



Illinois Center for Wireless Systems

ICWS Seminar Series



IMPROVING THE WIRELESS ACCESS TECHNOLOGIES

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Abstract: Wireless will arguably dominate the access technologies. In contrast to the guided media which capacity might be arbitrarily extended simply by deployment of additional cables, radio spectrum is a scarce resource. One promising way for improving the spectrum usage is increasing the dynamic

of its assignment. In this talk two approaches following this principle will be addressed:

- usage of multi-user OFDMA for improved usage of individual channels
- cognitive radio approach for improved usage of licensed frequency bands

Some recent results in both areas will be shortly described; their practical relevance will be discussed in the context of ongoing standardization activities

- the actually triggered discussion about future high speed Wireless LANs within IEEE 802.11
- the work on dynamic reuse of TV bands within IEEE 802.22

Bio: Adam Wolisz is chaired Professor of Electrical Engineering and Computer Science at the Technische Universität Berlin, where he has founded and is leading the [Telecommunication Networks Group \(TKN\)](#). Currently he is executive director of the Institute for Telecommunication Systems, grouping the activities in Communications, Networking and Distributed Systems. In parallel he is also adjunct Professor [Department of EE&CS, University of California, Berkeley \(BWRC\)](#). His research interests are in architectures and protocols of communication networks as well as in protocol engineering with impact on performance and QoS aspects.