Announcement of an *IEEE/Optica Publishing Group Journal of Lightwave Technology* Special Issue on: Orbital Angular Momentum Photonics

Announcing a Special Issue of the *IEEE/Optica Publishing Group Journal of Lightwave Technology* on:

ORBITAL ANGULAR MOMENTUM PHOTONICS

Scope Description:

It is well known that angular momentum carried by elementary particles can be categorized as spin angular momentum (SAM) and orbital angular momentum (OAM). Since the early 1900s, Poynting recognized that a particle, such as a photon, can carry SAM, which has only two possible states, i.e., clockwise and counterclockwise circular polarization states. However, only recently in 1992, Allen et al. discovered that photons with helical phase fronts can carry OAM, which has infinite orthogonal states. Since its discovery, the OAM-carrying beam, due to its unique features, has gained increasing interest from many different research communities, including physics, chemistry, and engineering, enabling tremendous advances in fundamental theories, devices, and applications.

Due to its unique characteristics, Orbital Angular Momentum Photonics has opened new possibilities in various applications, including micromanipulation, laser beam machining, nonlinear matter interactions, imaging, sensing, quantum cryptography, and classical communications, albeit with some controversy. During the past decade, Orbital Angular Momentum Photonics has grown tremendously, and the field has turned out to be an extremely prosperous research area.

To celebrate the 30th anniversary since the publication of the first OAM paper (L. Allen et al., "Orbital angular momentum of light and the transformation of Laguerre-Gaussian laser modes", Phys. Rev. A **1992**, 45, 8185-8189), a Special Issue on Orbital Angular Momentum Photonics will be published by the *Journal of Lightwave Technology*. The scope of this special issue includes, but is not limited to, the following:

- Fundamental principles and properties of structured light beams
- Technology and devices to generate, manipulate, and detect OAM light beams
- Micromanipulation using OAM beams, such as optical tweezers, optical trapping, and particle acceleration
- Spectroscopy, microscopy, imaging, and sensing technology using vortex beams
- Light-matter interaction by vortex beams, including laser machining and nonlinear interactions
- OAM-based spatial mode encoding/multiplexing for quantum cryptography and classical communications
- Comments on the controversy of OAM beams, such as the efficiency of OAM modes compared to other sets of orthogonal modes

On behalf of the Guest Editors and the Editor-in-Chief, we encourage you to submit your work for inclusion in this special issue by August 31, 2022 (30 years after the publication of the first OAM paper in June 2022). Accepted papers will appear in the Jan/Feb 2023 hardcopy issue with accepted papers posted online within one week of author final file upload. Mandatory page charges of $260.00 per page are enforced for original contributions in excess of 7 pages and invited papers in excess of 10 pages. Tutorial presenters will be invited to write articles that are up to 16 pages in length. The same mandatory fees apply to each tutorial paper in excess of 16 pages.

Submissions by website only: http://mc.manuscriptcentral.com/jlt-ieee
Manuscript Type: "OAM 2022"

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Guest Editors: Lead Guest Editor **Yang Yue** (Xi'an Jiaotong University, China), **Cong Liu** (Nokia, USA), **Antonella Bogoni** (Photonic Networks National Laboratory - CNIT, Italy), and **Ivan B. Djordjevic** (University of Arizona, USA).

Submission Deadline: 31 August 2022
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