Digital Signal Processing and Optical Networking

Guest Editor:

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Message from the Guest Editor

Dear Colleagues,

From the beginning of this century, digitally coherent optical communication has developed into an important research direction. Coherent detection, with a large-bandwidth analogue-to-digital converter, digital-to-analogue converter and digital signal processing (DSP) has increased the achievable capacity of optical fiber communication systems.
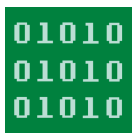
Bandwidth demands are continuously growing. Circuit scaling technology is approaching its end due to fundamental limitations. Therefore, the energy-efficient design of DSP is necessary both from a sustainability and a technical perspective.

Meanwhile, DSP is playing a significant role in analogue fronthaul transport architectures such as 5G and beyond, achieving high spectral efficiencies, multiplexing/demultiplexing large numbers of channels, increasing flexibility, and reducing latency.

This Special Issue aims to present a new trend in DSP applications for various advanced optical communication systems and networks. Example topics of interest are the application of DSP in areas such as:

- signal processing;
- optical network;
- network management;
- machine learning.

Special Issue

Editor-in-Chief

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Message from the Editor-in-Chief

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