processing: from Spectral Decomposition to Radar Compressed Sensing Mike Davies (University of Edinburgh)
09:45 – 10:05	Point Source Super-Resolution: Guaranteed Performance and Numerical Comparisons S. Reynolds and P.-L. Dragotti (Imperial College London)
10:05 – 10:25	Covariance loading in Adaptive Antennas –a Bayesian Approach J. Hudson (Sensor Agility Ltd, visiting Professor, University of Newcastle)
10:25 – 11:05	Tea/coffee break with posters
11:05 – 11:25	Multispectral to RGB image fusion T. Matheson and M. Fisher (University of East Anglia)
11:25– 11:45	A novel Doppler penalty function for the multitaper Wigner-Ville distribution I. Reinhold and M. Sandsten (Lund University, Sweden)
11:45 – 12:05	MIMO Radar Ambiguity Functions: A Case Study C. V. Ilioudis, C. Clemente, J. Soraghan (University of Strathclyde), I. Proudler (Loughborough University)
12:05 – 13:20	Lunch
13:20 – 14:05	Plenary II: Game Theory and its Applications in Wireless Communications and Sensing Systems Sangarapillai Lambotharan (Loughborough University)
14:05 – 14:25	Multi-resolution Dual-Tree Wavelet Scattering Network for Signal Classification A. Singh, N. Kingsbury (University of Cambridge)
14:25 – 14:45	Localized Modeling of the Sample Space for Feature Selection and Classification N. Armanfard, J. P. Reilly (McMaster University) M. Komeili (University of Toronto)
14:45 – 15:25	Tea/coffee break with posters
15:25 – 15:45	Kronecker product equations and applications M. Boussé, N. Vervliet, O. Debals and Lieven De Lathauwer (KU Leuven)
15:45 – 16:05	Sparse Kernel Dictionary Learning Cian O'Brien, Mark D. Plumbley (University of Surrey)
16:05 – 16:25	Computationally Efficient Multi-Pitch Estimation using Sparsity S. Lei, F. Elvander, J. Swärd, S. I. Adalbjörnson, and A. Jakobsson (Lund University)
List of Posters:	Study of Sparsity-Based Facial Expression Recognition on a Spontaneous Database H. T. Hussein, M. Naqvi, and J. A. Chambers (University of Newcastle)

	A Novel Insight to the SBR2 Algorithm for Diagonalising Para-Hermitian Matrices J. G. McWhirter and Z. Wang (Cardiff University)
	Fisher Information Matrix Constrained Joint Array and Spatial Sparsity Optimisation for DoA Estimation M. Chen, M. Barnard, and W. Wang (University of Surrey)
	MIMO Signal Processing in Optical Multi-Mode Fiber Transmission using Photonic Lanterns A. Sandmann, M. Goetten, A. Ahrens, S. Lochmann (Hochschule Wismar, University of Applied Sciences)
	On the relevance of non – radiating sources and non – scattering objects for medical imaging C.H. Slump (University of Twente)
	Estimation of parameters of locally stationary processes R. Anderson and M. Sandsten (Lund University)
	Enhancing the Performance of the Online Independent Vector Analysis Algorithm for Speech Separation using Adaptive Learning S. Erateb, J. Harris (University of Loughborough), W. Rafique, M. Naqvi and J. Chambers (University of Newcastle)
	Polynomial Matrix Formulation-Based Capon Beamformer A. Alzin , F.K. Coutts , J. Corr , S. Weiss (University of Strathclyde), I.K. Proudler (University of Loughborough) and J.A. Chambers (University of Newcastle)
	A mathematic bound for the compressive sensing system driven by side information P. Song, J. F. C. Mota, N. Deligiannis, M. Raul Dias Rodrigues (University College London)
	Non-Convex Blind Calibration for Compressed Sensing via Iterative Hard Thresholding V. Cambareri and L. Jacques (Université catholique de Louvain)
	Human activity recognition by combining discriminative and generative classifiers I. Kaloskampis and Y. Hicks (Cardiff University)
	From Frequency Warping to Time Warping: just a jump to the left S. Caporale (Heriot Watt University)
19:30	Conference Dinner at Hilton Garden Inn

