

Workshop on Optical Wireless Communications for 6G (OWC'24)

in association with
IEEE 99th Vehicular Technology Conference (VTC2024-Spring), Singapore

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KEYNOTE SPEAKERS

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IMPORTANT DATES

Paper Submission
 January 29, 2024 (EXTENDED)

Notification of Acceptance
 February 15, 2024

Camera ready and registration
 March 8, 2024

SUBMISSION INSTRUCTION

All papers through the following link
<https://vtc2024s-rr-wks.trackchair.com/track/2262>

WEBPAGE LINK

<https://yamazato.nuee.nagoya-u.ac.jp/owc2024/>

or scan the QR code



SCOPE AND MOTIVATION

Optical Wireless Communication (OWC) systems, spanning terrestrial, space, or underwater links, have gained significant attention as cost-effective, sustainable, and energy-efficient solutions to meet the escalating demand for capacity and quality in B5G/6G networks. While high-power solid-state laser diodes offer compelling advantages for medium to long-range applications, notable strides have been made in semiconductor sources, including visible light and ultraviolet LEDs, multi-array light sources, detectors, as well as tracking and steering mechanisms. These advancements present substantial potential for low-power, cost-effective short to medium-range wireless communication applications.

Despite the evident benefits of OWC-based systems, their design and implementation encounter challenges stemming from optical beam propagation through the atmosphere. Various distortions may arise due to susceptibility to weather conditions, channel impairments, and the need for seamless compatibility and integration with existing radio frequency networks. Overcoming these challenges necessitates ongoing research on the OWC channel, system components, and the development of innovative, more efficient techniques to facilitate widespread adoption.

TOPICS OF INTEREST

The workshop on OWC aims to bring together researchers and developers from both academia and industry to present, share and discuss their latest work on OWC systems for terrestrial, space or underwater applications. The workshop cordially invites high-quality contributions covering the following topics based on original research. Topics of interest in the field of OWC include, but are NOT limited to, the following:

- Transceiver design and optimization
- OWC modulation, coding, and detection
- Optics design (lenses, concentrators, diffusers, etc.)
- Physical layer security for OWC
- Beam steering and alignment techniques for OWC
- Optical reconfigurable intelligent surface (RIS) aided communications
- Fading mitigation in FSO links: spatial, temporal, polarization, coding, and adaptive approaches
- Artificial intelligence and machine learning for intelligent and adaptive networks
- OWC for vehicle-to-vehicle (V2V) and vehicle-to-infrastructure (V2I) communication systems
- OWC for satellite communication
- OWC link duplexing and multiple access techniques
- OWC transceiver design and optimization
- OWC interconnect in the datacenter
- Optical wireless sensor networks
- OWC for B5G/6G networks
- MIMO for OWC
- New applications of OWC in AR/VR, AI, IoT, Industry 4.0
- Software defined optical wireless network with AI
- OWC for positioning
- Hybrid RF/THz/OWC links
- Topology control and routing in RF/OWC X-haul networks
- Underwater communication
- Ultraviolet communications
- Experiments, trials, testbeds, and integration of OWC systems