Special Issue

Computational Cryptography for Blockchain

Message from the Guest Editor

In the era of Web 3.0 and decentralized ecosystems, cryptographic techniques and blockchain architectures have become foundational pillars for digital trust. From zero-knowledge proofs enabling privacy-preserving transactions to post-quantum cryptographic algorithms safeguarding against future threats, applied cryptography is undergoing unprecedented innovation. Concurrently, blockchain technology has evolved beyond cryptocurrencies, finding applications in supply chain provenance, decentralized identity management, and programmable economies through smart contracts. Contemporary cryptographic implementations demonstrate remarkable resilience against classical computing threats yet struggle with emerging attack vectors. Current blockchain implementations suffer from inherent trade-offs between decentralization, security, and scalability, evidenced by the trilemma plaguing major networks like Ethereum and Bitcoin. Cross-chain interoperability lacks unified frameworks, often resorting to insecure bridge protocols or centralized custodians, and cross-chain communication remains ad hoc, with no universally adopted standards for atomic swaps or oracle security.

Guest Editor

Dr. Yujue Wang
Hangzhou Innovation Institute, Beihang University, Hangzhou 310051, China

Deadline for manuscript submissions

15 June 2026

Mathematics

an Open Access Journal by MDPI

Impact Factor 2.2
CiteScore 4.6

mdpi.com/si/252492

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