

# CALL FOR PAPERS



## Special Session on Aspects of Digital Twins for Power Electronics and Energy Systems

IECON 2018 - The 44<sup>th</sup> Annual Conference of the IEEE Industrial Electronics Society  
October 21-23, 2018, Washington D.C, USA



### TOPIC OF THE SPECIAL SESSION

Power electronics products and systems experienced a tremendous increase of penetration in a lot of different areas (power systems, industrial applications, e-mobility, etc.). Consequently, more and more high sophisticated products are required to meet all predefined standards and come with an optional external communication interface if interaction with higher-level management systems is required. Hence, the digitalization of the development process with focus on flexibility and modularity of the proposed solutions with the need of fast time-to-market is becoming a necessity. Taking into account the full product lifecycle, different aspects as preventive maintenance, application optimization, mission profiles for future innovations are becoming more and more important for both, customer and supplier. The recently emerged “digital twin” concept allows to optimize and address these topics. However, to exhaust all possible benefits of the “digital twin” concept further discussion on various related aspects is needed.

### Topics of the Session

- Development process
- Manufacturing process
- Product lifecycle management
- Reliability and predictive maintenance
- Real-time-simulation, hardware-in-the-loop, accelerated lifetime simulation
- Aspects of certification for the field of use (grid code compliance)

### IEEE IES Technical Committee Sponsoring the Special Session:

- IEEE IES TC on Smart Grids
- IEEE IES TC on Standards

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### Author's schedule:

- Deadline for submission of special session papers  
May 1<sup>st</sup>, 2018
- Notification of acceptance  
July 15<sup>th</sup>, 2018
- Deadline for submission of final manuscripts  
August 1<sup>st</sup>, 2018