

# **COST ACTION IC0902**

## **MC MEETING AND 4TH WORKSHOP**

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**SAPIENZA**  
UNIVERSITÀ DI ROMA

**Keynote speech: Blind Sensing Techniques using Model Selection tools based on Kullback-Leibler distance for Cognitive Radio Systems**

**By Prof. Aawatif Hayar GRENTIC/ENSEM, University Hassan II Casablanca Morocco**

#### **Abstract**

In this talk, I will present some blind sensing techniques that we developed for cognitive radio systems based on the investigation of model selection and information theoretic measures such as Kullback-Leibler distance. The focus will be given on some innovative sensing algorithms using this approach like detection algorithms based on distribution distance analysis and sub-space dimension estimation. Detection performance of the proposed techniques in comparison with some reference detectors will be also assessed.

#### **Biography**

Dr. Aawatif HAYAR received the “Agrégation Génie Electrique” from Ecole Normale Supérieure de Cachan in 1992. She received the “Diplôme d'Etudes Approfondies” in Signal processing Image and Communications and the degree of Engineer in Communications Systems and Networks from ENSEEIHT de Toulouse in 1997. She received with honors the Ph.D. degree in Signal Processing and Communications from Institut National Polytechnique de Toulouse in 2001. She was research and teaching associate at EURECOM's Mobile Communication Department in Sophia Antipolis France from 2001 to 2010. Aawatif Hayar is currently with GRENTIC R&D Organization (Morocco) as General Secretary and expert in cognitive green ICT field. She has also joined in 2011 the engineering school ENSEM at the University Hassan II Casablanca in Morocco. She is also Vice-President of Digiworld Club Morocco. Her research interests includes fields such as cognitive green systems, UWB systems, smart grids, smart cities, ICT for eco-friendly smart socio-economic development. Aawatif Hayar was a Guest Editor of Elsevier Phycom Journal Special issue on Cognitive Radio Algorithms and System Design in 2009 and General Co-chair of Crowncom2010 in Cannes dedicated to cognitive radio systems and IW2GN2011 dedicated to wireless green systems. She was co-organiser of GDR-ISIS Cognitive Radio workshop in France in 2011. Aawatif HAYAR is General co-chair of ICT 2013 Conference. She is also expert at the European commission level for cognitive and UWB systems. Aawatif Hayar received with one of her PhD students the "best student paper" award at CogArt2010 and has a patent in cognitive radio field on “Process for sensing vacant bands over the spectrum bandwidth and apparatus for performing the same based on sub space and distributions analysis”.