Cicek Cavdar

Biography: Cicek Cavdar is a researcher at School of Information and Communication Technology (ICT) of the Royal Institute of Technology (KTH) in Sweden. She finished her Ph.D studies in Computer Science, University of California, Davis in 2008 and in Istanbul Technical University, Turkey in 2009. After her PhD, she worked as an Assistant Professor in Computer Engineering Department, Istanbul Technical University. She has been chairing several workshops on the green mobile broadband technologies and Green 5G Mobile Networks last few years co-located with IEEE ICC and Globecom. She serves as chair of the green communications track in ICC 2017 which will be held in Paris. At Wireless@KTH research center, she has been leading EU EIT Digital projects such as "5GrEEn: Towards Green 5G Mobile Networks" and "Seamless DA2GC in Europe". She is serving as the leader of Swedish cluster for the EU Celtic Plus project SooGREEN "Service Oriented Optimization of Green Mobile Networks". Her research interests include design and analysis of telecommunication networks with focus on 5G mobile networks, cloud computing, big data in the network, survivability, energy efficiency, end-to-end converged wireless-optical networks and 5G Network Architectures.

Session Title: Green Optical Transport Network Design for 5G Mobile Networks

Abstract: Cloud radio access networks has emerged as a scalable solution as a response to the increasing capacity requirements with the growth of different type of mobile services in next generation networks. 5G Mobile networks need to meet with variable set of service requirements from stringent delay to delay tolerant applications; from heavy capacity requirements to very small number of bits to transmit. This calls for sustainable and scalable network growth strategies and novel architectures considering jointly radio and optical transport segments of the network. In this talk, traffic adaptive network operation strategies and new 5G network architectures will be presented considering virtualized cloud radio access networks (VC-RAN). The first part of this talk presents the potential energy savings in VC-RAN where base stations (BS), and transport systems are virtualized and processing can be handled in the cloud. Virtual BSs can be formed dynamically as the user traffic moves in an area. The processing units can go to sleep together with the BSs and transport systems jointly in this energy optimized system.