



Spatiotemporal Prediction and Simulation Methods at the Nexus of Statistical Physics, Spatial Statistics and Machine Learning

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Message from the Guest Editors

In a broad sense, data-driven prediction and simulation provide quantitative probabilistic estimates of a physical process (or several interacting processes) at spatial locations and/or times where observations are unavailable, based on existing data. The aim of this Special Issue is to explore inter-disciplinary predictive approaches for spatiotemporal systems which combine ideas from statistical physics, space–time statistics, as well as statistical and machine learning.

Methodological, computational, and application-oriented contributions that advance the state of the art are suitable. Inter-disciplinary studies that lead to improved understanding and modeling flexibility as well as studies that provide enhanced predictive capabilities for space–time processes are also welcome. Application topics of interest include, but are not limited to, hydrological processes, epidemiology, environmental flows, climate, ecological processes, wind and solar energy, and analysis of brain signals.





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Message from the Editor-in-Chief

The concept of entropy is traditionally a quantity in physics that has to do with temperature. However, it is now clear that entropy is deeply related to information theory and the process of inference. As such, entropic techniques have found broad application in the sciences.

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