Wednesday 14 December

08:30 – 09:00	Tea/coffee on arrival
09:00 – 09:45	Plenary III: Intersections Between Information Theory and Estimation Theory With Applications to Communications System Design and Beyond Miguel Rodrigues (University College London)
09:45 – 10:05	The generation of badly approximable pairs for communications via real interference alignment L. Hadley (University of Lancaster) and K. Briggs (BT TSO)
10:05 – 10:25	Iteratively Detected and SVD-assisted MIMO-BICM Multi-Mode Transmission Schemes using Optical Couplers A. Ahrens, A. Sandmann, S. Lochmann (Hochschule Wismar, University of Applied Sciences)
10:25 – 11:05	Tea/coffee break with posters
11:05 – 11:25	Exploiting Differential Modulation within a Multiuser-MIMO System with Downlink Precoding F. Alsifiany, A. Ikhlef, and J. Chambers (University of Newcastle)
11:25– 11:45	Enhancing smoothness in amplitude modulated sparse signals S. Ingi Adalbjörnsson, J. Sward, and A. Jakobsson (Lund University)

11:45 – 12:05	Comparison of Different Filter-Bank Based Multicarrier Systems with Fractionally Spaced Equalisation Amr A.A. Nagy and Stephan Weiss (University of Strathclyde)
12:05 – 13:20	Lunch
13:20 – 14:05	Softmax Competitive Function Networks in Sleep Stages Pattern Recognition A. Prochazka, K. Zuntova (University of Chemistry and Technology), J. Kuchynka, O. Vysata (Charles University)
14:05 – 14:25	Assessing the impact of the semantic labels in subjective video quality evaluation R. Bensaïed, M. Mitrea (Télécom SudParis - Institut Mines-Télécom)
14:25 – 14:45	Video-based Road Detection Using Evolving GMMs and Region Enhancement I. Kaloskampis, M. Mohammad, Y. Hicks (Cardiff University)
14:45 – 15:05	Partitioned Block Frequency Domain (Pbfd) Prediction Error Method (PEM) based Acoustic Feedback Cancellation (AFC) for Long Feedback Paths A. Izzo, C. Clemente, J.J Soraghan (University of Strathclyde), L. Ausiello (Tannoy LTD)
15:05 – 15:45	Tea/coffee break with posters
List of Posters:	Blind Deconvolution for Sparse Acoustic System J. Guan, X. Wang, and W. Wang (University of Surrey)
	On constructing incoherent matrices for sparse representation P. Sasmal, P. Theeda (Indian Institute of Technology Hyderabad)
	Undetermined Source Separation using Time-Frequency Masks and a Combined Gaussian-Student's t Probabilistic Model Y. Sun, J. Chambers and S. Mohsen Naqvi (University of Newcastle)
	Multiple Shift QR Decomposition for Polynomial Matrices F. K. Coutts, J. Corr, K. Thompson, S. Weiss, Ian K. Proudler and J. G. McWhirter (University of Strathclyde)
	Efficient Micro-Doppler based pedestrian activity classification for ADAS systems using Krawtchouk moments A. Aßmann, C. Clemente (University of Strathclyde)
	Sparse Multi-Pitch and Panning Estimation of Stereophonic Signals T. Kronvall, A. Jakobsson, M. G. Christensen (Lund University), M. W. Hansen, J. R. Jensen (Aalborg University)
	Pseudo-Inverse RLS: An Attempt to Mitigate Lack of Persistent Excitation Problems I. Proudler (University of Loughborough)
	Ballistic Targets discrimination from High Resolution Range Profiles A. Rosario Persico, C. Clemente, S. Brggenwirth, T. Bieker and J. Soraghan (University of Strathclyde)
	An Algebraic Approach for Structured Low-Rank Matrix Completion Z. Sabetsarvestani, F. Kiraly, M. R. D. Rodrigues (University College London)
	An Optimal Multitaper Time-Frequency Estimator for Multi-Component Transient Signals M. Sandsten (Lund University)
	Covariance-based regularization for sparse audio reconstruction L. Rencker, W. Wang (University Of Surrey)
	Automated Tracking of the Femoral Neck in X-rays using a Constrained Local Model and Support Vector Machines Akachukwu B. Okoli, J.A. Chambers; S.S. Dlay (University Of Newcastle)
	Sparse Deep Neural Networks for Audio Source Separation with Contextual Information A. Zermini, Y. Xu, M. D. Plumbley, W. Wang (University of Surrey), Y. Yu (Northwestern Polytechnical University)
15:45	Close