Special Issue

Robust Optimization and Predictive Maintenance Techniques for Future Industries

Message from the Guest Editor

This Special Issue focuses on the growing importance of robust optimization and predictive maintenance techniques as essential pillars for the future of industry. We welcome original research articles, comprehensive reviews, and practical case studies that explore how robust optimization methods can be effectively integrated with advanced predictive maintenance strategies to enhance decision-making and operational performance across diverse industrial sectors. Topics of interest include, but are not limited to:
Robust and stochastic optimization for maintenance planning and industrial operations;
Predictive analytics under uncertainty using AI, machine learning, and hybrid models;
Fault diagnosis and remaining useful life (RUL) prediction under noisy or incomplete data;
Integration of digital twins and physics-informed models for resilient system monitoring;
Multi-objective and constraint-aware optimization in dynamic environments;
Intelligent decision support systems and autonomous maintenance frameworks ;
Applications in smart manufacturing, energy systems, logistics, and critical infrastructure

Guest Editor

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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.

Editor-in-Chief

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