



IEEE Okanagan Subsection Presents

Prof. Lutz Lampe
IEEE Distinguished Lecturer
The University of British Columbia

Power Line Communications Reloaded

Time & Date: 2pm-3pm, Tuesday June 11, 2013

Location: EME 1202, UBC Okanagan campus



Talk Abstract: Power line communications (PLC) collectively refers to technologies that use existing power lines for data communications at frequencies (far) beyond the 50 Hz (or 60 Hz) mains frequency, including so-called distribution line carrier (DLC) and broadband over power lines (BPL). The single main advantage of PLC over other wired communications solutions is that the wire infrastructure is already in place. In fact, the electricity grid is the most ubiquitous infrastructure worldwide, and its extremely high penetration opens the door for a plethora of applications supported by PLC. On the negative side, power lines and power line grids have not been designed for data communications, which gives rise to the notion of a "horrible channel". While concept of communications over power lines has been with us for essentially as long as wire line and wireless communications, PLC has experienced waves of innovations at around the turn of the century and in the past few years. In this seminar, we will provide an introduction to and a partial overview of applications, standardization, regulatory, and communication technology aspects for PLC, with a focus on recent developments. This includes results on channel characterization, transmission and detection methods, and a discussion of recent developments in IEEE and ITU standardization. In this context, we will also highlight the use of PLC to support Smart Grid applications.

Speaker Biography: Lutz Lampe is a Professor in the Department of Electrical and Computer Engineering at the University of British Columbia, Vancouver, Canada. His research interests span a wide range of topics in wireless communications and communications over power lines. He has contributed to the development of power line communications (PLC) systems since 1998, with a focus on signal processing for broadband and narrowband PLC systems. He is the recipient of a number of research and best paper awards, including the Best Paper Award at the 2011 IEEE International Symposium on PLC (ISPLC). He is co-editor of the book "Power Line Communications: Theory and Applications for Narrowband and Broadband Communications Over Power Lines" published by Wiley & Sons in 2010. In 2005, he was General Chair of the ISPLC, and since 2010 (re-elected 2012) he has served as the Chair of the IEEE Communications Society Technical Committee on PLC. He is a Distinguished Lecturer of the IEEE Communications Society.

Refreshments will be provided. For further information please contact:
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