# Special Issue

# Application of Machine Learning Techniques to Improve Industrial Energy Efficiency

## Message from the Guest Editors

With the increasing demand for energy efficiency and sustainability in industrial operations, the application of Machine Learning (ML) techniques has gained significant attention across engineering and manufacturing sectors. ML enables data-driven insights, pattern recognition, and adaptive control strategies that can lead to substantial improvements in energy performance. This Special Issue aims to highlight recent developments in the use of ML to optimize energy consumption, reduce waste, and support decision-making in industrial processes. Potential topics include, but are not limited to, methods and/or applications in the following areas:

- Predictive maintenance and fault detection;
- Process modeling and optimization;
- Energy demand forecasting;
- Intelligent control systems;
- Integration of ML with digital twins, IoT;
- Anomaly detection in energy systems;
- Case studies on real-world industrial implementations;
- Techno-economic analysis of ML-driven energy solutions.

We welcome contributions that present innovative methodologies, interdisciplinary approaches, and practical applications that demonstrate the potential of ML to transform industrial energy management.

## Guest Editors

Dr. Alejandro Espinosa Calderón
Regional Center for Optimization and Device Development (CRODE), National Technological Institute of Mexico (TecNM), Celaya 38020, Mexico

Dr. Horacio Rostro-Gonzalez
IQS—Departament of Industrial Engineering, Ramon Llull University, 08017 Barcelona, Spain

## Deadline for manuscript submissions

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*Processes*
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
processes@mdpi.com

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## Editor-in-Chief

Prof. Dr. Giancarlo Cravotto
Department of Drug Science and Technology, University of Turin, Via P. Giuria 9, 10125 Turin, Italy

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