

Abstract

Oberwolfach Workshop:

Combinatorial Optimization

Dates:

4 - 10 November 2018 (Code: 1845)

Organizers:

Jesus De Loera, Davis
Satoru Iwata, Tokyo
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Combinatorial Optimization is an active research area that developed from the rich interaction among many mathematical areas, including combinatorics, graph theory, geometry, optimization, probability, theoretical computer science, and many others. It combines algorithmic and complexity analysis with a mature mathematical foundation and it yields both basic research and applications in manifold areas such as, e.g., communications, economics, traffic, network design, VLSI, scheduling, production, computational biology, to name just a few. Through strong inner ties to other mathematical fields it has been contributing to and benefiting from areas such as, for example, discrete and convex geometry, convex and nonlinear optimization, algebraic and topological methods, geometry of numbers, matroids and combinatorics, and mathematical programming. Moreover, with respect to applications and algorithmic complexity, Combinatorial Optimization is an essential link between mathematics, computer science and modern applications in data science, economics, and industry.