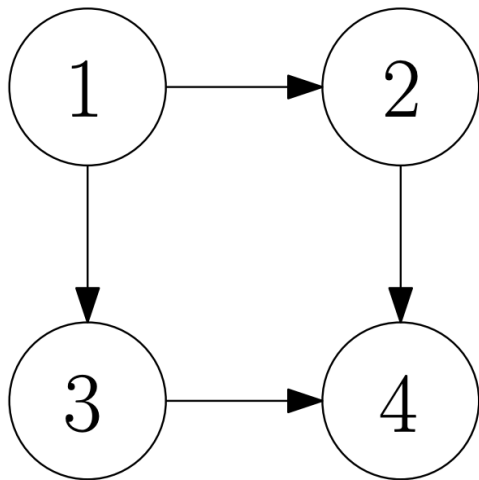## Tuesday 20 February 2024 - Afternoon Talks

Magnus-Haus Berlin


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15:00 Carlos Améndola *(TU Berlin)*

Algebra and Geometry of Probabilistic Graphical Modeling

Probabilistic graphical models are used throughout the natural and social sciences by encoding statistical relationships between variables of interest in the form of a graph. In this talk, Améndola will highlight some of the rich algebraic and geometric properties that lie within these models. In particular, the problems of model identifiability and parameter estimation from the perspective of algebraic statistics will be analyzed.

Carlos Améndola is a professor of Algebraic and Geometric Methods in Data Analysis at TU Berlin. His research interests include algebraic statistics, applied algebraic geometry and nonlinear algebra.
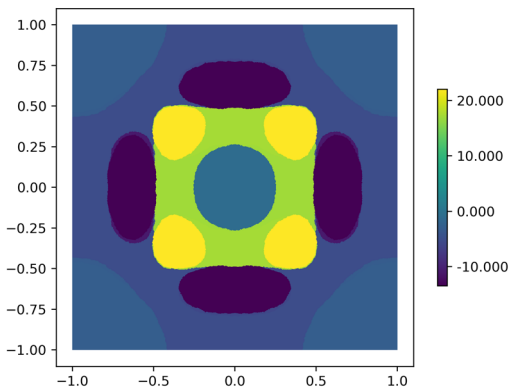
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15:30 Daniel Walter *(HU Berlin)*

Fully-corrective generalized conditional gradient methods

The incorporation of convex but nonsmooth regularization functionals into infinite dimensional minimization problems has become a cornerstone of modern approaches to optimal control, variational regularization in inverse problems as well as continuous formulations in machine learning. In this talk, Walter will briefly outline how understanding the convex geometry of the unit ball associated to the regu-larizer, in particular its extremal points, gives rise to a new class of fast-converging solution algorithms.

Daniel Walter is junior professor for nonsmooth optimization at HU Berlin. His research is situated at the intersection of calculus of variations, nonsmooth optimization and PDE-constrained optimal control.