

# The Digital Communications Group of the Communications Laboratory of UCL, Louvain la Neuve, Belgium has positions for

## PhD students

In the framework of european or national projects, the laboratory has the following openings :

1. 1 position in the context of cooperative communications (availability September 200):

The goal of the project is to investigate cooperative solutions in the context of wireless communications systems. The emphasis is on relaying strategies, resource allocation in the context of relay and the impact on a practical wireless sensor system .

2. 1 position in the context of « Information theoretic Security » and « Cooperation » for wireless communications.

The goal of the project is to investigate Information Theoretic Security (equivocation, extended to outage concept) for wireless systems, and revisit a number of design issues in wireless systems/network to account for such a concept of security. The goal is both to investigate information theoretic concepts and to propose and design practical schemes derived from the information theoretic approach (secure OFDM power/bit allocation, etc ...).

3. 1 position in the context of spectrum management for DSL (digital subscriber services) (immediate availability);

This project has two aspects. One is to look at spectrum management which means the coordinated allocation of spectrum to different active users in order to minimize crosstalk. The other aspect is to design new strategies to avoid retransmission of full packets when they are classified as wrong.

### Requirements

1. The candidates should hold an engineering degree in electrical engineering, communications engineering or applied mathematics ;
2. Excellent skills in telecommunications and signal processing ;
3. Knowledge of English is mandatory

### Information

More information can be obtained from, and applications can be sent to

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