Special Issue on Advances in Quantum Computing and Quantum Communication

Introduction:

The KSII Transactions on Internet and Information Systems (TIIS. SCIE and SCOPUS indexed) announces the special issue on **Advances in Quantum Computing and Quantum Communication**. Quantum computing and quantum communication are among the most active frontiers in science and technology. In recent years, significant progress has been made in both theoretical models and experimental implementations, bringing us closer to realizing practical quantum advantages in computing, secure communication, and distributed information processing. This Special Issue aims to provide a platform for researchers to present their latest findings, innovations, and perspectives in the broad fields of quantum computing and quantum communication. Topics of interest include, but are not limited to:

Topics:

- Survey/tutorial articles **to be welcome** in these topics
- Quantum algorithms and complexity
- Quantum error correction and fault-tolerant architecture
- Quantum cryptography and QKD protocols
- Quantum network architectures and routing strategies
- Physical-layer implementations (e.g., superconducting qubits, photonic systems, ion traps)
- Quantum control and noise mitigation techniques
- Entanglement distribution and verification
- Integration of quantum systems with classical infrastructure
- Quantum machine learning

We **welcome** both theoretical and experimental contributions, including novel protocols, proof-of-principle demonstrations, engineering advances, and system-level evaluations.

Submission Guideline:

1. All submissions should follow the TIIS journal's author guidelines (https://www.itiis.org/author-guide), where longer papers with more technical details are permitted. In particular, **survey and tutorial articles** are **NOT** subject to page restrictions.
2. When you submit a paper to this special issue, **select** '**Journal Special Issue 2**' manuscript type. If a different manuscript type is selected, then the submitted paper will **NOT** be considered for this special issue.

Schedule (may change based on circumstances):

1) Paper submission deadline: October 31, 2025

2) First notification of paper evaluation: December 15, 2025

3) Second notification of paper evaluation: February 15, 2026

4) Publication: April, May, or June of 2026

Editors for this special issue

<table>
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Homepage: https://joongheon.github.io/
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