

## Special Issue

# Emerging Trends in Underwater Optical Wireless Communications: Challenges, Technologies and Optimization

### Message from the Guest Editors

The rapid evolution of the **Internet of Underwater Things (IoUT)** is transforming marine interactions, enabling ocean monitoring, exploration, aquaculture, disaster prevention, and security. **Underwater Optical Wireless Communication (UOWC)**—a high-bandwidth, low-latency, and energy-efficient technology—is key to underwater sensor networks. However, UOWC faces challenges like beam misalignment, severe attenuation, turbulence, and poor localization, worsened in turbid waters. These limit reliable long-range and mobile networks. Overcoming them is crucial for scalable, sustainable IoUT systems. This Special Issue seeks contributions that address the **latest advancements and emerging trends** in UOWC, focusing on:

- Channel modeling and characterization
- Modulation and coding techniques
- Optical beam steering and alignment technologies
- Constellation shaping and adaptive transmission
- Wavelength division multiplexing and visible light communication
- Machine learning for optimization and control
- Energy-efficient system design
- Hybrid communication systems (e.g., optical-acoustic)

### Guest Editors

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### Deadline for manuscript submissions

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## Journal of Marine Science and Engineering

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### Message from the Editor-in-Chief

The *Journal of Marine Science and Engineering* (JMSE, ISSN 2077-1312) is an international peer-reviewed open access journal which provides an advanced forum for studies related to marine science and engineering. The journal aims to provide scholarly research on a range of topics, including ocean engineering, chemical oceanography, physical oceanography, marine biology and marine geosciences. We invite you to publish in our journal sharing your important research findings with the global ocean community.

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### Editor-in-Chief

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