Special Issue

Condition Monitoring and Intelligent Fault Diagnosis for Mechanical Equipment and Complex System

Message from the Guest Editors

This Special Issue aims to provide a platform for innovative research focused on improving the reliability, safety, and efficiency of mechanical systems through advanced monitoring, diagnostic, and prognostic techniques. This Special Issue invites original contributions that explore both established and emerging methods in condition monitoring, such as vibration analysis, acoustic emission, and thermography, as well as intelligent fault diagnosis and prognostics utilizing cutting-edge technologies like artificial intelligence, machine learning, and data fusion. We are particularly interested in research that integrates Remaining Useful Life (RUL), diagnostic, prognostic, and other related maintenance strategies with IoT, digital twins, and sensor networks to enable comprehensive failure detection and prediction and enhance lifecycle management. By focusing on both diagnostics and prognostics, this Special Issue aims to showcase advancements that anticipate faults, optimize maintenance schedules, and reduce operational risks in complex mechanical systems.

Guest Editors

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Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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