

## Preliminary Call for Papers

Announcing an Issue of the IEEE  
JOURNAL OF SELECTED TOPICS IN QUANTUM ELECTRONICS on

### Silicon Photonics

**Submission Deadline: June 1, 2019**  
**Hard Copy Publication: March/April 2020**

The **IEEE Journal of Selected Topics in Quantum Electronics** (JSTQE) invites manuscript submissions in the area of **Silicon Photonics**. Silicon Photonics is the overall name for photonic integrated circuit technologies that combine the functionality of high-density circuits of high-contrast waveguides with the economic potential for volume manufacturing in a microelectronics fab. Over the past two decades, Silicon Photonics has grown out of the niche of academic research into an industrially viable technology, largely driven by applications in data communication. We have seen the material palette of silicon photonics extend well beyond silicon to incorporate low-loss waveguides, efficient modulators and detectors, as well as optical gain. This special issue focuses on the recent progress of silicon photonics. Topics include

- Active and passive devices (e.g., waveguide structures, switches, WDMs, resonators, modulators, photodetectors, amplifiers, light sources, and sensors; sub-wavelength structures); New developments in area of photonic crystals, plasmonics;
- Application Specific Integrated optical circuits for datacom, RF-photonics, WDM networks and coherent communications with high baud rate devices and high-order modulation format;
- Programmable Silicon Photonic devices and circuits for optical information processing, quantum optics and microwave photonics.
- Strategy and implementation status of optoelectronic integration (e.g., III-V laser, organic-Si devices, Isolators, optical-interposer, 2.5D/3D IC), and thermal management;
- Efforts in the technology development towards productization, e.g., low cost packaging, design enablement, test and yield enhancement;
- Quantum photonics devices and integrated circuits and their applications in communication and future computing;
- Novel concepts in device and integrated photonic circuits and applications, e.g., aerospace, automotives, bio-imaging, bio-photonics, non-linear, mid-IR, spectrometers, opto-mechanical and opto-acoustic sensors, and
- Silicon photonic design, theory, modeling and simulations.

The Primary Guest Editor for this issue is **Prof. Wim Bogaerts**, Ghent University – IMEC, Belgium. The Guest Editors of the issue are: **Dr. Eric Bernier**, Huawei, Canada; **Dr. Sun Jie**, INTEL, USA; **Prof. Delphine Marris-Morini**, University of Paris-Sud, France; **Dr. Thomas Van Vaerenberg**, Hewlett-Packard Laboratories, USA.

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**For inquiries, please contact:**  
**IEEE Photonics Society JSTQE Editorial Office - Chin Tan Lutz (Phone: 732-465-5813, Email: [c.tanlutz@ieee.org](mailto:c.tanlutz@ieee.org))**

The following documents are required during the mandatory online submission at: <http://mc.manuscriptcentral.com/jstqe-pho>.

1) PDF or MS Word manuscript (double column format, up to 12 pages for an invited paper, up to 8 pages for a contributed paper). Manuscripts over the standard page limit will have an overlength charge of \$220.00 per page imposed. Biographies of all authors are mandatory, photographs are optional. See the Tools for Authors link:  
[www.ieee.org/web/publications/authors/transjnl/index.html](http://www.ieee.org/web/publications/authors/transjnl/index.html).

2) MS Word document with full contact information for all authors as indicated below:  
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