



Workshop on Flexible and Agile Networks (**FlexNets**) in conjunction with the IEEE WCNC 15-18 April 2018 // Barcelona, Spain <http://flexnets.ceng.metu.edu.tr>

There has been a tremendous evolution from voice systems to sophisticated communication platforms in mobile communications. Today's mobile communication systems provide a diverse set of services and applications to a large number of devices. Nevertheless, future systems such as 5G are expected to serve applications with varying requirements, be adaptive to dynamic topologies, and take autonomous decisions to reconfigure the networks for efficiency and resiliency purposes. Flexible and agile networking solutions are required to deal with uncertainties and unknowns, and also to enable backward and forward compatibility.

In this workshop, the following topics will be considered:

- Reconfigurable end-to-end mobile network architectures
- Autonomous network function allocation and placement
- Flexible network management, self-organized networks, CORD, mobile CORD
- Mobile edge, cloudlet, cloud computing for assisting radio access networks (RAN) in 5G mobile networks
- Virtualization of network functions and elements, microservices
- Virtual radio access technologies
- Heterogeneous traffic distribution in heterogeneous wireless networks
- 3GPP and Non-3GPP interconnection
- Multi-context awareness, multi-service and multi-tenancy and network slicing,
- Adaptation to the underlying networking and computing infrastructure,
- Energy-efficient RAN and elasticity in RAN, RANaaS,
- Programmable RAN and software-defined networking (SDN) architectures,
- User-in-the-loop, spatial and temporal demand shaping in wireless networks
- Service-oriented network management, service orchestration
- Flexible backhauling/fronthauling
- Control-data plane split
- Runtime flexibility in verticals
- UAV (drone) assisted agile networks, Mobile BSs
- Flexible public radio interfaces
- Flexibility in/for machine-type communication and IoT

Do not miss the keynote speech

QoS and Resilience with the Cognitive Packet Network by **Erol Gelenbe** (Imperial College)
Abstract: The Cognitive Packet Network (CPN) is a bio-inspired packet network routing method (US Patent US6804201) which is adaptive, distributed and robust, and which has been implemented and experimentally tested. It also offers an effective resilience to worm and denial of service attacks. We will describe CPN and detail its reinforcement learning based quality of service routing approach based on measurements, using a Random Neural Network as the adaptive critic and decision engine. We will outline the motivation for this technique, and detail its principles and implementation. Experiments on a large laboratory test-bed and for intercontinental routing will be presented to illustrate the method. Extensions of CPN to energy-aware routing will also be discussed.

Chairs

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Important dates

Paper Submission: Nov. 12, 2017

Acceptance Notification: Dec. 15, 2017

Camera-Ready Papers: Jan. 12, 2018

Paper submission

<http://edas.info/N24107>

All submissions should be written in English with a maximum paper length of six (6) printed pages (10-point font) including figures. Standard IEEE conference templates for LaTeX formats are found at http://www.ieee.org/conferences_events/conferences/publishing/templates.html

Venue

FlexNets will be held at the Centre de Convencions Internacional de Barcelona (CCIB) [<http://www.ccib.es>]. The center is located in the Diagonal Mar area, the newest section of Barcelona's seafront and right next to the heart of the technology and business district (Barcelona 22@).

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