Seminar Announcement

Title: Intelligent connectivity enablers for converged heterogeneous 5G-IoT ecosystem

Presenter: Dr. Sergey Andreev, W.I.N.T.E.R. Group, Tampere University of Technology, Finland

Date/Time: 2-3 pm, Thursday, June 11, 2015

Place: ENG LG06, Ryerson University, Toronto (www.ryerson.ca/map)

Abstract: In this talk, we comprehensively review recent advancements in radio connectivity enablers at the intersection of the 5G and the IoT realms. We explore the potential of a wide range of devices requiring connectivity at different scales (macro, micro, pico, femto, etc.) and across diverse radio access technologies (e.g., cellular and WLAN) to augment system capacity and improve connectivity experience in next-generation heterogeneous deployments. Further, we discuss the emerging concept of proximate device-to-device communication and the changes it introduces to conventional networking paradigm. We also address the unique challenges posed recently by an impressive variety of machine-type devices, with their characteristic stringent performance requirements, and the capabilities that both short- and long-range radio technologies would need to develop while accommodating those. Finally, we consider the novel spectrum usage paradigms for the future 5G-IoT ecosystem, including millimeter-wave access and licensed shared access techniques. Our study is a combined pursuit of mathematical analysis, system-level simulations, standardization, and production-ready prototyping of the key 5G-IoT solutions.

Biography: Dr. Sergey Andreev is Senior Research Scientist at Tampere University of Technology (Finland), where he is coordinating W.I.N.T.E.R. Group (http://winter-group.net/) focusing on 5G and IoT centric research. He has (co-)authored over 100 papers (including those in IEEE JSAC, IEEE Communications Magazine, and IEEE Wireless Communications), several patents, and a number of IEEE and 3GPP standardization contributions in the areas of multi-radio heterogeneous networking, cooperative and proximate communications, energy efficiency, and machine-to-machine applications. This innovation activity has been well covered in media on both national (Interface science magazine, Finland) and international (Eurescom message, EU) levels. Sergey has been reviewer for numerous visible conferences as well as a large number of top-level international journals, and named Exemplary Reviewer by IEEE Communications Letters in 2013. He has also been invited expert at 5G-PPP Experts Workshop, China-Finland 5G Workshop, held many guest lectures at industry (Intel, Ericsson, NSN, etc.) and academia worldwide. Recently, he has been recipient of highly competitive personal research grant by the Academy of Finland (9% success rate), as well as several other prestigious scholarships and awards.

All are welcome. No registration is needed.

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