Institute of mathematics & its applications

5th IMA Conference on Mathematics in Defence

23 November 2017, The Royal Military Academy Sandhurst, UK

Programme

08:45-09:30	**Registration**
09:30-09:40	**Welcome from Vaughan Kent-Payne, Director of The Sandhurst Trust** **Introduction and Keynote Speeches**
09:40-10:20	**Key Note Speech** 1: Tony O'Connor CBE FORS (Chief Analyst, Ministry of Defence) *Explaining technical things to non-technical people*
10:20-11:00	**Key Note Speech** 2: Dr. Simon Shiu (Director of Security Labs, HP Inc.) *Building cyber resilient endpoint infrastructures, a commercial research lab's perspective on cyber security research*
11:00-11:15	**Poster introductions**
11:15-11:55	**Coffee, posters and networking**
11:55-12:20	Armin Fügenschuh (Helmut Schmidt University/University of the Federal Armed Forces Hamburg) Emily M. Craparo (Naval Postgraduate School) *Coverage Maximization for Multistatic Sonar Location under Budget Restrictions*
12:20-12:45	Thomas Ashbee, D.R. Payne (Dstl) *An inverse method for calculating surface temperature and heat flux from embedded temperature sensors, with applications to strategic vehicles*
12:45-13:10	Stephen G Coulson (Pembroke College, University of Oxford) *Lanchester modelling of intelligence in combat*
13:10-13:55	**Lunch**
13:55-14:20	Malcolm Rollason, David Salmond (QinetiQ Limited) *A particle filter for track-before-detect of a target with unknown amplitude viewed against a structured scene*
14:20-14:45	David R. Parker (BAE Systems) *CASSANDRA: A Tool for Mission System Performance Prediction*
14:45-15:10	Nicolas Belanger (Airbus) Video Presentation *External Fake Constraints Interpolation: the end of Runge phenomenon with high degree polynomials relying on equispaced nodes – Application to aerial robotics motion planning*
15:10-15:50	**Coffee and networking**
15:50-16:15	Rachael Abbott, J.M. Del Rincon, B. Connor (Queen's University Belfast), N. Robertson (Thales) *Deep object classification in low resolution LWIR imagery via transfer learning*
16:15-16:40	Matt Stapleton, R. Awbery (AWE) *Statistics for Nuclear Forensics*
16:40-16:45	**Prize Giving**
16:45	**Summary and Close**

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Posters

G. Kaimakamis (Hellenic Army Academy), Konstantina Panagiotidou (University of Patras)
A simulation modelling of spin-stabilized projectiles

P. Sapaty (Institute of Mathematical Machines and Systems, National Academy of Sciences)
Integrated Air and Missile Defense under Spatial Grasp Technology

T. Matsuda, M. Sonoda, M. Etou, H. Satoh, T. Hanada, N. Kanahama and H. Ishikawa (Department of Information Security, University of Nagasaki)
Mathematical Model on Wireshark Operation Skill Evaluation

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