

Workshop C Geotechnical Slope Design

“Next-Gen Slope Stability: Innovations in Modelling, Monitoring, and AI”

Workshop Summary

ITASCA welcomes participants to a workshop focused on the latest developments in geotechnical engineering, specifically as they relate to slope stability in mining. This workshop will provide an in-depth look at practical approaches and recent innovations designed to address common challenges.

Presentation Topics

- *GSI Estimation: Methodology Comparison and Validation in 3D Models for Mining Projects*

Presenters: Camila Soto and Rodrigo Aguirre

This session offers a comparative analysis of GSI estimation methodologies based on field data (drillholes, cell mapping, etc.) versus determination through visual observations. The evaluation of their performance will be in the context of geotechnical models development and validation will be discussed according to the specific geological and geotechnical conditions of each case.

- *Groundwater Modeling for Stability Analyses: The Renewed MINEDW Tool*

Presenters: Martin Brown and Manuel Gutiérrez

Participants will be introduced to recent updates in groundwater modelling through the enhanced MINEDW tool. The presentation will cover how the tool efficiently integrates advanced hydrogeological analysis into open pit mine design.

- *AI Applications in Slope Stability*

Presenters: Jason Furtney and Loren Lorig

This session examines the integration of artificial intelligence into slope stability analysis, including predictive analytics and fast determination of stability risk indices for slopes. The discussion will highlight how these technologies are advancing current geotechnical practices.

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· *Open Pit/Underground Transition Case Studies*

Presenters: Catalina Álvarez and Christian Cancino

The presenters will review critical geotechnical considerations for the transition from open pit to underground mining. Practical case studies will illustrate approaches for achieving safe and efficient mine design.

· *Enhanced Understanding of Slope Behavior through Monitoring and Modelling*

Presenters: Loren Lorig and Paolo Farina

This session will discuss the combined use of advanced monitoring techniques and numerical modeling to improve understanding of slope behavior, emphasizing the integration of sensor data for proactive risk management.

Who Should Attend

This limited attendance workshop (only 25 seats will be available) is designed for mining professionals, consultants, and researchers seeking to deepen their expertise in slope stability.

Event Details

The workshop will be held as part of the Slope Stability 2026 conference in Lima, Peru. Attendees will have the opportunity to engage with industry experts, exchange experiences, and contribute to the ongoing development of innovative solutions for slope stability in mining.

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