

## Resource Management for Dynamic Spectrum Access

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2009 May 4 & 5

University of Oulu - Centre for Wireless Communications, Lecture Room KO102 and KO143

### Course Description

The course will provide attendees with a critical understanding of current research on centralized and distributed radio resource management in a dynamic spectrum access (DSA) environment. We will introduce the DSA environment and general approaches to radio resource management in wireless systems. We will then explore resource management issues in DSA systems: primary and secondary user coexistence; radio rendezvous; medium access control; power control, topology control, and channel assignment; and economic incentives for sharing resources. We will conclude with a look at some of the practical applications driving research in these areas, including television white space reuse and femtocell applications.

### Agenda

#### Day 1 - Monday, May 4

9:00 - 9:15	Introduction to the Course & Agenda
9:15 - 10:15	Introduction to Dynamic Spectrum Access (DSA)
10:15 - 10:30	Break
10:30 - 11:30	Introduction to Resource Management in Wireless Networks
11:30 - 12:30	Lunch
12:30 - 13:15	Primary and Secondary User Coexistence
13:15 - 13:35	Rendezvous
13:35 - 13:50	Break
13:50 - 14:50	Medium Access Control for DSA

#### Day 2 - Tuesday, May 5

9:00 - 9:15	Introduction to the Agenda
9:15 - 9:45	Introduction to Cognitive Networks and Cross Layer Optimization
9:45 - 10:00	Break
10:00 - 11:30	Power Control, Topology Control, and Channel Assignment in Multichannel Ad Hoc Networks
11:30 - 12:30	Lunch
12:30 - 13:15	Economic Incentives for Resource Sharing
13:15 - 13:30	Break
13:30 - 14:15	Practical Applications
14:15 - 14:45	Conclusions, Open Issues and Future Work

Registration latest by Friday 24 April under: <https://www.webropol.com/P.aspx?id=320745&cid=83524533>

The course is worth 3-4 credit points, the exact number of credit points will be confirmed later.

The course fee for participants who are not postgraduate students of the University of Oulu is 600 € (VAT 0%) including coffee and lunch on both course days.

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