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Monte Carlo Methods and Algorithms

Guest Editor:

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Deadline for manuscript submissions:
closed (31 January 2018)

Message from the Guest Editor

Dear Colleagues,

The dramatic improvement in data collection and acquisition technologies in the past two decades has enabled scientists to collect vast amounts of data, such as climate data, omics data and credit card records. With growing size typically comes a growing complexity of data structures and of the models needed to account for the structures. Although Markov chain Monte Carlo has proven to be a powerful tool for analyzing the data of complex structures, its computer-intensive nature has limited its applications to big data problems. The objective of this special issue is to motivate developments of scalable Monte Carlo methods that address computational challenges in Bayesian analysis of big data. Topics of interest include (but are not limited to):

- Distributed/parallel MCMC
- MCMC using GPU computing
- MCMC with split-and-merge strategies
- Sequential Monte Carlo
- Advantages of Bayesian Inference for Big Data

Prof. Dr. Faming Liang
Guest Editor

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Editor-in-Chief

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Message from the Editor-in-Chief

Algorithms are the core of computational mathematics and computer science. The whole area has been considered from different perspectives, which has led to the development of several sub-communities. The aim is to bring together researchers and practitioners from different areas of computational mathematics and computer science and to offer a platform for interdisciplinary applications in different areas of science and technology. In this way, *Algorithms* may become a forum for the exchange of new stimulating ideas between the different sub-communities working in the area of algorithms and their applications and the presentation of high-quality novel algorithmic approaches.

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