ALPEN-ADRIA UNIVERSITÄT KLAGENFURT

Invitation to the Doctoral Seminar

Sen. Scientist Jan Schwiddessen, M. Sc.
Universität Klagenfurt

"Solving Max-Cut using Low-Rank Methods"

N.2.35 | Wednesday, 24 May 2023 | 10:00 a.m.

Abstract
Many combinatorial optimization problems on graphs can be reformulated as a quadratic unconstrained binary optimization problem or are equivalent to an instance of the well-known Max-Cut problem. This is also true for the class of linearly constrained binary quadratic problems. In this talk, we present a branch-and-cut solver for the Max-Cut problem and address some algorithmic advances and ideas. Our main tool for solving the occurring semidefinite programs is one of the recently proposed low-rank methods using the Burer-Monteiro factorization. We test our approach on many instances from the literature and compare it to other approaches.

Angelika Wiegele and the Department of Mathematics look forward to seeing you at the talk!