



**The 43rd Annual Conference of the IEEE Industrial Electronics Society  
China National Convention Center, Beijing, China  
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**Special Session on**

**Modelling, Detection and Estimation of Incipient faults using statistical-based signal processing methods**

**Organized and co-chaired by:**

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**Call for Papers**

**Outline of the Session**

Within the health-monitoring frame, fault diagnosis includes the following steps: modelling, detection, isolation and estimation. Quantitative-based methods have been successfully used so far in diverse applications. However when dealing with gradual fault and particularly in noisy environment the diagnosis becomes more challenging to obtain good performances meaning low false alarm and low miss detection rates. Recent results have shown that data-driven methods based on statistical features in the time, frequency, time-frequency or time-scale domains are effective for the monitoring of incipient faults (high Signal to Noise Ratio and low Fault to Noise Ratio).

**Topics of the Session**

This special session is therefore intended to focus on state-of-the-art of methods and applications, as well as future trends in (but not limited to) the following topics of interest in an overall perspective of incipient fault diagnosis:

- Data-driven approaches (mono or multi-dimensional),
- Fault modelling, detection, estimation
- Statistical feature extraction, distance measures,
- Parametrical and non-parametrical methods,
- Signal processing techniques (mono and multivariate),
- Classification, discrimination

**Author's schedule:   Deadline for submission of special session papers  
                                  Notification of acceptance  
                                  Deadline for submission of final manuscripts**

**April 17, 2017  
July 3, 2017  
August 15, 2017**

All the instructions for paper submission are included in the conference website: [www.iecon2017.com](http://www.iecon2017.com)