

Future Opportunities for Dependable and Secure Inter-Personal Wireless Communications

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Abstract: Recent innovations and research effort in mainstream wireless communications have focused on solutions for optimising our use of the available spectrum, improving energy efficiency and addressing security concerns. At the same time, niche applications such as body-centric communications and indoor localisation have acted as a catalyst for new ideas throughout the entire protocol stack. This talk will present some of the recent research work in the Radio Communications group at Queens University, Belfast and the Short Range Radio group at the University of Twente, including work on assessing the feasibility of using COTS mm-wave technology for high-bandwidth communications for dismounted combat personnel. Professor Scanlon will argue that we will be able to develop a new generation of dependable wireless applications through a thorough understanding and cognitive awareness of the radio propagation environment. This physical-layer starting point can both inform, and can be exploited by, all layers of the stack to deliver optimum communications performance for any given set of resources.

Biography: William G. Scanlon (1969) received the B.Eng. degree in electrical engineering and the Ph.D. degree in electronics (specializing in wearable and implanted antennas) from the University of Ulster, UK in 1994 and 1997, respectively. He was appointed as Lecturer at the University of Ulster in 1998, Senior Lecturer and Full Professor at Queen's University of Belfast (UK) in 2002 and 2008, respectively. He currently leads the Radio Communications research group at Queen's and since 2009 he has held a part-time Chair in Short Range Radio at the University of Twente, Netherlands. Prior to starting his academic career he had 10 years of industrial experience, having worked as a Senior RF Engineer for Nortel Networks, as a Project Engineer with Siemens and as a Lighting Engineer with GEC-Osram. His current research interests include personal and body-centric communications, wearable antennas, RF and microwave propagation, channel modelling and characterization, wireless networking and protocols and wireless networked control systems. He has published over 160 technical papers in major IEEE/IET journals and in refereed international conferences. He will be the Keynote speaker at BodyNets 2010, served as a keynote speaker for the European Workshop on Conformal Antennas (2007), Co-Chaired the 2009 Loughborough Antennas and Propagation Conference and he has acted as invited speaker and session chair at numerous other national and international conferences. Prof. Scanlon received a Young Scientist award from URSI in 1999, he is a prolific reviewer for IEEE/IET journals and conferences and other major conferences. He is a Director of WirelessLAB (Ireland) and a member of the IEEE International Committee on Electromagnetic Safety (ICES) and the IASTED International Committee on Telecommunications. He recently founded ACT Wireless Ltd., a UK start-up company focused on developing assured communications technology for the personnel tracking and telematics markets.

Web-links:

<http://www.ee.qub.ac.uk/radio/>

<http://www.ewi.utwente.nl/te/index.html>

