

ICT PHD

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

Tutor: Prof. Letizia Leonardi

(*) Italian Co-tutor: Prof. Giacomo Cabri (FIM), Prof. Franco Zambonelli (DISMI)

() Foreign Co-tutor:**

Proposed Title of the research: Adaptive Middleware for the Internet of Things

Keywords(5): Internet of Things (IoT), smart objects, context-awareness, self-organizing and adaptive systems.

Research objectives(max 10 rows):

The Internet of Things is rapidly gaining ground in the modern world. The basic idea is to have the ubiquitous presence of a huge number and variety of *things* or *objects* that are able to interact and cooperate with each other in order to achieve common goals.

The aim of this research is to study and implement models and solutions for the development and/or integrations of middleware in the context of the Internet of Things. These middleware have to exhibit specific properties such as context-awareness, self-organizing and adaptation.

Proposed research activity(max 10 rows):

State of the art in Internet of Things
Study of context-aware, self-organizing and adaptive systems
Definition of general models for the representation of contexts
Identification of possible approaches and algorithms
Design of a general middleware architecture
Implementation of a prototype
Participation to the appropriate Summer Schools

Supporting research projects(and Department):

None

Possible connections with research groups, companies, universities..

Prof. Emma Hart, Edunburgh Napier University, UK
Dr. Jeremy Pitt, Imperial College, UK
Prof. Giancarlo Fortino, Università della Calabria, I
Dr. Niranjana Suri, IHMC, USA
Prof. Marco Aiello, Stuttgart University, D

(*) optional

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