Special Issue

Machine Learning and Data Mining in Vibration Control and Structural Health Monitoring

Message from the Guest Editor

Artificial intelligence (machine learning, deep learning) and data science are rapidly advancing, which has the potential to enable solutions to a variety of complicated engineering challenges. This Special Issue will be dedicated to the novel theory, technology and method of vibration control and structural health monitoring(SHM) based on artificial-intelligence-based data-driven strategies. The topics of interest include, but are not limited to, the following:

- Data science and smart engineering for vibration control and SHM;
- Application of digital twin technology in vibration control and SHM;
- Novel ML paradigm for structural forward and inverse problems;
- Smart methods, techniques or theories for the prediction of residual life of structure, localization and identification of damage, as well as vibration control;
- Data- and physics-driven ML approaches for vibration control and SHM;
- Smart multi-functional equipment for vibration control and SHM (e.g., sensors);
- Novel numerical methods, experimental techniques or theories for SHM systems or the investigation of structural damage;
- Heterogeneous data fusion approaches for SHM and vibration control.

Guest Editor

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Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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