IEEE WCNC Workshop on Reconfigurable Intelligent Surfaces-Empowered 3CLS for 6G and Beyond Communications

Call for Workshop Papers

The upcoming sixth-generation (6G) wireless networks aim to provide a multi-purpose system that can deliver multiple services, including communications, computing, control, localization, and sensing. In the context of 6G, the integration and management of these functions will play a crucial role in the development of various applications such as Multisensory XR Applications, Connected Robotics and Autonomous Systems (CRAS), Wireless Brain-Computer Interactions (BCI), Blockchain and Distributed Ledger Technologies (DLT), and more. To enable these advanced applications, we propose a workshop on reconfigurable intelligent surfaces (RISs) aided 3CLS for 6G networks. RISs are intelligent surfaces that can reconfigure the electromagnetic environment and offer unprecedented flexibility in wireless system design. In this workshop, we will explore the potential of RIS-aided 3CLS in enabling novel applications and use cases in 6G. This full-day workshop aims for bringing together academic and industrial researchers to share the recent breakthroughs related to RIS and discuss the major technical challenges arising in RIS-aided networks. The workshop will also focus on the latest research advances and challenges related to 3CLS-aided systems, such as channel estimation, resource allocation, beamforming design, and optimization techniques. The target audience of this workshop includes researchers, engineers, and practitioners from both academia and industry who are interested in the development of 6G networks and applications. We invite original research papers, as well as review articles, that address the following topics (but are not limited to):

- Reconfigurable intelligent surfaces/ or Holographic MIMO for 3CLS-enabled wireless communication systems.
- Channel estimation for RIS-based or Holographic MIMO wireless networks
- RIS architectures, implementation, and deployment aspects under near-field and far-field region.
- RIS for hybrid communication systems (e.g. satellite/UAV/terrestrial/wireline hybrids, and optical wireless)
- Control and sensing techniques for reconfigurable intelligent surfaces in 6G networks.
- Machine learning and artificial intelligence approaches for RIS in wireless communication.
- Modulation, coding, and diversity techniques for energy efficient RIS-aided communication.
- Cross-layer design and physical-layer-based network issues of 3CLS-enabled RIS systems.
- Security and privacy challenges in reconfigurable intelligent surfaces for wireless communication networks.
- Applications of reconfigurable intelligent surfaces in digital twin and metaverse.
- Real-world prototypes and testbeds for RIS-aided near-field signal processing systems.
- Standardization trends and regulatory aspects of RIS in 6G wireless communication systems.
- Integration of RIS with other 6G technologies like mobile-edge computing, cognitive radios, wireless localization, integrated sensing, etc.

Workshop Co-Chairs

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- **Prof. Octavia A. Dobre**, Memorial University of Newfoundland, Canada

Important Dates

Paper submission deadline: ~~**22 December, 2023**~~ **14 January 2024**
Notification of acceptance: ~~**15 January, 2024**~~ **26 January 2024**
Camera-ready paper submission: ~~**25 January, 2024**~~ **2 February 2024**

Submission Guidelined

Papers should follow IEEE WCNC 2024 workshop submission guidelines: https://wcnc2024.ieee-wcnc.org/.
All papers will be submitted through EDAS, and all accepted papers with presentation will be published in IEEE Xplore.