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CCNC 2015

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IEEE Consumer Communications & Networking Conference (CCNC)
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Call for Papers for Smart Spaces and IoT Networking *Track*

Scope and Motivation:

In a few years we will no longer see the objects of our daily life in the same way that we used to. In fact, they are going through a deep transformation. Once they get an Internet address, they become part of an interconnected environment where "things" can talk to each other as well as exchange data and information with traditional networking devices or directly with humans. By sharing the information on their status and sensing the surrounding environment, communicating things will increase the awareness and the intelligence of the space we work and live in. The unleashed potential of communicating things will bring a countless set of new applications, services and products to the consumer market. This set will encompass several smart spaces such as smart cities, smart homes, smart factories, smart product management and smart farming.

The advent of the IPv6/6LoWPAN protocol solved several technical issues related to addressing objects and wireless connectivity, but still many research issues, concerning the choice of communication architectures, protocols and technology, need to be solved in order to foster the smart space paradigm. The computational and energy availability of the smart objects can be very limited, whereas the tasks they are requested to perform can be heavy (routing, data collection, data processing, etc.), this calls for the design of sustainable networking protocols. The networking architecture of the smart space should be accurately defined according to the application, as well as the role of each smart object within the architecture. A certain level of reconfiguration for the PHY and MAC layer should be taken into account for the smart spaces to track the changes of the environment and those of the underlying application. Effective middlewares to shape and substantiate higher layer concepts such as semantic web and personalization as well as security and privacy control mechanisms need to be designed; M2M and D2D communication should be investigated to allow a full automation of smart processes. Finally, in order to test the performance of smart spaces in real-life experiments or in ad hoc test-beds, assessment metrics should be defined and characterized.

Main Topics of Interest:

The Smart Spaces and IoT Networking Track seeks original contributions in the following topical areas, plus others that are not explicitly listed but are closely related:

- Smart spaces foundations and communication architectures
- IoT paradigms, architectures, applications and technologies
- IoT systems and components
- Smart spaces and semantic web
- Tools for developing IoT applications
- Blogging, Podcasting, Tagging and Social networking in smart spaces
- Cloud vs distributed computing for the IoT
- M2M and D2D communications in smart spaces
- Security and privacy control mechanisms
- Performance assessment and management of smart spaces
- PHY layer, Spectrum management for IoT radio communications
- MAC protocols for IoT
- Naming, address management and End-to-End Addressability
- Object, device and service management
- RFID, sensors, actuator technologies
- Middleware for IoT
- Sustainable design and technologies for smart spaces
- Smart spaces test-beds and field trials

Track Chairs:

Enrico Natalizio – Université de Technologie de Compiègne, France