Special Issue

AI-Enhanced Slope Stability and Landslide Risk in Transport Infrastructure

Message from the Guest Editor

Landslides and slope failures pose significant risks to road, rail, and port networks, causing economic losses, service disruptions, and hazards to human life. With the increasing impacts of climate change, extreme weather events, and expanding infrastructure demands, innovative approaches are required to assess, monitor, and mitigate these risks. This Special Issue invites contributions at the intersection of artificial intelligence (AI), geotechnical engineering, and risk management. Topics of interest include, but are not limited to:

- AI-driven models for slope stability prediction;
- Integration of remote sensing and in situ monitoring with machine learning algorithms;
- Real-time risk assessment frameworks;
- Digital twins for slope and landslide hazard management;
- Uncertainty quantification in AI-based predictions;
- Decision support systems for proactive infrastructure maintenance.

We welcome original research articles, technical notes, and review papers that showcase methodological advances, practical applications, and case studies demonstrating the potential of AI to transform slope stability analysis and enhance resilience against landslide risks in transport infrastructure.

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.

Editor-in-Chief

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