

## Special Issue

# Machines and Industrial Equipment Fault Diagnosis Based on Signal Analysis

### Message from the Guest Editors

Preventive diagnosis of machines and industrial equipment eliminates the risks of catastrophic failures. The vibroacoustic signals are generated each time a fault is manifesting in a certain mechanism or equipment (rolling bearing, gear, electrical motor, compressor, belt transmission, etc.). There are mainly three methods of signal processing and diagnosis, based on processing of the acquired signals in time, frequency, or time-frequency domains. The main problem the researchers and industrial maintenance engineers are facing is represented by the fact that the acquired signal containing the fault features signature is non-stationary. Furthermore, the fault signal is usually of small amplitude and is drowned in lot of noise. Consequently, improvements to the existing diagnosis methods or new methods proposals are welcome, including monitoring, signal decomposition, evaluation and analysis, diagnosis (establishment of failure types and root causes), smart decision and optimized techniques (automatic features recognition, expert system, neural networks, fuzzy logic), application of feedback actions, and final actions (maintenance required or replacement).

---

### Guest Editors

Dr. Viorel Paleu

Dr. Shubrajit Bhaumik

Prof. Dr. Viorel Goanță

---

### Deadline for manuscript submissions

closed (31 December 2023)



## Signals

---

an Open Access Journal  
by MDPI

---

Impact Factor 2.6  
CiteScore 4.6



[mdpi.com/si/62542](https://mdpi.com/si/62542)

*Signals*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[signals@mdpi.com](mailto:signals@mdpi.com)

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





# Signals

---

an Open Access Journal  
by MDPI

---

Impact Factor 2.6  
CiteScore 4.6



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



## About the Journal

### Message from the Editor-in-Chief

Our primary goal is to encourage scientists and engineers to publish their theoretical results and developed methods in as much detail as possible. There is no limit to the maximum length of papers. Whenever possible, authors are encouraged to provide relevant data and developed code so that the results can be reproduced. Our goal is to provide a platform for scientists and engineers to share new approaches to signal processing in various application domains.

---

### Editor-in-Chief

Prof. Dr. Santiago Marco

1. Department of Electronics and Biomedical Engineering, University of Barcelona, Martí I Franqués 1, 08028 Barcelona, Spain
2. Signal and Information Processing in Sensor Systems, Institute for Bioengineering of Catalonia, The Barcelona Institute of Science and Technology, Baldiri Rexac 10-12, 08028 Barcelona, Spain

---

### Author Benefits

#### High Visibility:

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

#### Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 22.9 days after submission; acceptance to publication is undertaken in 7.6 days (median values for papers published in this journal in the first half of 2025).

#### Journal Rank:

JCR - Q2 (Engineering, Electrical and Electronic) /  
CiteScore - Q2 (Engineering (miscellaneous))