



# International Electric Machines & Drives Conference

May 12 - 15, 2019 • Westin San Diego • San Diego, CA

Special Session on

## **HIGH SPEED MOTORS, BEARINGLESS MOTORS, AND MAGNETIC BEARINGS**

organized and co-chaired by:

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### Call for SS Papers

High speed electrical motor technology has become a research and development focus area for companies looking to increase power density of the entire motor system. Recent commercialization of wide bandgap semiconductor devices has yielded motor drives capable of efficiently operating these machines at ultrahigh speeds. However, significant challenges remain with the modeling and optimal design of the electric motor as well as with the lifetime, reliability, and efficiency of bearing technology. Meanwhile, advancements in magnetic levitation technology in the areas of bearingless/self-bearing motors and magnetic bearings are making it more feasible to eliminate bearings all together. This special session will showcase papers which address important issues critical to the development of high speed motor technology, with or without bearings. Papers that increase the overall motor system performance (efficiency and power density), improve lifetime and reliability, or decrease design cost are particularly encouraged. Topics of interest include, but are not limited to:

- Multiphysics design optimization and modeling of high speed and bearingless electric machines
- Medium/high power bearingless motor technology for industrial applications
- Bearingless slice motors, single drive bearingless motors, and other magnetic levitation topologies that rely on partial passive stabilization to minimize total system cost and size
- Advanced high speed motor drive and magnetic suspension drive topologies
- Basic research on bearingless motors and related magnetic suspension technologies

#### **Submission and other dates:**

- **December 2, 2018 | Submission of five (5) page digests**
- **February 17, 2019 | Notification of the review results**
- **March 31, 2019 | Final submission of accepted papers**

All the instructions for paper submission are included in the conference website:

<http://iemdc-conference.org/Authors>