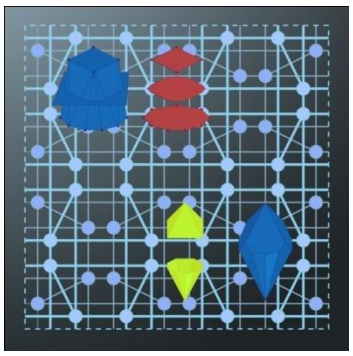
INSTITUTE FOR PURE AND APPLIED MATHEMATICS

Los Angeles, California



Efficiency of the Simplex Method; Quo vadis Hirsch conjecture?

January 18 - 21, 2011

ORGANIZING COMMITTEE: Jesus De Loera (UC Davis), **Gil Kalai** (Hebrew University of Jerusalem), **Margaret Bayer** (University of Kansas), **Antoine Deza** (McMaster University), **Shanghua Teng** (USC)

Scientific Overview

Linear programs are the backbone of computation and theory in mathematical optimization. Today, after sixty years of use and despite remarkable progress with competing interior point methods, the simplex method is still widely used and remains important in linear programming. However, we still do not have a complete understanding of the performance of the simplex method, in particular the number of pivots needed to go from a starting vertex to an optimal vertex. The past five years have seen new approaches to the problem including the smoothed analysis of the simplex method, analogies with interior point methods, explicit constructions and the systematic search for counterexamples through computational tools, and the investigation of combinatorial-topological abstractions of polyhedra.

This workshop is devoted to the simplex method and the Hirsch conjecture, bringing together researchers with various contemporary approaches.

Confirmed Speakers

Nina Amenta (UC Davis), David Bremmer (University New Brunswick), Friedrich Eisenbrand (EPFL, Switzerland), Komei Fukuda (ETHZ, Switzerland), Fred Holt (University of Washington), Edward Kim (TU. Delft), Nimrod Meggido (IBM Almaden Research Center), Jim Renegar (Cornell), Francisco Santos (University of Cantabria, Spain), Tamás Terlaky (Lehigh University), Santosh Vempala (Georgia Tech), Yinyu Ye (Stanford), Günter Ziegler (Berlin Institute of Technology), Yuriy Zinchenko (University of Calgary)

Participation

Additional information about this workshop, including links to register and to apply for funding, can be found on the webpage listed below. Encouraging the careers of women and minority mathematicians and scientists is an important component of IPAM's mission, and we welcome their applications.

www.ipam.ucla.edu/programs/sm2011

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