Scuola di Dottorato in ICT

Doctoral School in ICT

Research project for a PhD curriculum in ICT – Computer Engineering and Science/Electronics and Telecommunications

**Tutor**: Maria Luisa MERANI (\*)

Muriel Medard, Professor, MIT (\*\*)

**(\*) Italian Co-tutor:**

**(\*\*) Foreign Co-tutor:**

**Proposed Title of the research:**

Network Coding for Multimedia Delivery in Wireless Networks

**Keywords (3): network coding, wireless multimedia, multicast communication**

**Research objectives -- (max 10 rows)**

The aim of this research is to assess, through both theoretical and experimental approaches, the benefits that network coding brings in, when employed in combination with TCP to deliver multimedia content with different resolutions to a floor of wireless mobile clients.

**Proposed research activity -- (max 10 rows)**

The PhD student will be asked to investigate how the process of broadcast communications can be enhanced by a suitable introduction of network coding. The study will require a strong mathematical effort, paired by a good understanding of novel networking paradigms. Theoretical modelling will be strongly emphasized.

**Supporting research projects (and Department )**

Research funds deriving from commercial/heterogeneous activities.

Responsible: Maria Luisa Merani

Department of Information Engineering

**Possible connections with research groups, companies, universities**

Prof. M. Medard, Professor at the Department of Electrical Engineering, MIT, USA

Director of the Network Coding and Reliable Communications Group.

(\*) optional

(\*\*) optional/ to be completed on the second year