

NUMTA 2026 Special Stream

Optimization of Marine Prospects and Sustainability of Water Resources under Environmental Stress

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As global ecosystems face unprecedented environmental stress, the optimization of marine and water resources has become a critical scientific and engineering imperative. This session invites contributions that explore innovative methodologies for sustainable water management and the evaluation of marine prospects. We particularly encourage submissions focused on enhancing the resilience of water distribution networks against physical and operational disruptions. Furthermore, the session aims to investigate advanced coastal modeling techniques, encompassing both fractal and other mathematical approaches, to better understand the complex dynamics of shoreline evolution and biodiversity loss from the perspective of digital twins. By bridging environmental engineering with applied models, we seek to foster a multidisciplinary dialogue encouraging the integration of methods from mathematics, physics, artificial intelligence, and related fields to explore the fundamental mechanisms governing coastal evolution. Researchers are invited to present works that combine theoretical rigor with practical solutions for securing our water heritage and marine potential.