

## BCWS Seminar Series

MAC layer of IMT-Advanced systems in a closed loop control view

by

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Time: Wednesday, February 3, 1:30 - 2:30 pm

Place: Room 4356, Mackenzie Building, Carleton University

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**Abstract:** The MAC layer of IMT-Advanced systems consists of several building blocks. The control plane is mainly determined by the scheduler. Instead of having a black box, this presentation aims at decomposing it into smaller pieces. Packet and Resource Scheduling are the two distinct tasks. Packet scheduling is the determination of the ordering of packets among competing connections or users, where the server itself is not specified. Resource scheduling (RS) is the determination of the resources of the wireless link to use for which user, while the meaning of the packets is not important. By separating this as much as possible the problems can be solved in smaller units. Therefore a block diagram is proposed for the various tasks of resource scheduling, while the separated packet scheduling is performed as known from QoS support in wired networks.

**Biography:** Dr. Rainer Schoenen received his B.Sc. and Ph.D. degrees from Germany in Electrical Engineering in 1995 and 2000, respectively. His research interests include multiprocessor scheduling, dataflow and stochastic Petri Nets systems, ATM switching and scheduling as well as flow control; in particular, his PhD thesis was on “System Components for Broadband Universal Networks with QoS Guarantee.” Dr. Schoenen was a senior researcher/lecturer at Communication Networks (ComNets) Research Group, RWTH Aachen University, Germany, from 2005 to 2009, teaching topics on computer networks, queuing theory and networks, Petri Nets, channel coding, OS kernel management together with doing research on LTE, relaying, OSI layer 2. He has been a visiting PDF at the Department of Systems and Computer Engineering, Carleton University from January 2010 working under the supervision of Professor Halim Yanikomeroglu.