IEEE ICC®

Workshop Co-chairs

Shinichiro Haruyama, Keio U, Japan
Yeong Min Jang, Kookmin U, Korea
Murat Uysal, Ozyegin U, Turkey
Koji Kamakura, Chiba Inst. of Tech, Japan

TPC Chairs

TPC Chair

Koji Kamakura, Chiba Inst. of Tech.

Vice Chairs

Shintaro Arai, Okayama U Science, Japan
Masayuki Kinoshita, Chiba Inst. of Tech.

Important Dates

Submission Deadline: ~~20 January, 2022~~
(firm) **03 February, 2022**
Acceptance Notification: **06 March, 2022**
Camera Ready: **15 March, 2022**

Steering Committee Members

Takaya Yamazato, Nagoya U, Japan
Volker Jungnickel, Fraunhofer HHI, Germany
Chi-Wai Chow, NCTU, Taiwan

Invited Talks

(TBA)

Webpage Link

http://yamazato.ilas.nagoya-u.ac.jp/owc2022

Scope: Future wireless networks are expected to ensure low latency, high reliability, scalability, as well as support enhanced quality-of-service and quality-of-experience in sophisticated scenarios arising from emerging multimedia applications and exponential increase in the number of smart sensors and devices. In such scenarios, optical wireless communication (OWC) gains importance where it can leverage the unique advantages of the light propagation medium as opposed to radio technologies, such as ultra-high capacity, immunity against electromagnetic interference, the possibility to communicate wirelessly through water, and the ability to provide an inherent physical security. Furthermore, combining OWC with radio technology creates a synergy yielding a hybrid system with superior properties than the individual technologies could offer. Because of the numerous operational and technical advantages offered by OWC, we have been witnessing increased research and development activities in the past two decades, covering visible-light communications (VLC) and free space optical (FSO) communications for indoor and outdoor (including underwater and satellite) applications. Nevertheless, there exist still several technical challenges that need addressing before a wide-spread deployment of OWC.

Topics: The workshop focusing on OWC covering ultraviolet, visible, and infrared bands will welcome submissions in areas of modeling, design, implementation, simulation, and standardization. The potential topics include, but are not limited to:

Optical Wireless Communication (OWC)
- Modulation, coding, and detection
- Beam divergence (diffusion) and focusing, and its modeling
- Mobile-to-infrastructure, M2M, V2V, and V2X OWC
- Multi-input multi-output optical communication techniques
- Free space optical (FSO) communication
- Optical wireless networks or sensor networks, LiFi, and OCC
- OWCs in beyond 5G/6G networks
- Hybrid WiFi/mmWave/THz/OWC links
- High-speed OWC systems
- Indoor and outdoor OWC applications and new services

Visible Light Communication (VLC)
- Transceiver design and optimization
- Duplexing and multiple access techniques
- Impact of lighting in concurrent VLC design
- Image sensor communications
- Underwater VLC and its communication performance
- Positioning and sensing

Other OWCs
- Physical layer security
- Machine learning for OWC
- Software defined OWC
- Emerging application areas and market perspective
- Ultraviolet communications

Paper Submission

The workshop accepts only novel, previously unpublished papers. The page length limit for all initial submissions for review is SIX (6) printed pages (10-point font) and must be written in English.All final submissions of accepted papers must be written in English with a maximum paper length of six (6) printed pages (10-point font) including figures. No more than one (1) additional printed page (10-point font) may be included in final submissions and the extra page (the 7th page) will incur an over length page charge of USD100. For more information, please see IEEE ICC 2022 official website: https://icc2022.ieee-icc.org/authors