

## Special Issue

# Advanced Technologies and Methods in Mechanical Fault Diagnostics and Prognostics

### Message from the Guest Editors

Fault diagnostics and prognostics play significant roles in ensuring the safe operation of mechanical systems. With the development of condition-based maintenance and predictive maintenance, fault diagnostics and prognostics have attracted increasing amounts of attention in both academic research and industrial practice. With this Special Issue, we aim to summarize and publish the advanced technologies and methods in mechanical fault diagnostics and prognostics. This Special Issue aims to provide a platform for scholars to publish their new ideas and research works in this area. Areas relevant to advanced technologies and methods in mechanical fault diagnostics and prognostics include, but are not limited to, the following:

- Dynamic modeling of mechanical systems;
- Degradation modeling of mechanical systems;
- Advanced signal processing technologies;
- Health indicator construction from multi-sensor signals;
- Health condition monitoring of mechanical systems;
- Big-data-driven intelligent fault diagnostics;
- Data-model-fusion fault diagnostics and prognostics;
- Remaining useful life prediction of mechanical systems.

---

### Guest Editors

Dr. Naipeng Li

School of Mechanical Engineering, Xi'an Jiaotong University, Xi'an, China

Dr. Shiqian Chen

State Key Laboratory of Rail Transit Vehicle System, Southwest Jiaotong University, Chengdu 610031, China

---

### Deadline for manuscript submissions

30 July 2025



## Applied System Innovation

---

an Open Access Journal  
Published by MDPI

---

Impact Factor 3.8  
CiteScore 7.9



[mdpi.com/si/179252](https://mdpi.com/si/179252)

*Applied System Innovation*  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[asi@mdpi.com](mailto:asi@mdpi.com)

[mdpi.com/journal/  
asi](https://mdpi.com/journal/asi)





# Applied System Innovation

---

an Open Access Journal  
Published by MDPI

---

Impact Factor 3.8  
CiteScore 7.9



[mdpi.com/journal/  
asi](https://mdpi.com/journal/asi)



## About the Journal

### Message from the Editor-in-Chief

---

#### Editor-in-Chief

Prof. Dr. Christos Douligeris  
Department of Informatics, University of Piraeus, 18534 Piraeus,  
Greece

---

#### Author Benefits

##### Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

##### High Visibility:

indexed within Scopus, ESCI (Web of Science), Inspec, Ei Compendex and other databases.

##### Journal Rank:

JCR - Q2 (Computer Science, Information Systems) /  
CiteScore - Q1 (Applied Mathematics)