Oberwolfach Workshop

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Title:Computationally and Statistically Efficient Inferencefor Complex Large-scale Data

Organisers:

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Abstract:

Large-scale data analysis is a flourishing research topic where several distinct communities interact over common questions. Two largely unifying aims of this field are computational and statistical efficiency; they sometimes (but not always) conflict with each other. Many algorithms have emerged in the last few years in computer science, machine learning and statistics that allow computationally efficient manipulation and model fitting on large datasets, including but not limited to sparse regression, ensemble methods, random projections, approximate nearest neighbour techniques, sparse principal component analysis, inference for large graphs and causal analysis. The mathematical and statistical properties of these algorithms are often not yet fully understood and this workshop aims to advance the theoretical understanding in the field and foster exchange between researchers with different backgrounds working on these problems.