Special Issue

Technical Advances in Hydraulic Structure

Message from the Guest Editors

Hydraulic structures, which integrate principles from geotechnical, coastal, and structural engineering, play a critical role in ensuring the safety, functionality, and sustainability of water resource systems.

- Advanced computational method for dynamic modeling of hydraulic infrastructures
- Numerical simulations to predict the dynamic behavior of hydraulic structures under operational and extreme loading conditions
- Seismic analysis and design of hydraulic structures
- Advances in soil–structure interaction analysis
- Geotechnical challenges in the construction and stability of hydraulic structures
- Ground improvement techniques for hydraulic infrastructure
- Innovative materials and construction techniques for coastal protection
- Advanced techniques for identifying and quantifying structural damage
- Non-destructive testing and evaluation methods
- Multi-sensor data fusion and advanced analytics for structural health monitoring
- Machine learning algorithms for predictive maintenance and risk assessment
- Advanced neural network models for analyzing flow-structure interactions
- Machine learning approaches for predicting hydraulic structure responses

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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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