

# 灵峰论坛

## Distributed Optimization and Its Applications in Coordination of Distributed Energy Resources

2019/7/4 15:00

浙江大学工控新楼501室



Prof. Tao Yang

University of North Texas

Tao Yang is an Assistant Professor at the Department of Electrical Engineering, University of North Texas. He received the Ph.D. degree in electrical engineering from Washington State University in 2012. Between August 2012 and August 2014, he was an ACCESS Post-Doctoral Researcher with the ACCESS Linnaeus Centre, Royal Institute of Technology, Sweden. He then joined the Pacific Northwest National Laboratory as a postdoc, and was promoted to Scientist/Engineer II in 2015. His research interests include distributed control and optimization with applications to power systems, cyber physical systems, networked control systems, and multi-agent systems.

### Abstract

In this talk, we consider the optimal coordination problem for distributed energy resources (DERs) including distributed generators and energy storages. We first propose an algorithm based on the push-sum and gradient method to solve the optimal DER coordination problem in a distributed manner. Moreover, in order to improve the convergence speed and to reduce the communication burden, we propose an accelerated distributed algorithm with a fixed step-size. Both proposed distributed algorithms are validated and evaluated using the IEEE 39-bus system.