

2019 IEEE International Conference on Industrial Informatics (INDIN'19)

Special Session/ Organized Session on Efficiency in Future Data Centers

organized by

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Call for Papers

With the increasing expansion of information and communication technologies (ICT), the data center facilities are becoming a sizable part of the energy system. Datacenters are large loads which accounted for 3% of all electricity use worldwide and 2% of the global CO₂ emissions, on par with the carbon footprint of the airline industry. It's estimated that data centers will have the fastest growth in carbon footprint from across the whole ICT sector due to the increasing adoption of cloud computing and internet services. Future data centers require cutting-edge industrial automation, information, control and power system technologies to efficiently manage their power supply, cooling, security and other facilities. The efficiency of data centres has many contributors, such as heating, cooling, ventilation, data processing, and air-conditioning, which can be improved via active load balancing, energy consumption and electrical power management. This special session is organized to address the current challenges and problems of this new and fast growing industry from the perspective of efficiency. We invite researchers and technologists from a broad range of expertise and specializations to discuss and share their ideas, found problems, challenges and solutions in this multidisciplinary arena of research and development. This session will be focusing on (but not limited to) the following topics:

- Data center energy efficiency and performance metrics
- Data center power infrastructure (power supply technologies, UPS solutions, power quality, power losses, alternative data center designs)
- Data center and power grid: demand response, smart load, load balancing

- Data center modeling: servers, cooling, entire infrastructure, data center dynamics (fan motors, pumps, UPS, backup generators)
- Data center asset management, maintenance and operation
- Thermal modelling of the server rooms
- Industrial automation for data centers
- Building management system in data centers
- Artificial intelligence applications in Data Centers

Submissions Procedure and Deadlines: All the instructions for paper submission are included in the conference website <https://www.indin2019.org/>