Special Issue

Markov Chain Models and Applications: Latest Advances and Prospects

Message from the Guest Editor

Markov chains are ubiquitous stochastic processes that are of theoretical interest in their own right, but also used within statistical inference procedures and applied to many complex systems across applied sciences. This Special Issue will host manuscripts pushing the frontiers of discrete and continuous-time Markov chains, covering problems of both theoretical and computational natures. Examples could include manuscripts related to the following themes:

- Markov chain Monte Carlo methods and diagnostics.
- Statistical inference and data science for and in Markov chains and processes.
- Sensitivity and uncertainty analysis in Markov chain networks.
- Applications of Markov chains to real-life problems, including, but not limited to, systems biology, ecology, epidemiology, and engineering.

Guest Editor

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Deadline for manuscript submissions

closed (20 March 2025)

Mathematics

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Impact Factor 2.2
CiteScore 4.6

mdpi.com/si/211094

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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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