

# NATURAL COMPUTATION APPLIED TO POWER SYSTEM

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The electrical power demand is growing exponentially. At the same time the quality and reliability requirements of modern power systems are becoming more and more stringent. This special session will focus on the applications of natural computation intelligence for planning, operation, control, and optimization of modern electric power systems, in order to provide better secure, stable and reliable system. The natural computation techniques include neural computation, evolutionary computation, swarm intelligence, artificial immune systems, ant colony search, fuzzy logic, pattern recognition, data mining, firefly algorithm, cuckoo search algorithm, teaching-learning-based optimization (TLBO) algorithm, grey wolf optimization algorithm and artificial bee colony, etc.

## Topics

- Power system operation
- Power system control
- Power system planning
- Power system analysis
- Power system stability
- Power system reliability
- Power system protection
- Security assessment
- Power quality enhancement
- Load frequency control
- Power sector reforms and restructuring
- Microgrid