



Call for Papers

Announcing an Issue of the IEEE

JOURNAL OF SELECTED TOPICS IN QUANTUM ELECTRONICS on

Quantum materials and quantum devices

Submission Deadline: December 1, 2024

Hard Copy Publication: September 2025

The IEEE Journal of Selected Topics in Quantum Electronics (JSTQE) invites manuscript submissions in **Quantum materials and quantum devices (QMDs)**. The field of **Quantum materials and quantum devices** explores the principles of quantum mechanics via novel materials and devices having unique quantum properties, which can be exploited for enhancing the device performances for quantum sciences. Recently, with the rapid development of quantum information, including quantum communication, computation, metrology, encryption and sensing, novel solid-state platforms have attracted more and more attention for quantum technologies. The *IEEE Journal of Selected Topics in Quantum Electronics* invites manuscript submissions in the area of **Quantum materials and quantum devices**. The purpose of this issue of JSTQE is to highlight the recent progress and trends in developing leading-edge quantum materials and device applications that help revolutionizing the information processing. Areas of interest include (but are not limited to):

Emerging quantum materials, including 0D, 1D, 2D nanomaterials

- Quantum dots, dot complexes, wires, wells and heterostructures
- 2D van der Waals Materials and Moiré heterostructures
- Colour centers
- Topological quantum materials, etc.

Novel devices with quantum enhanced performances, including quantum light sources, quantum sensors

- Quantum light sources, including single photon sources, entangled photon sources
- Quantum sensing, including semiconductor and superconducting single photon detectors
- Quantum photonic circuits, integrated quantum photonic devices
- Quantum random number generators
- Quantum electronic/spintronic devices
- Other devices for quantum information processing.

The Primary Guest Editors for this issue are **Prof. Dr. Yongheng Huo**, University of Science and Technology of China, China and **Dr. Eugenio Zallo**, Technische Universität München, Germany. The Guest Editors are: **Prof. Dr. Val Zwiller**, KTH Royal Institute of Technology, Sweden. **Prof. Dr. Jun Zhang**, University of Science and Technology of China, China. **Prof. Dr. Patrick Vora**, George Mason University, USA. **Prof. Dr. Hao Li**, Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences, China.

JSTQE will begin accepting submissions for this special issue on **June 1, 2024**. The deadline for submission of manuscripts is **December 1, 2024**. Hardcopy publication of the issue is scheduled for **September 2025**.