

Special Session
On
Signal & Image Processing Techniques for Condition
Monitoring and Fault Diagnosis of Electrical Drive Systems
IEEE
International Conference
on
Signal Processing and Advance Research in Computing
(SPARC-2024)

We are happy to announce that Amity School of Engineering and Technology, Amity University Uttar Pradesh Lucknow Campus is organizing an IEEE sponsored International Conference on Signal Processing and Advance Research in Computing (SPARC-2024) at Amity University Uttar Pradesh Lucknow Campus on 12-13 September 2024 in hybrid mode.

All submissions will be subject to peer reviews, accepted and presented papers will be submitted for inclusion into IEEE Xplore subject to meeting IEEE Xplore's scope and quality requirements.

The acceptance of the papers submitted to SPARC-2024 will be based on quality, relevance, and originality of the content. The conference will be in hybrid mode. There will be both physical and online mode of presentation.

Brief Description of the Session:

The proposed special session will cover an in-depth analysis of the recent developments in condition monitoring and fault diagnosis techniques used in industry for the protection of electrical drive systems such as motors, generators, and pumps. Due to enormous electric energy consumptions, the reliability of electrical system operation in a harsh industrial environment has been a major requirement in many industrial applications. It is especially important where an unexpected breakdown might result in the interruption of critical services such as military operations, transportation, municipality, aviation and medical applications. An unexpected breakdown of the electrical system might result in costly maintenance or loss of life in applications where the continuous process is needed and where downtime is not tolerable. Although the electrical systems are very dependable with a low failure rate and require only basic maintenance, still, they will breakdown and fail after some time. The

unexpected breakdowns of the electrical system cause a great deal of unacceptable production loss. It is unacceptable in applications that are vital for the industry. Consequently, detecting initial failures and replacing damaged parts according to schedule will prevent the problems of unexpected breakdowns of the machines. The prevention of unscheduled downtime for electrical drive systems has been the goal of every industry for a long time, as this would help in reducing the costs associated with maintenance.

The purpose of this special session is to present some of the advent developments, both theoretically and practically, in the condition monitoring of machines, drives, circuits, sensors, gears, bearings, and pumps using invasive and non-invasive techniques. The special session is intended for researchers and practicing engineers with interest in the condition monitoring and fault diagnostics. It covers various issues related to machinery condition monitoring, machine system design, signal & image processing, instrumentation and measurements, new trends in condition monitoring, and paying special attention to the fault identification process.

Session Chairs:

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For paper submission follow the link below

<https://cmt3.research.microsoft.com/SPARC2024>

Theme of special session:

Potential topics include but are not limited to the following:

- Vibration analysis techniques for fault analysis
- Acoustic Emission techniques for the failure analysis
- Non-destructive testing
- Motor current signature analysis
- Application of signal processing & image processing techniques in machine fault diagnostic
- Application of artificial intelligence in machine fault classification
- Application of Internet of Things (IoT) in system design, system management, data security, and fault diagnostics

- Fault-tolerant control

Important Dates

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| Submission Deadline: | 30th June 2024 |
| Acceptance Notification: | 20th July 2024 |
| Camera Ready and Registration Deadline: | 15th August 2024 |
| Conference: | 12th and 13th September 2024 |

For more information, please visit our conference website .

<https://www.amity.edu/lucknow/sparc-2024/default.aspx>

For any further queries related to this special session, please contact the session chair at:

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