Special Issue

Quantum Control and Machine Learning in Quantum Technology

Message from the Guest Editors

Quantum control refers to the manipulation and control of quantum systems to achieve specific objectives such as enhancing coherence or preparing desired dynamics. It plays a critical role in regulating dynamic processes in various fields, such as quantum optical systems, quantum computing, and other quantum technology applications, by mitigating the effects of noise and decoherence. In recent years, machine learning optimization techniques have become increasingly popular in this field, particularly in the optimization of complex and time-consuming quantum control protocols. Researchers have made noteworthy strides in quantum control by applying classical machine learning to iteratively enhance control strategies and learn from data. Quantum machine learning aims to leverage the unique properties of quantum computing. The confluence of quantum control and machine learning with quantum technologies provides a fertile ground for future research and innovation. Thus, this Special Issue aims to merge recent advances in cutting-edge machine learning and quantum control techniques for quantum optics, quantum computing, and beyond.

Guest Editors

Dr. Bijita Sarma

Department of Physics, Friedrich-Alexander-Universität Erlangen-Nürnberg, Staudtstraße 7, 91058 Erlangen, Germany

Dr. Sangkha Borah

1. Max Planck Institute for the Science of Light, Staudtstraße 2, 91058 Erlangen, Germany
2. Department of Physics, Friedrich-Alexander-Universität Erlangen-Nürnberg, 91058 Erlangen, Germany

Deadline for manuscript submissions

30 September 2025

Mathematics

an Open Access Journal by MDPI

Impact Factor 2.2
CiteScore 4.6

mdpi.com/si/167670

Mathematics
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
mathematics@mdpi.com

mdpi.com/journal/mathematics

Mathematics

an Open Access Journal by MDPI

Impact Factor 2.2
CiteScore 4.6

mdpi.com/journal/mathematics

About the Journal

Message from the Editor-in-Chief

The journal *Mathematics* publishes high-quality, refereed papers that treat both pure and applied mathematics. The journal highlights articles devoted to the mathematical treatment of questions arising in physics, chemistry, biology, statistics, finance, computer science, engineering and sociology, particularly those that stress analytical/algebraic aspects and novel problems and their solutions. One of the missions of the journal is to serve mathematicians and scientists through the prompt publication of significant advances in any branch of science and technology, and to provide a forum for the discussion of new scientific developments.

Editor-in-Chief

Prof. Dr. Francisco Chiclana
School of Computer Science and Informatics, De Montfort University, The Gateway, Leicester LE1 9BH, UK

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), RePEc, and other databases.

Journal Rank:

JCR - Q1 (Mathematics) / CiteScore - Q1 (General Mathematics)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 18.4 days after submission; acceptance to publication is undertaken in 2.4 days (median values for papers published in this journal in the first half of 2025).

MDPI