



**IEEE Transactions on Industry Applications**  
**Special Issue on *Fault Diagnosis of Electric Machines, Power Electronics and Drives***

This Special Issue aims to offer an insight into the state-of-the-art of diagnostics and condition monitoring of electrical machines, power electronics, adjustable speed drives and related areas. The fault diagnostics of electrical machines and drives has been the object of a significant amount of research work during the last few decades. Reducing maintenance costs and preventing unscheduled downtimes, which cause production and economic losses, are a priority for manufacturers and operators. Correct diagnosis and early detection of incipient faults lead to reduce maintenance costs and downtime for the process under consideration, and in many cases also prevent harmful and sometimes disruptive failures.

Moreover, the comprehension of the fault occurrence conditions, and the failure detection and location, are the starting point for the study of effective fault-tolerance techniques, since the latter must always include failure detection, isolation of failed component, and component reconfiguration.

Prospective authors are invited to submit original contributions, or survey papers or tutorials, for review for publication in this special issue on *Fault Diagnosis of Electric Machines, Power Electronics and Drives*. Topics of interest include, but are not limited to:

- ELECTRICAL MACHINES: Failure detection and location in electrical machines by means of current, flux, vibration, temperature, and other electrical, mechanical, and chemical variables.
- POWER ELECTRONICS: Diagnostics in power converters; identification of critical components; failure modes; capacitors fault diagnosis; sensor failures diagnostics.
- ELECTRICAL DRIVES: Monitoring and diagnostics in drives based on electrical machines; power converters and control system supervision; fault tolerance; remedial operating strategies; systems reconfiguration.
- TOOLS FOR DIAGNOSTICS: Neural networks; fuzzy logic; artificial intelligence; genetic algorithms; expert systems; estimation/identification; observers; data analysis; signal processing techniques.
- MATERIALS FOR ELECTRICAL MACHINES: Insulating and magnetic materials; partial discharges; ageing tests.
- PREDICTIVE MAINTENANCE: Prognostics and health management; remaining life expectancy.

Authors who wish to submit a paper for consideration must submit an abstract (1 page, free format) to the Guest Editor identified below. Authors who submit an accepted abstract will receive a formal invitation with detailed instructions for submission of the complete manuscript to the IAS ScholarOne Manuscripts site and execution of the mandatory copyright transfer. All submissions will be scanned in CrossCheck for similarity with prior published material. Refer to <http://www.ias.org> for general information about electronic submission through ScholarOne Manuscripts. Submit manuscripts to the Guest Editor:

**Guest Editor:** Prof. Antonio J. Marques Cardoso, University of Beira Interior, Portugal, (ajmcardoso@ieee.org)

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| Call for Papers                                  | January 15 <sup>th</sup> 2016  |
| Submission of one-page abstract                  | May 15 <sup>th</sup> 2016      |
| Submission of manuscripts for review in S1M      | July 1 <sup>st</sup> 2016      |
| Final Decision                                   | February 15 <sup>th</sup> 2017 |
| Submission of final files for approved papers    | March 15 <sup>th</sup> , 2017  |
| Publication of Special Issue of IAS Transactions | May/June 2017                  |

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