

# IEEE Transactions on Industrial Informatics



## CALL FOR PAPERS

for Special Section on



### "Advanced Signal and Image Processing Techniques for Electric Machine and Drives Fault Diagnosis and Prognosis"

**The Theme:** The use of advanced signal and image processing techniques in the electrical machines and drives condition monitoring area has drawn the attention of many researchers over recent years. Conventional diagnosis and prognosis techniques relying on classical tools are being complemented, or even replaced in some cases, by new methods based on modern signal processing tools suited for the analysis of non-stationary signals (as time-frequency transforms). These methods are often advantageous compared to traditional techniques. This is partially due to the fact that these modern signal processing techniques can be applied to different machine quantities regardless of the machine operation regime (transient or stationary). Also, they enable to obtain more reliable signatures of the faults (sometimes under the form of an image), and can be perfectly complemented either by pattern recognition algorithms or classification techniques. This fact makes them ideal for their potential implementation in condition monitoring devices.

This special section is intended to attract research papers showing novel applications of these signal analysis techniques in the electric machines condition monitoring area. The scope also covers papers including applications of pattern recognition algorithms or image processing techniques for diagnostic or prognostic purposes both in electrical machines and drives. More specifically, topics include, but are not limited to, the following research topics and technologies:

- Time-frequency decomposition tools applied to electrical machine and drives diagnosis;
- Pattern recognition algorithms for electrical machine diagnosis;
- Signal analysis techniques and their application to electric machines condition monitoring;
- Image processing tools applied to electrical machine and drives diagnosis;
- Classification methods;
- Advanced statistical tools for electric machine and drives condition monitoring;
- Recent tools for automation of the diagnostic process.
- Implementation of advanced diagnosis techniques in DSP and FPGA-based systems.
- New techniques for electrical machine prognosis.

The results included in the submitted papers that are obtained by simulations must be validated in bounds by experiments or analytical results. Papers including real industrial applications of the aforementioned technologies are especially welcome.

#### Manuscript Preparation and Submission

Follow the guidelines in "Information for Authors" in the IEEE Transaction on Industrial Informatics <http://tii.ieee-ies.org/>

Please submit your manuscript in electronic form through Manuscript Central web site: <http://mc.manuscriptcentral.com/tii>. On the submitting page #1 in popup menu of manuscript type, select: **SS on Advanced Signal and Image Processing Techniques for Electric Machine and Drives Fault Diagnosis and Prognosis**

Submissions to this Special Section must represent original material that has been neither submitted to, nor published in, any other journal. Extended versions of papers previously published in conference proceedings may be eligible for consideration if conditions listed in <http://tii.ieee-ies.org/o/PC.pdf> are fulfilled. Before submitting manuscript check the review criteria (<http://tii.ieee-ies.org/o/RC.pdf>) and other information (<http://tii.ieee-ies.org/o/DI.pdf>)

**Note:** The recommended papers for the section are subject to final approval by the Editor-in-Chief. Some papers may be published outside the special section, at the EIC discretion.

**Timetable:**

**Deadline for manuscript submissions**

**30 April 2016**

#### Guest Editors:

**Jose Antonino-Daviu**, Department of Electrical Engineering- Universitat Politècnica de València - Camino de Vera s/n - 46022 Valencia, Spain, tel: +34-96-3877592, fax:+34-96-3877599, [joanda@die.upv.es](mailto:joanda@die.upv.es)

**Elias G. Strangas**, Department of Electrical and Computer Engineering, Michigan State University, East Lansing, MI48864, USA, tel: +1(517) 353-3517, fax: +1(517) 353-1980, [strangas@egr.msu.edu](mailto:strangas@egr.msu.edu)

**Sang Bin Lee**, Department of Electrical Engineering, Korea University, 145, Anam-Ro, Seongbuk-Gu, Seoul 02841, Korea, tel: +82-2-3290-3215, [sangbinlee@korea.ac.kr](mailto:sangbinlee@korea.ac.kr)

**Editor-in-Chief: Kim F Man**, <http://tii.ieee-ies.org/> [eic.tii@ee.cityu.edu.hk](mailto:eic.tii@ee.cityu.edu.hk) tel: +852-3442- 7754 fax: +852-3442-0607  
Head of Electronic Engineering Department, City University of Hong Kong, Tat Chee Avenue, Kowloon, Hong Kong,