

Special Issue

High-Dimensional Statistics and Network Data Analysis

Message from the Guest Editors

The data generation capacity of scientific studies has increased tremendously in recent years and continues to increase rapidly. With the increased complexity of data, multivariate data sets of large dimensions (also called high-dimensional data) and network data sets have come to prominence. Complex networks and relational data sets are becoming common in various scientific fields, including social, economic, and biological science. In order to tackle high-dimensional and complex network data sets, significant efforts have been directed toward pathbreaking mathematical and statistical research. In terms of statistical methods, penalized and regularized estimators have become the standard to tackle estimation problems in high-dimensional data. New methods have been developed for inference in high-dimensional data thanks to innovations in multiple hypothesis testing, including false discovery rate control procedures. The likelihood and spectral methods have been developed to analyze network data sets.

We plan to focus on all these different directions of statistical research in high-dimensional and network data analysis in this Special Issue.

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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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