Special Issue

Machine Learning, Control and Optimization for Systems and Processes

Message from the Guest Editor

Novel machine learning algorithms are now being used in combination with physics-based modelling in engineering to tackle traditionally intractable problems. Many developments are appearing in this field with multiple researchers addressing the physics informed machine learning question in different applications. We propose a Special Issue of the journal *Mathematics*, focusing on the use of machine learning tools for the simulation, optimization, and control of real-time industrial processes. **This Special Issue aims to collect the recent advances and developments in the models addressing physics-based machine learning techniques and applications related to the industrial systems and processes, especially dynamic applications requiring a fast and reliable feedback, ultimately in real-time.** These dynamic applications involve an additional layer of complexity when creating an integrator, which is a simulator not accessing the exact outputs of the physical system at every time-step. Integrators aim to forecast an application response in the far future, after multiple time-step.

Guest Editor

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About the Journal

Message from the Editor-in-Chief

The journal *Mathematics* publishes high-quality, refereed papers that treat both pure and applied mathematics. The journal highlights articles devoted to the mathematical treatment of questions arising in physics, chemistry, biology, statistics, finance, computer science, engineering and sociology, particularly those that stress analytical/algebraic aspects and novel problems and their solutions. One of the missions of the journal is to serve mathematicians and scientists through the prompt publication of significant advances in any branch of science and technology, and to provide a forum for the discussion of new scientific developments.

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