IEEE DySPAN2015
Dynamic Spectrum Access Networks

IEEE
IEEE COMMUNICATIONS SOCIETY

# STOCKHOLM

**September 29 – October 2, 2015**
**Clarion Hotel Stockholm**

## Spectrum for 5G Wireless Systems

**www.ieee-dyspan.org**

# CALL FOR PAPERS

The strong growth of traffic in wireless mobile and nomadic internet access is rapidly on its way to dwarf all other wireless communication applications. The demand for more capacity has to be met by a combination of different strategies: improved technology (spectrum efficiency), use of short-range communications (ultra-dense deployment of access points) and the more efficient use of spectrum in existing bands and allocation of new spectrum. Providing more spectrum has significant advantages, since existing infrastructure can be reused resulting in lower cost and lower energy consumption. The connectivity in future "5G" scenarios will be provided by a multitude of actors with complementing and overlapping small and large coverage areas. The 5G use-cases range from ultrahigh-speed access for personal entertainment, to Internet-of-Things infrastructure, where extreme reliability and low power are key factors. In all these scenarios, trends like network sharing, offloading and outsourcing of network operation are emerging, with implications for a multitude of new technical and business opportunities as well as challenges to the regulatory regime. A number of regulatory activities are now starting to address these issues, including WRC-15

IEEE DySPAN is the premier conference to discuss, publish and present recent advancements regarding these and other challenges in the spectrum domain. This includes Dynamic Spectrum Access (DSA), Flexible Spectrum management, and other innovative ways to efficiently use and re-use the frequency spectrum.

Although secondary spectrum sharing is of interest, previous DySPAN conferences have demonstrated the limitations of sensing based access systems for large scale use. The focus is now turning towards other, novel approaches to dynamic and flexible spectrum management, approaches that are suitable to provide large amounts of spectrum for short range use in a trustworthy manner that makes large-scale investments attractive. Examples of promising techniques involve database driven dynamic licensing techniques and various “light licensing” and spectrum sharing options, e.g. licensed shared access. The latter has lately received great interest by industry. In the past, most of the focus has been on UHF spectrum sharing, but now the interest is shifting to frequencies above 3 GHz including the mm-wave range.

IEEE DySPAN 2015, like its predecessors, is a unique symposium that gathers industry, academia and regulatory communities and facilitates the crucial meetings between technical, business and policy aspects. In addition to program tracks for technology and policy papers, the conference will host system demonstrations, panels, and tutorials that are tailored for special audiences such as regulators and industry. The conference will also host several keynote sessions given by leaders of the technology and policy communities.

IEEE DySPAN 2015 welcomes contributions dealing with regulatory and business aspects of dynamic spectrum access, theoretical studies, algorithm and protocol design for flexible spectrum management, as well as application-oriented contributions dealing with architectures, platforms, signaling and multiple access schemes. We are particularly looking for papers reporting on systems aspects and prototypes, summaries of regulatory options and advancements, spectrum measurements, as well as business cases for advanced spectrum engineering.

Best student papers will be awarded for the technical and policy tracks.

The program seeks original and unpublished work not currently under review by any other technical journals / magazines / conferences, but welcomes opportunities for interdisciplinary teams to present previous policy work to the technical audience.

## Technology Program Topics

- Spectrum measurement and models
- Interference metrics and measurements
- Privacy and security of DSA
- Experimental prototypes and results from trials
- New spectrum sharing models
- Licensed shared access
- Geolocation Datebase systems for spectrum sharing
- Information-theoretic aspects of spectrum sharing
- Energy-efficient DSA
- MAC and routing protocols for DSA
- Learning and prediction in DSA
- Hardware architectures and implementation
- Context-awareness in DSA
- Spectrum for Novel Applications
- Small Cells and Heterogeneous networks
- Cooperative and coordinated communication networks
- Radio resource management and interference coordination
- Cooperative spectrum sensing and localization
- Spectrum Aggregation

## Policy Program Topics

- Business models and pricing for dynamic spectrum access
- Market trends for secondary spectrum usage
- Regulatory models for dynamic spectrum access
- Software regulation / standardization and equipment certification
- Industrial and government role in dynamic spectrum access
- Dynamic spectrum auctions and economics with focus on incentive auctions
- Spectrum etiquettes and coexistence models
- Spectrum sharing vs Infrastructure sharing
- Implications of Cloud RAN systems
- Defining / enforcing rights and responsibilities of spectrum licensees and easement
- Standardization of DSA technology

## Program Deadlines

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| April 15 | Paper Submission Deadline |
| May 15 | Tutorial Proposal Deadline |
| May 15 | Poster Paper Submission Deadline |
| May 15 | Demo Proposal Deadline |
| August 10 | Camera Ready Submission |

## Notification Deadlines

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| June 1 | Papers |
| June 30 | Tutorials |
| June 30 | Demonstrations |
| June 30 | Poster Papers |