

---

**Call for Papers**  
**Journal of Quantum Electronics**  
**Special Issue on Photonic Devices for Quantum Information Processing**

**Guest Editors**

Prof. Marek Osinski, University of New Mexico, osinski@chtm.unm.edu

Prof. Frederic Grillot, Université Laval, frederic.grillot@phy.ulaval.ca

**Scope and Topics**

Quantum information processing (QIP) is rapidly transitioning from laboratory demonstrations to deployable technologies for secure communications, sensing, and computation. Photonic platforms play a central role in this evolution owing to their room-temperature operation, low latency, compatibility with existing fiber-optic infrastructure, and ability to support both discrete-variable and continuous-variable quantum protocols. Recent advances in semiconductor devices, integrated nonlinear photonics, and heterogeneous integration have enabled quantum-capable photonic components with performance suitable for scalable deployment.

This focus issue will feature invited papers from the 2026 IEEE Photonics Society Summer Topicals Meeting on Photonic Devices for Quantum Information Processing, as well as submitted papers on the same topic from interested authors. Emphasis for this issue is placed on practical technologies such as quantum-dot and quantum-well lasers, integrated nonlinear sources, quantum frequency combs, chip-scale squeezing platforms, frequency converters, and low-noise detectors. A device-centric perspective highlights how material platforms, semiconductor design, linewidth engineering, and nonlinear optical processes directly impact key quantum performance metrics, including squeezing level, entanglement fidelity, heralding efficiency, and secret-key rate.

**Submission Guidelines**

Submissions will be reviewed in accordance with the normal procedures of the Journal and papers must be formatted according to the Information for Authors found at:

<https://ieeeyonrex.com/journal/jqe-ieee>

- Select the paper type “**Special Issue on Photonic Devices for Quantum Information Processing**”

**Important Dates**

Open for Submissions: April 8, 2026

Submission Deadline: September 18, 2026

Tentative Publication: February 2027 (Volume 63, Issue 1)

**EARLY ACCESS:** DOI-citable articles will be published online after acceptance upon submission of final files and rights selection – sometimes well in advance of issue publication.

**For further information, contact the Journal of Quantum Electronics Editorial Office:**

Jyoti Sethi, Journal Administrator

Email: j.sethi@ieee.org

John Dallesasse, Editor-in-Chief

Email: jdalleesa@illinois.edu