

---

# Plenière : Problem-solving by Mixed-Integer Programming

Andrea Lodi<sup>\*1</sup>

<sup>1</sup>University of Bologna (DEI) – Viale Risorgimento 2, 40136 Bologna, Italie

## Résumé

Mixed-Integer Linear Programming (MILP) is a powerful paradigm for solving real-world optimization problems. Not only through MILP techniques one can successfully model a large variety of those problems but the most effective MILP algorithms are available as software tools in both commercial and noncommercial solvers.

In this talk we will discuss the basic ingredients that make the MILP technology and the associated solvers effective and reliable and we will give examples that justify their use not only for computing the exact solution of the problem at hand but also approximate solutions of very good quality.

Despite this positive picture we will show that some care must be paid while computing with MILP solvers so as to distinguish between a true understanding of the computational results and the so-called performance variability effect.

**Mots-Clés:** Mixed, Integer Linear Programming, Software, Solvers, Computation

---

<sup>\*</sup>Intervenant