

The Themes and Session Chairs for 2020 are as follows:



During MATS 2020, our aim is to explore the information needs of users of Marine Autonomous Systems (MAS), review the current technologies available to enable the data gathering for MAS users and explore the methods of taking that data and making it exploitable information for the user need. Presentations may focus on work undertaken or planned to be undertaken in the 12 months since MATS 2019 or be a forward look along your organisation's technology roadmap.

- **Theme 1: Users & Applications; - Session Chair Prof Doug Connelly NOC** - Through this theme, we are seeking presentations from Scientific, Industry, Government and Defence end-users of marine technologies. Presentations should focus on current and aspirational-application of MAS, highlighting what the user requirement is. Presentations that set stretching challenges, outlining those challenges, for aspirational applications will be scored highly.
- **Theme 2: Generating Information from Data – Session Chair Peter Collinson Independent** - Generating information that meets end-user needs from the data collected by MAS is the ultimate goal of deploying the system. This theme will explore novel methods of generating information products from MAS gathered data. Presentations should explore (but not be limited to) the utility of Machine Learning and AI, Data Processing, GUIs, augmented realities. Examples of real world information use should be explored
- **Theme 3: Planning & Control – Session Chair Dan Ridgwell BMT** - Operation of MAS in the environment is just part of the mission and the work to enable it happens outside of the operational element. This theme is seeking presentations that support the planning and control of MAS, presentations can include but not limited to: Experiences and lessons learned from field trials, the use of Synthetic Environments, Mathematical Modelling, Simulation, Risk and Reliability Management, Command and Control, Remote Operations, Monitoring, Regulation and Legal.
- **Theme 4: Data collection – Session Chair Claire Cardy Nortek** - Sensing technologies are the eyes, ears, nose and touch of the Marine Autonomous System. This theme will focus on those technologies that enable MAS to collect data for the end-user, through imagery, physical sampling or chemical and biological detection. Presentations should provide real examples of field collected data as well as look to the future of data collection. We are also seeking presentations that cover interaction with the environment and infrastructure.
- **Theme 5: The System – Session Chair Dan Hook Ocean Infinity** - Through this theme, we are seeking presentations that focus on the systems. Through increased intelligence, operations have evolved from single platform to more of a system approach. Presentations are sought that include, but are not limited to navigation, networking, collaboration and cooperation, residency, launch and recovery and novel vehicles including a forward look to future vehicle technologies. Presentations should demonstrate how step changes in MAS technology deliver improved performance through real examples of in field operation, be that with a single platform or a fleet of platforms working to achieve the users goals.