

Rocky Mountain INFORMS: November 13, 2025

The Rocky Mountain INFORMS Chapter is pleased to host Professor Steffen Borgwardt from the Department of Mathematical and Statistical Sciences at the University of Colorado Denver. He earned a Ph.D. (2010) and a Habilitation (2015) at the Technical University of Munich before joining CU Denver in 2016. He is a lifetime Humboldt Fellow and received a joint European Excellence in Practice Award in 2013 for his contributions to optimization in land exchange.

His research lies at the intersection of combinatorial optimization, polyhedral geometry, and applied graph theory. It is based on the study of high-dimensional objects, which are derived from geometric modeling techniques for practical problems arising in clustering or transportation. The properties of these objects reveal valuable information regarding the underlying problems, which leads to the design of optimization algorithms for the analysis of big data.



Title: Partition Polytopes and the Transition between Clusterings

Abstract: The field of optimization, and polyhedral theory in particular, provides a powerful point of view on common tasks in data analysis. We highlight a role that the so-called partition polytopes and its circuits can take to identify good clusterings, and to facilitate a transition from one clustering to another.