

## **Title: Wireless Sensor Networks for Building Management**

**Dr. Dirk Pesch, Cork Institute of Technology, Cork, Ireland**

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**Abstract:** Wireless Sensor Networks have a huge application range from healthcare to battelfield monitoring to energy management. Recently, the energy management space has attracted much attention as many advanced economies now have low carbon programmes. In these countries, buildings consume up to 40% of the energy, more than the industrial sector. Huge energy savings can be realised with the right application of ICT systems such as wireless sensor networks. The talk will briefly introduce general wireless sensor network concepts and then focus on the application space of wireless systems and networks for building management. Research and development challenges for such systems in buildings will be highlighted and the main networking technologies for wireless monitoring and control systems in buildings will be presented. The talk will close with an overview of some selected research results of some Irish research projects in this space.

**Biography:** Dr Dirk Pesch is Head of the Nimbus Centre for Embedded Systems Research at Cork Institute of Technology, Cork, Ireland and a Senior Lecturer in the Department of Electronic Engineering. Dr Pesch received a Dipl.Ing. degree from RWTH Aachen University, Germany, and a PhD from the University of Strathclyde, Glasgow, Scotland, both in Electrical & Electronic Engineering.

His research interests focus on design and performance characterisation of algorithms, protocols, and services for heterogeneous wireless networks and wireless network design with applications to mobile ad-hoc, mesh, sensor and vehicular networks. He has 15 years research and development experience in national and EU funded projects both in academia and industry. He has over 100 journal, book chapter, and conference publications in his area of expertise. He is involved in a number of national and international research projects and is the lead Principle Investigator (PI) of the Irish government funded NEMBES research cluster ([www.nembes.org](http://www.nembes.org)) and a member of steering committee of the Irish Wireless Sensor Networks (WISSEN) Industry Lead Research Cluster. He is also heavily involved in international conference organization in the area of wireless and mobile networking as general chair of ACM HotEmNets 2010 and Programme Co-chair of ACM BuildSYs 2010.