

Two-day conference organised by The Hydrographic Society UK

Remote Hydrography | Innovation & Application

30-31 October 2019 | National Oceanography Centre, Southampton, UK

Hydrographic surveying, and the roles of its practitioners, are in the midst of a paradigm shift. The development and adoption of disruptive technologies, techniques and solutions are increasing survey capacity, capabilities and productivity like never before, whilst simultaneously reducing the risks and costs involved.

Autonomous and unmanned aerial, surface and underwater survey platforms, (operating alone or in cooperative swarms; in sight or over the horizon), remote survey command and support services, and techniques such as Satellite-Derived Bathymetry (SDB), Crowdsourced bathymetry (CSB), Artificial Intelligence (AI), Machine Learning and Forward Looking Sonar (FLS) are revolutionising hydrographic data collection, processing, analysis and presentation.

Many of these innovative remote techniques are already finding applications in seismic survey, geological and geophysical studies, seabed assessment for offshore construction, installation of renewable energy infrastructures, civil engineering projects in shallow, coastal waters, offshore pipe laying, inspection and support, academic research and military operations.

Furthermore, by enabling rapid and robust data gathering in seldom surveyed or uncharted areas where traditional approaches are neither suitable, nor cost-effective, these tools are making significant contributions to the drive to map the gaps in the global seabed dataset. Many of these remote and automated approaches are also fundamental to hydrographic capacity development of the world's Small Island Developing States (SIDS), particularly those seeking to welcome cruise liners.

Automation doesn't end with data collection either. Increasing data densities from a wider range of data sources have also led to advancements such as remote or smart transfer and handling of big data, data processing using AI and Machine Learning (ML) and novel visualisation techniques better-suited to end user needs. Moreover, rapid data processing turnaround is an enabling factor for operations relying upon data close to the computing edge, such as e-Navigation and autonomous shipping operations.



Through an inspiring programme of keynote speakers, paper presentations and panel-led discussion forums, this two-day conference will focus on the latest innovations, applications and deployments in remote and automated hydrography. It will consider how these tools are providing novel approaches, efficiencies and benefits to the commercial survey industry, as well as enhancing the exploration and mapping of the world's seafloor, population of the white spaces on charts, improvement of navigational safety and implementation of e-Navigation and autonomous shipping.

The conference will be supported by a small exhibition and a separately ticketed social event on the evening of 30 October. A range of sponsorship opportunities will also be available.

For further information about presenting, exhibiting, sponsorship, registration or the social event visit www.ths.org.uk or contact conferences@ths.org.uk



Topics under consideration at this conference include, but are not limited to:

- The latest innovations in and novel applications of:
 - Autonomous and unmanned aerial, surface and underwater survey platforms
 - Satellite-Derived Bathymetry (SDB)
 - Crowdsourced Bathymetry
 - Artificial Intelligence (AI) and Machine Learning (ML) in data gathering, analysis and visualisation
 - Forward Looking Sonar (FLS) for real-time data gathering and enhancing navigational safety
 - Remote command and support centres services for offshore survey operations
- Potential future developments and applications of these technologies
- The use of collaborative fleets or swarms of autonomous systems
- How to mitigate the increased security risks to marine assets and data posed by increased autonomy
- Initiatives such as the Nippon Foundation-GEBCO Seabed 2030 project; UK's Overseas Territories Seabed Mapping Programme and LINZ Hydrographic Risk Assessment model developed for the SW Pacific SIDS

All are welcome to attend this two-day conference where they will:

- Listen to and learn from a range of respected speakers
- Have opportunities to engage in discussion forums and contribute to the advancement of their profession
- Network with a cross-section of fellow professionals
- Be able to record Continuing Professional Development (CPD)



Call for Abstracts

Abstracts for proposed presentations at this conference are now invited. Submissions may address any subject relating to the conference theme and suggested topics set out above. Presentations focussing on innovation or application and those featuring case studies would be of particular interest to the target audience.

Abstracts should include a title (up to 100 characters) and a 300-word synopsis and must be accompanied by a biography and head/shoulders photograph of each author. All abstracts must be submitted to conferences@ths.org.uk by **Friday 28 June 2019**.

All abstracts will be peer-reviewed and authors notified before the final programme is announced in early August. Presentations will be selected based on relevance to the conference theme, originality and quality.

Please bear in mind that this is a learned technical conference. Abstracts and presentations should address innovations and applications relevant to the conference theme. Abstracts which are purely product-based or overtly commercial in nature will not be considered.

Until the programme is confirmed all potential authors must ensure their availability on 30-31 October. On receipt of acceptance they must confirm their intent to present.

All authors will be expected to grant joint copyright of their presentations to THS UK. It is the responsibility of the author(s) to obtain copyright permission(s), as necessary, for material contained in their abstracts and presentations.

Successful authors will be offered discounted registration at the conference, although THS UK will not be able to cover the cost of travel, accommodation or subsistence.