



International Activities - UKRI



- AES Distinguished Lecture by Dr Eli Brookner, 21 April 2010: 'Amazing Breakthroughs in Radar / Phased Arrays'
- Lecture by Prof. Simon Haykin, 31 August 2010 'Cognitive Radar: First Experimental Results'
- International Conference on *Synthetic Aperture Sonar and Synthetic Aperture Radar*, Lerici, Italy, 13/14 September 2010. Organised by Institute of Acoustics (UK) with AES co-sponsorship, financial support from US ONR Global
- Recording made of NATO Lecture Series on 'Waveform Diversity and Design', for AES web-based tutorials. Two full days of lectures by Kevin Magde, Antonio De Maio, Frederic Barbaresco, Hugh Griffiths, Hermann Rohling
- Planning started for IET International Radar Conference *RADAR 2012*, Edinburgh, October 2012

Hugh Griffiths
AES Chapter Chair, UKRI

International Conference

Synthetic Aperture Sonar and Synthetic Aperture Radar

13th - 14th September 2010 Villa Marigola, Lerici, Italy



Synthetic Aperture Sonar and Radar

MONDAY 13 SEPTEMBER

09:00	Registration and Coffee	12:45	Simultaneous Low Frequency & High Frequency High Resolution SAS and a statistical method of quantifying the resolutions obtained <i>N.P. Glover, J Campbell (Atlas UK)</i>
09:30	Conference opening	12:55	Simulation of Rippled-Sand Synthetic Aperture Sonar Imagery <i>S.F. Johnson (Johns Hopkins University APJ)</i>
09:40	Keynote Lecture: Optimised Change Detection <i>C.J. Oliver (Consultant)</i>	13:05	Lunch
10:25	Polarimetrically persistent scatterer based automatic target recognition <i>F. Giusti, M. Montello (University of Pisa), A. Capria (RCS Centre, CNIT)</i>	14:05	Processing SAR data with gaps in the aperture: a compressed sensing perspective <i>G. Hilling, C. Da, M. Davies, B. Mulgrew (University of Edinburgh)</i>
10:35	Temporal variability of seafloor roughness and its impact on coherent change detection <i>A.P. Lyons, D.C. Brown (Penn State University, Applied Research Laboratory)</i>	14:15	Analysis of Shadow Contrast Ratio for Synthetic Aperture Sonar Imagery <i>D.A. Cook (Georgia Tech), D.C. Brown (Penn State University, Applied Research Laboratory)</i>
10:45	Estimation of Target Orientation in SAS Images <i>H. Mellholt, B. Mjølhus (FFI, Norway)</i>	14:25	Interferometric Measurements Using Redundant Phase Centers of Synthetic Aperture Sonars <i>J.I. Phares, J. Fernandez, J. Sissou, Y.G. Michail (Naval Surface Warfare Center, USA)</i>
10:55	Coffee	14:35	A comparison between interferometric SAS and interferometric SAR <i>T.O. Saarboe, R.E. Hansen (FFI, Norway)</i>
11:25	New SAS classification mode for Mine Countermeasure Vessels <i>M. Barlet, M. Chabot, E. Poirier (Thales Underwater Systems)</i>	14:45	Analysis and comparison of different SAR image speckle reduction techniques applied to SAS <i>D. Loapers, R. Horemans (RMA, Belgium), A. Husarica (University of Gent), Y. Dupont (Ministry of Defence, Belgium)</i>
11:35	Synthetic Aperture Image Reconstruction via Backpropagation using Commodity Graphics Processors <i>D.A. Cook, D.P. Campbell (Georgia Tech, USA)</i>	14:55	Correlation-Based Change Detection for Synthetic Aperture Sonar <i>D.D. Sternlich, T.G. Michail, J.K. Harbough (Naval Surface Warfare Center, USA)</i>
11:45	Autofocus for Circular Synthetic Aperture Imaging <i>H.J. Collier, R.E. Hansen, T.O. Saarboe, SAV Synthesis (FFI, Norway)</i>	15:05	Study, design and concept of low frequency SAS <i>Y. Pathias, Y. Pétillot, C. Capus (Heriot-Watt University), B. Hallett (NURC), B. Mulgrew (University of Edinburgh)</i>
12:05	Kronecker DFT Beamforming Algorithms for Sonar Signal Processing <i>D. Rodriguez, A. Fuentes (University of Puerto Rico)</i>	15:15	Non-Abelian Computational Signal Processing Methods for Compressed Sensing MIMO SAR Waveform Design <i>D. Rodriguez (University of Puerto Rico)</i>
12:15	Automatic Fusion of Multiple Target Views for Enhanced Interpretation <i>F. Coiras, J. Gomez, D. Williams (NURC)</i>	15:25	Automatic SAS target recognition using region based features, SVMs and adaptive boosting <i>P. Hall, A. Achim, D. Gibson (University of Bristol)</i>
12:25	Delineating targets in SAR images by parallel simulated annealing <i>P. Cooper (Tessella plc), S. Pitter (MILDA)</i>		
12:35	Detection of Spherical Inclusions Using Active Surfaces <i>D.A. Cook, F. Fediak, A. J. Nezi (Georgia Tech)</i>		

