

## **Distributed Optimization: How to bridge the gap between theory and implementation?**

Distributed Optimization has received increased interest for various applications in the electric power system. Algorithms are being developed for distributed state estimation, distributed Optimal Power Flow, distributed Power Flow calculations, etc. However, most of that work is merely focused on providing new algorithms which converge to the same solution as a centralized optimizer would and which do so in as few iteration steps as possible. The purpose of this talk is to initiate a discussion between academic researchers and practitioners on how the gap between theoretic development of such algorithms and a practical application in the “real-world” can be closed, i.e. what aspects need to be taken into account and addressed for utilities to embrace and employ distributed algorithms. This also raises the question on how to benchmark and compare different types of algorithms. Performance evaluations should not just be limited to number of iterations but also include other aspects such as complexity at each iteration step, robustness, etc. This talk is intended to initiate discussions on these practical aspects of distributed optimization.