

# Radioengineering

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## SPECIAL ISSUE: Signal Processing Techniques for Improved Underwater Communications in Harsh Environment

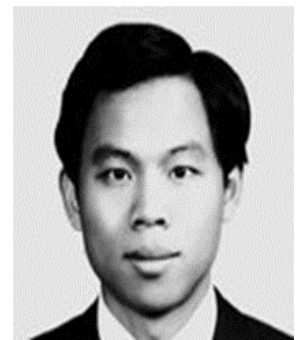
This special issue aims to explore and present recent advances and developments in signal processing techniques for enhancing the reliability and quality of underwater communication systems. The issue seeks to bring together research and practical applications of signal processing techniques in addressing the challenges posed by the underwater environment, such as attenuation, multipath propagation, and interference algorithms.

**Deadline for initial paper submission is 25<sup>th</sup> March 2025.**

Guest editors: Dr. CH. Lin, Dr. CH. Wu Yu, and Dr. N. Wang

Topics that are invited for submission include (not limited to):

- Investigating the effectiveness of beamforming techniques for underwater communication in highly turbulent environments.
- Developing adaptive equalization methods to mitigate the effects of multipath propagation in underwater acoustic channels.
- Examining the use of MIMO systems for enhancing data rate and reliability in underwater communications.
- Impact of oceanographic conditions on the performance of underwater communication systems.
- Robust coding schemes for efficient transmission of data over long-range underwater channels.
- Analyzing the use of underwater acoustic networks for monitoring and surveillance applications in harsh environments.
- Designing novel signal processing algorithms for improving the accuracy and resolution of underwater imaging systems.
- Acoustic fingerprinting techniques for underwater localization and tracking of objects and animals.
- Feasibility of using machine learning for adaptive signal processing in underwater communications.
- Ambient noise on the performance of underwater communication systems and developing noise reduction methods.
- Innovative underwater communication protocols to ensure efficient and reliable transmission of data in harsh environments.
- Multi-carrier modulation techniques for achieving high data rates in underwater communication systems.



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