# Ottimizzazione prodotti della ricerca

Progetto di Modelli e Metodi per il Supporto alle Decisioni

Mauti Enzo - Ghione Alessio

# What is the project

This project is based on the selection of papers and/or publications of people belonging in each research department to verify their quality of research.

Its objectives are to make an algorithm that will make the better choices for each department automatically.

A lot of constraint are made to make this selection, and are named VQR. We are actually at the 4th version of the VQR.

# The VQR4 Constraints

Proposition of papers:

1. Each persons must propose at least 1 paper as an author
2. Each persons must propose at most 4 papers
3. Each paper must be proposed at most once
4. If the 1st rule can’t be done, no substitutions of paper are allowed
5. Else substitutions are are allowed if the person is at least a co-author of the paper
6. Each department have to propose 2.5 x number of person in the department at least (minus the number of people that don’t have any papers)

# The VQR4 Constraints

Presentation of papers:

1. Each person can present at least and at most 1 paper from the ones he proposed

# The actual Algorithm

1. verify each people can give a paper
    - selects the bests papers to reach 1 for each person
2. select the rest
    - make it greedy (from better to worst and check who can take it)
3. select who will present what

Possibilities of improvement for the algorithm:

If you want to propose a paper but you can't because you're already at 4 papers proposed, you can take one of your paper and give it to a co-author

- co-author has to have a slot to fill
- if they don't, they can recursively give one of theirs to another co-author of another paper to make places for the new one

# Our contributions objectives

- Implement and test multiple proposition of algorithm that answer the selection problem
  - New constraint can be given
    - Some types of choice on the presented papers
    - People can’t always have the required numbers of possible papers to presents
  - Try to make the algorithm go faster, find better solutions for the problem
  - etc…
- Propose new idea for the implementation of the solutions