Special Session on

NOVEL TECHNIQUES FOR CONDITION MONITORING OF ELECTRIC MACHINES FED BY AN INVERTER OR NOT

**Chairman: P Jose Antonino-Daviu, Universitat Politecnica de Valencia, Valencia, SPAIN,
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Call for Papers

The growing demand of safety and reliability has led to the use of advanced signal processing tools and techniques in the electrical machines and power electronics condition monitoring area. Over recent years, many researchers have proposed interesting works in this area. Conventional diagnosis techniques relying on classical tools are replaced in some cases by methods based on modern signal processing tools suited for the analysis of non-stationary signals. These methods could be adapted for the analysis of transients in electrical machines and are often advantageous compared to traditional techniques. In particular their use is rapidly increasing for diagnosing variable speed drive (VSD)-fed machines due to the special suitability of these techniques in such applications. This is partially due to the fact that these modern signal processing techniques provide reliable patterns related to the failure (sometimes under the form of an image), able to be automatically detected by advanced pattern recognition algorithms. This fact makes them ideal for their possible implementation in condition monitoring devices.

This special session is intended to attract research papers showing novel signal analysis techniques devoted to electric machines and power electronics condition monitoring. The scope includes but is not limited to the following topics:

o Time-frequency decomposition tools / Signal analysis techniques;

o Pattern recognition algorithms / Classification methods;

o Image processing tools.

Deadlines:

Submission of the full paper: **October 15th, 2017**
Notice of acceptance: **November 11th, 2017**
Submission of final papers: **December 12th, 2017**

All the instructions for digests are included in the conference website: http://icit2018.org/en

The organisers:

Dr. Jose Antonino Daviu was born in Valencia, Spain, in 1976. He received his M.Sc. and Ph. D. degrees in Electrical Engineering, both from the Universitat Politècnica de València, Valencia, Spain in 2000 and 2006, respectively and the Ms. Degree in Business Administration and Management from the Universitat de València, Valencia, Spain, in 2012. He worked for IBM, being involved in several international projects. He is currently Associate Professor in the Department of Electrical Engineering of the Universitat Politècnica de València, where he develops his docent and research work. He is also Secretary of the mentioned Department. His primary research interests are condition monitoring of electric machines, signal processing and its application to fault diagnosis as well as design and optimization of electrical installations and systems. He has been invited professor in Helsinki University of Technology (Finland) in 2005 and 2007, Michigan State University (USA) in 2010, Korea University (South Korea) in 2014, Université Claude Bernard Lyon 1 (France) and Coventry University (2016).

He is co-author of more than 140 papers published in technical journals and conference Proceedings. He is also co-author of 1 international patent. Since 2012, he is IEEE Senior Member. He is Associate Editor of IEEE transactions on Industrial Informatics and Member of the Editorial Board of the aforementioned journal. He has been Special Session organizer as well as session chair in different IEEE conferences (IECON, ICEM, ICELIE, INDIN…) and he acts as reviewer for several IEEE journals as well as for other international publications. He was recipient of the IEEE Second Prize Paper Award of the Electric Machines Committee of the IEEE Industry Applications Society. He was also awarded with the Best Paper Award in the conferences IEEE ICEM 2012 and IEEE SDEMPED 2011 and he was awarded with the 'Highly commended recognition' of the IET Innovation Awards in 2014 and in 2016. He was also recipient of the Extraordinary Award for the best Ph. D. theses (2007) and the Award of 'International Finances-Banco Santander Chair' to the Best record of the Ms. Degree in Business Administration and Management (2012). He has been general co-chair of SDEMPED 2013 and is member of the Steering Committee of IEEE SDEMPED.

In 2016, he was awarded with the 'Medal of the Spanish Royal Academy of Engineering' for his contributions in new techniques for predictive maintenance of electric motors (2016)

Dr. Hubert Razik (M'98–SM'03) received the degree from the Ecole Normale Supérieure, Cachan, France, in 1987, the Ph.D. degree in electrical engineering from the Institut Polytechnique de Lorraine, Nancy, France, in 1991, and the Habilitation to Supervise Researches from the Université Henri Poincaré, Nancy, in 2000.

On November 1, 2009, he is currently a Full Professor of electrical engineering with Université Claude Bernard Lyon I, Villeurbanne, France. He is with the Laboratory Ampère-UMR 5005. He has authored more than 150 papers published in scientific journals and conference proceedings.

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Moreover, he is the author of a scientific book *Handbook of Asynchronous Machines with Variable Speed*. ISBN: 978-1-118-60093-1, Wiley-ISTE.

Since January 1, 2016, he is a Deputy Director of the Laboratory AMPERE–UMR 5005 (www.ampere-lab.fr), Villeurbanne, France. Since July, 2016, he is the coordinator of the Master EEEA (Electronic, Electrical Energy, Automatic) of the University Claude Bernard Lyon 1. His research interests include modeling, control, and monitoring conditions.

Dr. Razik is Senior Member of the IEEE Industrial Electronics Society.