FIRST International Workshop on
Cognitive radio and Cooperative strategies for POWER saving

Co-located with the **Mobimedia** conference, **6-8 September 2010**

C2Power

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6 September 2010, Lisbon, Portugal

Important Dates

Paper Submission: **02-May-10**
Notification: **07-June-10**
Camera Ready: **05-July-10**

Organizing Committee

Workshop Chairs

Prof. Lajos Hanzo (University of Southampton, UK)

Dr. Kandeepan Sithamparanathan (CREATE-NET, Italy)

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CALL FOR PAPERS

The current and future demands for high speed connectivity, especially for mobile applications constrained by power consumption, drive us to investigate the current state of the art to further advance the technology for improved power efficiency. The truly mobile experience is to have the freedom to roam around anywhere and not be bound to a single location. On the other hand, the energy required to keep mobile devices connected to the network over extended periods of time quickly dissipates. In fact, energy is a critical resource in the design of wireless networks since wireless devices are usually powered by batteries. It is well known that battery life time is one of the top reasons why consumers do not frequently use advanced power hungry multimedia applications on their mobile devices. Battery capacity is finite and the progress of battery technology is very slow, with capacity expected to make little improvement in the near future. It is claimed that battery capacity has only increased by 80% within the last ten years, while the processor performance doubles every 18 months following Moore's law. In terms of power consumption we have moved from a relatively low 1-2 W range in the first generations to around twice in 3G mobile devices. The perspective for the future does not look encouraging in this aspect, as one could easily expect another doubling in the power demand for 4G devices. From the mobile manufacturer's perspective the energy consumption problem is critical, not only technically but also taking into account the market expectations from a newly introduced technology.

This workshop looks into the cognitive radio and cooperative techniques for better power efficiency. Cooperative diversity can provide savings in the required transmit power because of the spatial diversity in the system. However, the extra processing and receiving power consumption at the relay and destination nodes for the cooperation gives rise to a trade-off between the gains in the transmit power and the losses in cooperation. Cognitive functionalities on the other hand can be used for context aware transmission schemes for better utilization of the energy.

… In such context, the Workshop will consist of diverse technical tracks:

- Cognitive radios and networks
- Cooperative networks and communication
- Energy efficient communication systems and networks
- Context awareness and signalling for power saving strategies
- Short range power efficient communication
- Cooperative relaying for power saving
- Energy efficient cognitive handover procedures and policies
- Energy efficient reconfigurable radios and software defined radios
- Cooperation in homogeneous and heterogeneous networks
- Experimental testbeds and results for energy efficient communication techniques
- Standardization and regulatory aspects and activities for power efficient communication
- Advanced power saving strategies in Bluetooth, DVB-H, UWB, Wi-Fi, WiMAX, LTE considering network cooperation and using femto-cells.

From Cognitive to Cooperative techniques for energy efficient communication systems …..

Come and meet the European collaborators working on power efficient communication techniques at the C2POWER workshop, and be part of the Engineering Excellence Group....

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