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Special Session on
"Efficient and Reliable LED Lighting Systems"

Organized by

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Call for Papers

Lighting systems based on LED technologies gain further significance as these technologies become mature. The advent of LED lighting systems brings in important challenges in terms of efficiency and reliability. Complex LED driver designs, required to drive LED lighting systems, still show limited efficiency levels. On the other hand, power electronic technologies required to drive LED lighting systems are unable to correspond with the longevity levels of LED devices. Active semiconductors and electrolytic capacitors, in particular, pose one of the major hurdles to the full exploitation of the LEDs lifetime. Accordingly, the development of efficient and reliable LED drivers ascertains itself as an interesting research topic.
This Special Session focuses on the discussion of emerging solutions suitable to leverage the efficiency and reliability of LED lighting systems.

Topics of interest include, but are not limited to:

- Fault tolerant LED drivers
- Fault tolerant LED lamp configurations
- Alternative LED driver topologies
- Optimized control strategies for LED drivers
- Efficiency improvement of LED lighting systems
- Current balancing strategies in multi-string LED configurations
- Reliability prediction and physics of failure of LED devices
- OLED systems
- Color control in emerging color-mixing LED systems
- Passive LED drivers
- EMI/EMC issues in LED drivers
- LED/OLED modeling

- Temperature management in LED/OLED systems
- LED driving for visual light communication (VLC)
- New trends in lighting

▪ IES Technical Committee Sponsoring the Special Session (if any):

IEEE-IES / Power Electronics Technical Committee (pending approval)
IEEE-IES / PETC Subcommittee on Fault Diagnosis and Fault Tolerance