

Special Session : Bio-inspired Computation and Its Applications in Power System (BiCAPS)

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Bio-inspired computation is an umbrella term for different computational technologies that are based on principles or models of biological systems. This class of approaches, including evolutionary algorithm, swarm intelligence, and artificial immune system, complements traditional ones in the sense that the former can be applied to large and complex combination optimization problems, but the latter encounters difficulties. Therefore, bio-inspired technologies are becoming important in the face of solving discrete and dynamic problems.

Recently, the bio-inspired computation has attracted much attention of researchers and has also been widely applied to Electric Power Systems in Generation, Planning Scheduling and integrating Renewable Energy technologies into normal conventional power systems. However, due to complexity and uncertainty in the problems, it is very difficult to find out the optimum solution under the limited resources, time, and money in real-world applications using the bio-inspired technologies. Therefore, it is necessary to develop efficient or improved algorithms to solve Electric Power Systems problems.

The main objective of this special session is to present the original research and review articles on the latest theoretical and practical achievements that will contribute to the field of bio-inspired computation and its applications in Electric Power Systems.

Topics of interest for this special issue include but are not limited to:

Industrial Power Systems

Plant Performance and Optimization
Power Generation Systems
Modelling and Simulation
Load Modelling
Forecasting and Management
Power Quality and Grounding
Maintenance and Operation
Distribution System Planning and Reliability
Flexible AC Transmission Systems
Power System Control and Stability

Renewable Power Generation

Renewable Energy for IT Equipments
Renewable Fuel from Biomass
Distributed and Co-Generation Systems
Wind Energy Systems
Solar Energy Systems,
Hydro Power Plants
Hydrogen Systems and Fuel Cell
Energy Management and Environmental issues
Hybrid Power Systems
Power Market and Power System Economics

Smart Grid

Smart grid for distributed energy resources
Smart grid in interdependent energy infrastructures
Smart grid for intelligent monitoring and outage management
Smart grid applications and technologies
Smart grid for plug-in vehicles and low-carbon transportation alternatives
Smart grid for cyber and physical security systems

Power Electronics, Systems and Applications

Soft switching converters
Hard-switching and soft-switching static converters
Multilevel converters
Matrix converters
Emerging topologies
Power Converters Modelling
Simulation and Control
Power Factor Correctors (PFC)
EMI and over-voltage protection
Active Filters and Harmonics
Power Supplies
Power Electronics Components and Packaging
Inverter and Converter Technology
Electric Drivers and Application
Electronic Materials
Education and Training for Electrical Engineers
Nanometer-scale materials engineering
Optoelectronic photonic devices
Power semiconductors, passive components and packaging technologies
Switch-mode power supplies and UPS
Applications of power electronics

FACTS Power quality issues, harmonic problems and solutions
Power electronics in traction and automotive
Applications of power electronics in home appliance, industry and aerospace
Modeling and simulation in power electronics
Power electronics education/professional development
Telecommunications power supplies
Electronics, Information & Control Systems

The authors are requested to submit full papers in prescribed format available at <http://www.iresconf.org> describing their original, unpublished, research contribution which is not currently under review by another conference or journal and addressing state-of-the-art research in the areas mentioned above.

Paper Submission Process:

Please submit your paper (in word/pdf format) at following email:

Email: lalrajasingh@gmail.com

with Subject Line '**Research Paper for Special Session BiCAPS in IRES-2017**' at Asian Institute of Technology Conference Center from your email.

Paper Submission Deadline: 10th April 2017.

For any further queries related to this special session, please contact the session chairs at:

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