CALL FOR PAPERS

Institute of Acoustics

Organised by the Underwater Acoustics Group of the Institute of Acoustics

The 4th International Conference on SYNTHETIC APERTURE SONAR AND SYNTHETIC APERTURE RADAR

5-7 September 2018 Villa Marigola, Lerici, Italy

The Institute of Acoustics has previously held three successful international conferences on Synthetic Aperture Sonar and Radar (2006, 2010, 2014). These drew together people from both communities to discuss the developments in both fields and to establish where there are common areas of interest and where cross-fertilisation may prove beneficial.

Traditional Sonar and Radar both emerged during the early parts of the 20th century and it was recognised there were many areas of common interest. These include; detection, classification, localisation and tracking of targets against a background of reverberation, noise or clutter, using either acoustic or electromagnetic energy.

Over the past few decades there have been significant advances in both domains in the use of synthetic aperture imaging techniques – in radar for high resolution imaging from aircraft and satellites, for defence surveillance purposes, for geophysical and oceanographic remote sensing and for environmental monitoring. In Sonar it has been applied in high resolution imaging of objects on the seabed (including clutter) for the offshore industry and maritime mine countermeasures.

Despite these common goals there had previously been very little cross-fertilisation between the two communities and the first three IOA conferences on this topic were held in order to try and address this. The aim of this 2 ½ day conference is to build on the success of the previous conferences and provide a forum for comparison of systems techniques, signal and image processing, experimental results and to stimulate new ideas in each domain.

The Institute of Acoustics will therefore be hosting this conference in September 2018 in the Villa Marigola, Lerici, Italy. Particular topics of interest for conference are, but not restricted to:

- Synthetic Aperture from Autonomous vehicles (AUVs and UAVs)
- Processing schemes and algorithms
- Image registration, fusion and reconstruction
- Automated and computer aided target recognition, Computer aided detection and classification
- Interferometry and differential interferometry
- Change detection
- Compressed sensing
- Performance assessment
- Low frequency and UWB synthetic aperture
- Bi-static, multi-static and MIMO synthetic aperture
- Passive synthetic aperture sonar
- Satellite synthetic aperture radar
- Motion compensation, navigation and autofocus
- Spotlight and squint mode

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Prospective authors are invited to submit a title and single page summary to linda.canty@ioa.org.uk by 26 March 2018.
Authors will be notified by 16 April 2018 and invited to submit a full paper by 27 July 2018. Papers will be refereed.
Completed papers may be up to 8 pages long, including diagrams and must be prepared in the correct electronic format.

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