SEMINAR

"A primer on bilevel optimization under uncertainty"

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Chairs:
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As it is the case for "usual", i.e., single-level, optimization problems, bilevel optimization problems can and most likely should be considered under uncertainty as well.

In single-level optimization, uncertainty is due to noisy or incomplete data that defines the problem at hand. For bilevel optimization, the sources of uncertainty are richer. Besides data uncertainty, the two-player nature of these problems leads to cases in which (the observation of) the decision of the other player might be unknown to some extend - a setting that we call decision uncertainty. In this talk, we briefly discuss a recent result on discrete robust bilevel optimization with a Γ-robust follower before we present two examples of bilevel optimization under decision uncertainty. The first one is about limited observability of the follower w.r.t. the decision of the leader and the second one is about bilevel optimization problems in which the follower's problem is completely unknown for the leader. This is joint work with Yasmine Beck, Ioana Molan, and Ivana Ljubic.

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