MONDAY 13 SEPTEMBER

15:35	Coffee
16:05	Characterisation of Modulating Signatures within SAR Imagery <i>D. Muff, M. Nottingham, D. Andre, B. Barber, D. Blacknell (Dati), H.D. Griffiths (University College London)</i>
16:15	A mine-penetration sonar: system concept, design and simulation <i>R.D. Hallett (NURC)</i>
16:25	Canonical Correlation Analysis for Coherent Change Detection in Sonar Imagery <i>M. Testaye (Naval Surface Warfare Center, USA)</i>
16:35	Classification using multiple pass fusion <i>A. Wilby (Applied Signal Technology)</i>
16:45	Fractal dimension based sand ripple suppression for mine hunting with sidescan sonar <i>J.D.B. Nelson, N.G. Kingsbury (University of Cambridge)</i>
16:55	Compressive Sensing for Synthetic Aperture Sonar <i>J.C. Isaacs (Naval Surface Warfare Center, USA)</i>
17:05	Synthetic aperture sonar as a tool for deep ocean surveying <i>A. Wilby (Applied Signal Technology)</i>
17:15	Detection of Double Scatterers in Multi-Dimensional SAR Imaging <i>A. Pauculla, A. De Maio (University of Napoli)</i>
17:25	Reception and Posters
18:00	Conference dinner

TUESDAY 14 SEPTEMBER

09:00	Keynote Lecture: Review of papers from EsSAR 2010 <i>M. Weese (HR, Germany)</i>
09:45	Data fusion in a multistatic radar system (invited) <i>P. Sinaas, M. Greco, F. Gini (University of Pisa), A. Farina (SELEX Sistemi Integrati)</i>
10:05	Inverse Forward Scatter SAR (invited) <i>M. Cherniakov (University of Birmingham)</i>
10:25	Robust synthetic aperture sonar for autonomous underwater vehicles (invited) <i>B.E. Hansen, H.J. Collier, T.O. Saarboe, SAV Synthesis (FFI, Norway)</i>
10:45	A correlated K-distributed model for seabed reverberation using imaging sonar (invited) <i>S. Dugelay (Dati), V. Myers (DRDC, Canada)</i>
11:05	Coffee
11:35	Pareto-Optimal Radar Waveform design (invited) <i>A. De Maio (University of Napoli)</i>
11:55	GB-SAR and MIMO radars: alternative ways of forming a synthetic aperture (invited) <i>P.F. Sanmartino, D. Turchi, F. Oliveri (SP9A)</i>
12:15	Target and image statistics for a short-range Synthetic Aperture Sonar (invited) <i>P.T. Gough, M.P. Hayes (University of Canterbury, New Zealand)</i>
12:35	Constant envelope waveform design techniques for closely-spaced MIMO radar (invited) <i>S. Ahmed, J.S. Thompson, B. Mulgrew (University of Edinburgh), Y. Petillot (Heriot-Watt University)</i>
12:55	Lunch
14:00	Keynote Lecture: Progress in autonomy - towards a new paradigm of man-robot machine <i>W.S. Borde (Director, Systems Engineering for Autonomous Systems Defence Technology Centre)</i>
14:45	Some open issues in synthetic aperture sonar (invited) <i>M. Pinto (NURC)</i>
15:05	Target detection and identification in Synthetic Aperture Sonar using ALJVs (invited) <i>Y. Petillot, Y. Pathias, J. Sawas, N. Valeryne (Heriot-Watt University)</i>
15:25	Coherent Change Detection over Mountainous Terrain (invited) <i>D. Blacknell (Dati)</i>
15:00	Close



Radar Systems Panel



Dear Hugh,

I expect to make the following proposal at the next RSP meeting. The RSP Chair would sit for a 2 year term beginning in June. The RSP Chair would be selected by popular vote among the members present at the spring meeting (held annually in conjunction with the IEEE Radar Conference) during the second year of the RSP Chair's term. Any RSP member may self nominate, but must be present at the RSP meeting to do so. The RSP Vice Chair would be selected by the chair, and could serve as RSP Chair at any meeting (RSP, AES BOG, etc) for the Chair. The RSP Vice Chair could be selected as the next RSP Chair only by popular vote among the members present at the spring meeting (held in conjunction with the IEEE Radar Conference). If the RSP Chair steps down, the Vice Chair would serve as Chair until elections are held at the next spring meeting.

Mike

Hugh Griffiths
Past Chair, Radar Systems Panel