Call For Papers

The 29th IEEE International Conference on Parallel and Distributed Systems
Special Session: High-performance Computing for Complex Underwater Visual Perception

Nowadays, marine exploration and conservation are growing rapidly in both industry and academia. Monitoring underwater ecosystems is essential to better understand the complex underwater scenes, including the effects of climate change and other anthropogenic impacts on the marine environment. As an important tool and basic guarantee for marine exploration and protection, underwater intelligent computing and visual perception technology is vital to stimulate the development of marine exploration. Moreover, the establishment of submarine cable observatories has greatly promoted the acquisition of underwater data, and the collaborative positioning sensors of these observatories support interdisciplinary research and real-time observation. Efficient underwater intelligent computing and visual perception technology will provide an effective means for the analysis of Marine image data, and reliable perceptual model will provide evaluation methods and optimization criteria consistent with visual perception for the generation and processing of underwater image content.

The perception and understanding for complex underwater scenes impose great challenges, which need to be tackled by computer vision in collaboration with intelligent computing. We invite submissions from all areas of computer vision and intelligent computing relevant for, or applied to, complex underwater scenes understanding.

This is a special session of the 29th IEEE International Conference on Parallel and Distributed Systems (https://ieee-cybermatics.org/2023/icpads/). Please submit your paper via the site (https://edas.info/N31289) and select the special session of "Intelligent Computing and Visual Perception for Complex Underwater Scenes" marked with "ICPADS-Underwater".

Topics for submissions include but not limited to the following:
- High performance computing theory for complex underwater scenes
- Underwater image enhancement
- Underwater image segmentation
- Object detection and tracking of marine lives
- Underwater monitoring
- Underwater communications
- Context-aware underwater image understanding
- Underwater 3D reconstruction
- Intelligent cyber-physical underwater systems

Autonomous Underwater Vehicles and Robots

Special Session Chairs

• Hua Li, Hainan University, China
• Runmin Cong, Shandong University, China
• Sam Tak Hu Kwong, City University of Hong Kong, Hong Kong

Important Dates

Paper Submission Due: Sep 01, 2023
Acceptance Notification Due: Oct 01, 2023
Final Manuscript Due: Oct 31, 2023