3rd IMA Conference on Mathematics in Defence
Thursday 24 October 2013 Tom Elliott Conference Centre, QinetiQ, Malvern, UK

Time		
09:00	Registration/Poster set-up	
09:30 09:40	Introduction	
09:40 10:20	Key Note Speech 1: Prof. Peter Roberts OBE (Chief Scientist, AWE)	
10:20 11:00	Key Note Speech 2: Prof. Malcolm Macleod (Chief Scientist, C4ISR, QinetiQ)	
11:00 12:00	Coffee and Poster Session 1	
12:00 12:30	S. Maskell (Liverpool University) *Fixing SLAM's Consistency*	C. Clemente (Strathclyde University) *Robust Principal Component Analysis for micro-Doppler based automatic target recognition*
12:30 13:00	J. Barr (BAE Systems) *A novel multi-sensor inference and data fusion method for tracking small, manoeuvrable maritime craft in regions of high clutter*	Z. Jones (Imperial College) *Wide-Baseline Image Change Detection*
13:00 14:00	Lunch	
14:00 14:30	S. Hayward (QinetiQ) *Reconstruction of radar waveforms with spectral gaps using an Autoregressive model*	B. Park (BAE Systems) *Soft data fusion of categorical crowdsourced data and its application to urban situation assessment*
14:30 15:00	R. Davidchack (Leicester University) *Out-of-band and adjacent-channel interference reduction by analog nonlinear filters*	S. Ellis (DOSG) *Hypothesis Testing, Confidence Intervals and Acceptance Sampling*
15:00 16:00	Coffee and Poster Session 2	
16:00 16:30	S. Elvidge (Birmingham University) *Improved modelling of upper atmospheric densities using a super ensemble Kalman filter*	N. Courtois (UCL) *Advanced Differential Cryptanalysis and GOST Cipher*
16:30 17:00	P. Ridley (NAG) *The CABARET Scheme for Scalable High-Resolution Shock Capturing in Turbulent Flows*	D. Lowe (Aston University) *Dissimilarity-based topographic visualisation of multi-beam sonar data: an independent sources perspective*
17:00 17:15	Summary and Close	

Coffee and Poster Session 1 (11:00-12:00)

T. Wood (Cambridge Consultants)
Performance Evaluation of Multitarget Tracking with Track Confidence Using the Optimal Sub-Pattern Assignment Metric

M. Stapleton (AWE Aldermaston)
Muon Scattering Tomography for Cargo Screening

J. Moore (QinetiQ Ltd)
Utility-Based Methods for Acquisition Decisions

P. Westoby (Dstl Porton Down)
Propagation of uncertainty through the hazard chain

S. G. Jacob (DSTL)
Signal enhancement and filtering in the presence of noise using diffusion filtering

J.-P. Nikkarila (PVTT)
A Lagrangian model to analyze time dependent resource allocation inefficiency due to intrinsic responses

A. Balinsky (Cardiff University)
Automatic Text and Data Stream Segmentation Using Weighted Feature Extraction

J. Hudson (Sensor Agility Ltd.)
Adaptive Beamforming with Steering Calibration in Acoustic and Communications Arrays

A. Dawes (AWE)
Synchronised Numerical Methods

Coffee and Poster Session 2 (15:00-16:00)

S. Somasundaram (Thales Underwater Systems)
Robust Krylov-Subspace Methods for Passive Sonar Adaptive Beamforming

S. Ellis (Defence Ordnance Safety Group)
Design and Analysis of Binary Trials

J. Parr (Dstl)
Biosurveillance Data Fusion for Early Warning and Detection of a Disease Outbreak

C. Rogers (Selex ES)
Acoustic spectral reflectometry and its application to the analysis of acoustic reflections for the determination of ground mechanical properties

P. Johnson (University of Manchester)
Optimal Detection of Signal with Known Phase

A. Fügenschuh (Helmut Schmidt University)
The Multiple Traveling Salesmen Problem with Moving Targets

P. Horridge (QinetiQ Ltd)
Fusing Geodetic and Radar measurements for tracking ground-based targets

J.-P. Nikkarila (PVTT)
Optimization of time dependent resource allocation problem