Special Issue

Risk Monitoring and Control Theory for Chemical Processes and Energy Systems

Message from the Guest Editors

Modern monitoring frameworks go beyond static standards, focusing on predicting and responding to evolving dynamic risks. Machine learning and high-frequency data analysis allow companies to identify abnormal patterns and establish adaptive risk management mechanisms, shifting from passive defense to proactive prevention. However, traditional safety techniques still rely heavily on experience, and implementation varies across enterprises, with poor management increasing the likelihood of disasters. ***This Special Issue explores how data-driven innovative strategies can enhance process safety and align with the industry's digital transformation demands.*** As new technologies emerge, existing methods must be updated and made more scientific to achieve finer risk control and improve industrial resilience. ***The papers included in this Special Issue will serve as a critical scientific foundation for transforming the field of process safety and disaster prevention.***

Guest Editors

Prof. Dr. Chi-Min Shu

Prof. Dr. Yih-Wen Wang

Prof. Dr. Yun-Ting Tsai

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

mdpi.com/journal/processes

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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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