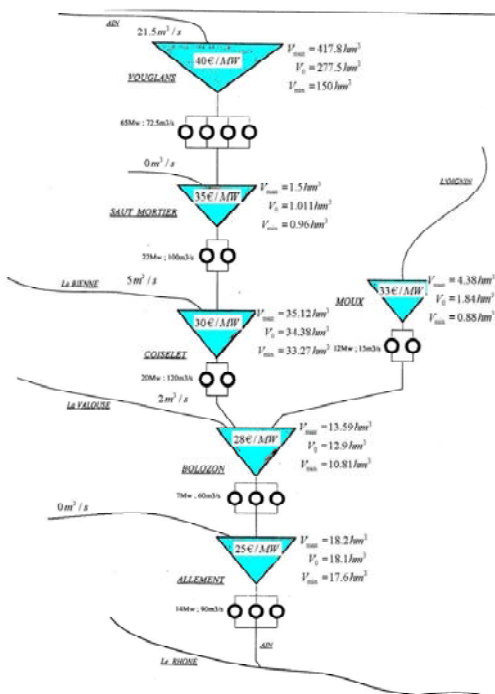


6-months internship for Master 2 students on Challenging mixed integer nonlinear programming problems for the maintenance planning for hydropower plants

Project topic: The aim of the project is to study a crucial problem in energy management: **the optimal maintenance planning for hydroelectric power generation plants.**



This is a challenging optimization problem and it is of great practical importance because the strategic decisions taken during maintenance planning directly impact the availability of hydropower stations. This availability is a key input for the unit commitment decisions taken daily by utility companies.

The objective of the project is to propose **mixed integer stochastic optimization approaches** that take into account both the standard constraints in maintenance planning as well as the **uncertainty arising from three factors: 1) water inflows, 2) electricity prices, and 3) maintenance durations.**

The project involves postgraduate students and researchers from CNRS & École Polytechnique (France), University of Edinburgh (UK), and EDF R&D (France).

Although not mandatory, the internship can be followed by a PhD.

Required background:

mathematical programming, algorithms, coding

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