

**Martine Labbé (Université Libre de Bruxelles and INRIA, Lille)**



### **A selective introduction to bilevel optimization**

Bilevel optimisation problems consist in constraint optimization problems in which a subset of variables constitutes the optimal solution of a second optimization problem. They correspond to situations in which two groups of decisions are taken sequentially.

In this lecture, I will first present the main aspects, properties and algorithms for bilevel optimization problems with a particular attention to the bilevel linear ones. Then, I will focus on some recent results and their usefulness from a resolution point of view.

Finally, if time permits I will also present results regarding bilevel problems with bilinear objectives and in particular on applications such as Stackelberg games and pricing problems.