First International Workshop on COmpetitive and COoperative Approaches for 5G networks (COCOA)

Co-located with European Wireless 2016, 18-20 May 2016, Oulu, Finland

Scope of the workshop

The scope of the COCOA workshop is to collect and present new approaches and techniques for the understanding and efficient management of competitive and cooperative behaviors in future and emerging wireless networks.

One of the cornerstones of the upcoming transition to 5th-generation (5G) mobile networks is the sharing of infrastructure and network resources which, together with key enabling technologies (such as HetNets, service virtualization, massive MIMO and mmWave communications), will allow network operators to provide users with unprecedented connectivity and communications performance levels. 5G networks will also rely heavily on softwarization and virtualization of network elements and services by exploiting Software Defined Networking (SDN) and Network Function Virtualization (NFV) paradigms. The efficient cooperative sharing of these resources allows for smart, flexible and efficient network management, but it may also lead to non-cooperative behaviors due to exploitation. While it is well-known that cooperative approaches lead to energy savings and performance improvements, there are some scenarios where cooperation among adversarial entities cannot be enforced, hence it is crucial to determine the fundamental performance limits of the network in a non-cooperative setting.

These two behavioral paradigms (both of which arise naturally in 5G networks) have strong implications on the network management and control processes of these systems.

Topics of interest are (but not limited to)

– Conflict-aware flexible network virtualization and slicing;
– Resource sharing through pricing and reward mechanisms;
– SDN and NFV approaches for competitive and cooperative resource sharing in 5G networks;
– Cooperative communications for Cloud Radio Access Networks (C-RAN) technologies in 5G networks;
– Relaying-aided efficient communications in 5G;
– Economics for competitive and cooperative network and system management in 5G;
– Adaptive and cooperative learning for channel estimation in 5G systems;
– Centralized and distributed optimal resource allocation for 5G networks;
– Cooperative and non-cooperative game theoretic approaches to 5G systems;
– Cooperative and competitive interactions among TOs in 5G systems;
– Cooperative infrastructure sharing for efficient and seamless handover management in 5G networks;
– Cooperative beamforming and MIMO communications for 5G networks;
– Security and privacy issues for cooperative communications in 5G systems;
– Cooperative and competitive approaches for Network Coding approaches in 5G networks;
– Cooperative and competitive energy-efficient communications and service provisioning;
– Auction and bargaining-based resource allocation for virtualized 5G systems;
– Market and economic models for Virtualized Network Function (VNF) provisioning;

Important Dates

Full papers due: March 4, 2016
Acceptance notification: March 22, 2016
Camera ready version: March 29, 2016

Submission Guidelines

The workshop accepts only novel, previously unpublished papers in the area of Device-to-Device Communication. Prospective authors are encouraged to submit a 6-page IEEE conference style paper (including all text, figures, and references) through EDAS submission system (https://www.edas.info/). Papers exceeding the maximum length of six pages will be subject to an over-length charge of 100 euro per additional page (a maximum of two pages can be added). The charge shall be paid as an additional fee to ordinary registration by the reference author of the paper. Accepted papers must be presented at the workshop by one of the authors. All papers selected for publication will be published together with European Wireless 2016 proceedings and available on IEEE Xplore database and will be indexed in the abstract and citation database Scopus (approval pending).

Organizers

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