



# Bilkent EEE



## Bilkent EEE Distinguished Seminar Series

Bilkent University - Department of Electrical and Electronics Engineering



**Distributed optimization for learning and resource management harnessing intelligence and data at the network edge**

**Anna Scaglione**

**Cornell Tech**

**April 5, 2022 – 17:30-18:30 (on Zoom)**

**<https://bit.ly/BilEEESem220405>**

This talk will provide an overview of the significant progress made over more than a few decades on peer to peer algorithms for distributed computation and inference. Starting from the description of decomposable problems that are amenable to a master-slave implementation, the talk will move on to self-organizing multi-agent architectures, focusing on a variety of techniques such as the Average Consensus (AC) primitive, its convergence properties over deterministic and random networks and the Distributed Sub-Gradient (DSG) method and proximal methods, such as the celebrated Alternating Direction Method of Multipliers (ADMM) method. The applications of these algorithms to distributed computation will be highlighted along the discussion, as well as future research opportunities and challenges that will help overlay more easily algorithms to complex-layered networks architectures.

**Bio:** Anna Scaglione (M.Sc.'95, Ph.D. '99) is currently a professor in electrical and computer at Cornell Tech, the New York City campus of Cornell University. Prior to that she held faculty positions at Arizona State University, the University of California at Davis, Cornell University (the first time) and the University of New Mexico. She is an IEEE fellow since 2011 and received the 2013 IEEE Donald G. Fink Prize Paper Award, the 2000 IEEE Signal Processing Transactions Best Paper Award and the NSF CAREER grant (2002). She is co-recipient with her students of several best student papers awards at conferences and received the 2013 IEEE Signal Processing Society Young Author Best Paper Award with one of her PhD students. She was a Distinguished Lecturer of the Signal Processing Society in 2019 and 2020, when most of her travel was cut short by the pandemic. Dr. Scaglione's expertise and research considers theoretical and applied problems in statistical signal processing, communications, optimization theory and cyber-physical systems.

