

## CALL FOR PAPERS

*IEEE/OSA Journal of Optical Communications and Networking (JOCN)*

### **JOCN Special Issue on Future PON Architectures Enabled by Advanced Technology**

**Submission Deadline: February 18, 2020**

Advanced optical and electronic technologies have become an integral part of long-haul networks. Higher-order modulation formats, coherent reception and DSP have displaced conventional OOK/direct detection, enabling high data-rates and extended optical reach. The required capacity and reach in access networks are much more modest, while sensitivity to cost is much more pronounced. Thus, the adoption of advanced, typically costly, technology has been much slower in the access area. However, new technologies may offer alternative benefits in the context of an access network. Assessing these benefits, and their associated cost, is of growing interest.

This special issue is specifically focused on investigating the future of PONs in light of new enabling technologies, e.g., coherent technology, advanced DSP, tunable transceivers, higher line rates. How do these attributes change how PONs are architected and deployed? Could PONs become more attractive in a broader range of use cases? Will it better enable the trend towards open systems and disaggregation? Will it enable simpler system upgrades? What novel restoration schemes could be implemented?

We would like the special issue to present a balanced view, e.g., studies on cost and power consumption that take a holistic system approach. Analyses that convincingly demonstrate that conventional technology will remain suitable to address PON requirements in the foreseeable future are in-scope as well.

Specifically, the scope of the special issue includes but is not limited to the following topics:

- New PON architectures enabled by advanced technology
- Cost analyses and/or power-consumption analyses of future PON architectures
- Tradeoff analyses of advanced vs. conventional technology in PONs
- Enabling technology, presented in the context of what architectural benefits it endows
- New resource allocation and management schemes enabled by advanced technology
- Standardization efforts related to next-generation PONs enabled by advanced technology

Submissions to the special issue should be prepared according to the usual standards for JOCN and will undergo the normal peer review process. Manuscripts must be uploaded through OSA's online submission system specifying from the Feature Issue drop-down menu that the manuscript is for the issue on *Future PON Architectures Enabled by Advanced Technology*.

**Guest Editors**

Roberto Gaudino, Politecnico di Torino, Italy, Lead Guest Editor

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Josep Prat, Universitat Politècnica de Catalunya, Spain

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