

AGCO Seminar

Speaker: Gonzalo Muñoz, Universidad de O'Higgins

Title: Constructing separating hyperplanes for non-convex quadratic problems.

Abstract:

In 1971, Balas introduced the intersection cut framework as a method for generating separating hyperplanes (or "cuts") in integer optimization. These cuts are derived from convex S -free sets, and inclusion-wise maximal S -free sets yield the strongest intersection cuts. When S is a lattice, maximal S -free sets are well-studied from theoretical and computational standpoints. In this talk, we focus on the case when S is defined by a non-convex quadratic inequality and show how to construct basic maximal quadratic-free sets. Additionally, we explore how to generalize the basic procedure to construct a plethora of new maximal quadratic-free sets for homogeneous quadratics. Joint work with Antonia Chmiela, Joseph Paat, and Felipe Serrano.

When: October 11, 3:00pm.

Where: Sala de Seminario John Von Neumann, CMM, Beauchef 851, Torre Norte.

