

## Optimization of radio virtualization

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Subject:

Network virtualization technology has been recently introduced to allow multiple virtual network operators to share the same physical infrastructure. A key issue in radio virtualization is the cooperation for radio resource management in order to achieve an efficient embedding of different wireless virtual networks into a physical one, and ensure QoS requirements.

The goal of the project is to study and propose models to share a wireless physical infrastructure to several virtual network operators. An important part is to deal with wireless interferences in order to avoid collisions and ensure QoS such as delay and throughput. Additional considerations about energy efficiency and fault tolerance can also be investigated.

A survey of the optimization problems associated with network embedding and radio resource sharing forms the first part of the project. Then, the objective is to develop optimization models using techniques from linear programming and graph theory.

The pfe can be followed by an internship.

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