



Announcement of an *IEEE/OSA* *Journal of Lightwave Technology* Special Issue on: Optical Systems and Technologies for 6G Mobile Networks

Announcing a Special Issue of the IEEE/OSA Journal of Lightwave Technology on:

Optical Systems and Technologies for 6G Mobile Networks

Scope

The evolution of 5G mobile networks towards what will be the future of 6G places ever more challenging requirements on the telecommunications infrastructure and involves a transformation in the network architecture, and the creation of increasingly complex and performing radio systems. Consequently, fascinating opportunities are opening for optical systems and photonic technologies.

The evolution of mobile networks will need new optical transport architectures, including very high-capacity optical transmission and switching systems, with new challenging requirements in terms of low-cost, low-energy consumption and small footprint. These needs will require new photonic components, modules and sub-systems and, most probably, some technological breakthroughs.

The increase of processing capabilities of next generation radio systems will create demand for new optical hardware architectures, including modern technologies of photonic interconnects, possible optical multi-chip modules, and co-packaged optics. RF and microwave electronics together with optical technologies will allow the realization of future generations of integrated radio sub-systems. Such integration presents several challenges that the research must fix.

Microwave photonics components will be key enablers for those systems, to achieve photonic signal processing elements, devices for generating high-stability clock, carrier frequencies, and waveforms at very high frequencies.

A key role in many of the above will be played by integrated photonic technologies to realize the low-cost components for optical transport, interconnects and optoelectronic devices for radio systems.

The scope includes, but are not limited to, the following:

- Optical transport networks for future generation mobile networks
- Low-latency optical networks for future mobile networks
- Optical network C-RAN, Cloud RAN and Xhaul mobile networks
- Very high-speed optical transmission and photonic switching for radio access
- Photonic interconnect systems, components
- Integrated photonic devices for radio systems
- RF/MW and optoelectronic integration for future radio antenna systems
- Short reach optical interconnects
- Ultra-high baud rate short reach transmission systems
- Enabling silicon photonic and InP technologies for next generation HW radio systems
- Co-packaged optics for future radio systems

On behalf of the Guest Editors and the Editor-in-Chief, we encourage you to submit your work for inclusion in this Special Issue. Accepted papers will appear in the Nov/Dec 2021 hardcopy issue with accepted papers posted online within one week of author final file upload. Mandatory page charges of \$260.00 per page will be 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>

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