Special Issue

Applied Mathematics for Information Security and Applications

Message from the Guest Editor

This Special Issue aims to showcase rigorous advances at the intersection of applied mathematics, cryptography, and system security. We seek contributions that connect theoretical models with deployable solutions, emphasizing quantitative methods that clarify security margins, enable performancesecurity trade-offs, and scale to modern platforms such as IoT/edge, cloud, blockchain, and cyber-physical systems. Submissions are expected to combine mathematical rigor with system applicability, supported by benchmarks or real-world validation. We particularly welcome cross-disciplinary collaborations among mathematicians, cryptographers, and security practitioners. To achieve our goal, we welcome research on a broad range of mathematical tools, including algebra and number theory, coding and information theory, optimization and game theory, stochastic processes and queueing, control theory, formal verification, and statistical learning theory. These foundations enable not only advances in applied cryptography and secure protocol design, but also privacy-preserving computation, provable guarantees for system reliability, and mathematically principled approaches to Al security.

Guest Editor

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Deadline for manuscript submissions

30 June 2026



Mathematics

an Open Access Journal by MDPI

Impact Factor 2.2 CiteScore 4.6



mdpi.com/si/253718

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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.

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