Workshop Keynotes

From M2M Communications to Internet of Things

In conjunction with the *IEEE 27th Annual International Symposium on Personal, Indoor, and Mobile Radio Communications (PIMRC)*

Sunday, September 4th, 2016, 9:00-18:00

Valencia Conference Centre, Valencia, Spain

(In collaboration with the *EIT DIGITAL* Project: "HII - ACTIVE: High Impact Initiative - Advanced ConnecTIvity platform for VErtical segments")

11:10 11:50 Keynote #1: 5G Machine Communication Technologies

Dr. Magnus Frodigh *(Research Area Director, Wireless Access Networks, Ericsson Research, Sweden)*

Abstract: The evolution of 4G that is taking place now and the research and development for the 5G networks further down the road, will be revolutionary for the progress of Internet of Things. With 4G and 5G services, new opportunities open up by truly allowing connection of all the things around us, making new applications possible and enabling a large variety of different industries and societies to transform into the Networked Society. The 4G and 5G technologies are required to support a broad spectrum of devices and use cases – from massively deployed low-cost devices to highly specialized and demanding applications, from low-intensity sensor readings to mission-critical control signaling. This presentation will discuss some of the key technologies that we expect to see and are necessary for meeting the challenges.

Bio: Magnus is Research Area Director for Wireless Access Networks in Ericsson Research. The field of research includes radio network architecture, protocols and algorithms for new and existing radio communication systems. As we are moving into the Networked Society the importance of connectivity will be much broader leading to many new challenges to be addressed.

Magnus started in the mobile communication area already 1989 as a PhD student at KTH in Stockholm/Kista. After graduating Magnus joined Ericsson in 1994. Within Ericsson, Magnus has had several different positions, starting at Ericsson Research, moving to product management for WCDMA and then to Systems &Technology within the Radio Design unit before taking on the current position as head of Wireless Access Networks within Ericsson Research. Magnus is also adjunct professor in Wireless Infrastructure at KTH.

14:10   14:50   **Keynote #2: IoT Evolution Towards 5G**

Prof. Preben Mogensen *(Professor at Aalborg University and Principal Engineer at Nokia – Bell Labs, Denmark)*

Abstract: The presentation will cover requirements, technologies and performance analysis for IoT connectivity towards 5G. Examples for the three use cases: massive MTC, V2X/UAV and Ultra Reliable Low latency communication will be covered. For massive MTC the presentation will give a brief overview of the different technologies in licensed and non-licensed bands and their coverage and service performance. Secondly the presentation will take a look into connectivity solutions for the V2X and UAV use cases. Finally, the presentation will take a look into technology components for providing Ultra Reliable Low Latency Communication (URLLC).

Bio: Preben Mogensen received his M.Sc. and Ph.D. degrees from Aalborg University in 1988 and 1996, respectively. Since 2000, he has been a professor at Aalborg University and leading the Wireless Communication Networks (WCN) Section. He has co-authored more than 300 papers in various domains of wireless communication. Since 1995 Preben Mogensen has also been part time associated with Nokia; Currently in a position of Principal Engineer in Nokia – Bell Labs Aalborg. His current research focus is on 5G and MTC/IoT.