

## Workshop F

### Structural DFN

#### COURSE DESCRIPTION

The workshop will cover the following topics:

#### Topic 1: Introduction to DFN modelling and Basic Concepts of DFN Modelling

This module will cover the following topics:

- What is DFN modelling, where has it come from and what does it offer that is different to conventional analysis?
- What are the primary inputs we need for building a DFN model and where do we get these data from?
- How do we demonstrate that we have a "good" DFN model?
- Exercises in using the FracMan DFN software as well as deriving structural size data.

#### Topic 2: DFN-based Bench Stability Analysis: Beyond Simple Kinematics

This module will cover the following topics pertaining to DFN based kinematics:

- What are the shortcomings of conventional kinematics and how can a DFN approach can provide an alternative approach that is based upon more realistic modelling that addresses many of these shortcomings?
- How does the DFN approach work and how can we think about the probability of block formation rather just block stability?
- Visualising and interpreting the results.
- Exercises to show how bench scale kinematics work.

#### Topic 3: DFN-based Inter-Ramp Analysis

This module will cover the topics:

- Developing inter-ramp and wall scale DFN models of major and intermediate scale structures.
- Inter-ramp scale kinematics, identification of fault scale kinematic instabilities and non-daylighting wedges, and the development of slope scale heat maps of block occurrence.
- Combining DFN models and Limit-Equilibrium (3DPOF) analysis to enhance slope scale kinematics to include rock mass strength and pore pressure.
- Exercises to explore inter-ramp scale major structure kinematics and DFN-3DPOF analysis.

October 26 to 29, 2026

Lima Convention Center

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With the support of:



Sociedad Peruana de Geotecnología-SPEG  
Grupo Nacional de la ISRM  
International Society for Rock Mechanics  
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The workshop duration is planned to be a full day (8 hours), with the following proposed program:

Table 1: Draft Schedule of DFN Course

Time	Topic	Description
09:00 a.m. – 09:15	Introduction	
09:15 a.m. – 9:45 a.m.	Lecture 1	Introduction to DFN modelling and basic concepts of DFN modelling
9:45 a.m. – 10:15 a.m.	Exercise 1	Introduction to FracMan
10:15 a.m.– 10:45 a.m.	Exercise 2	Determining the actual size of geological structures
10:45 a.m. – 11:00 a.m.	Break	
11:00 a.m.– 11:30 a.m.	Exercise 3	Handling orientation and intensity data
11:30 a.m. – 11:45 a.m.	Lecture 2	Building a simple DFN model
11:45 a.m. – 12:30 p.m.	Exercise 4	Building a simple DFN model
12:30 p.m. – 1:00 p.m.	Lecture 3	DFN-Based Bench Stability Analysis: Beyond Simple Kinematics
1:00 p.m. – 1:45 p.m.	Lunch	
1:45 p.m. – 2:15 p.m.	Exercise 5	Bench scale kinematic analysis using a DFN model
2:15 p.m. – 2:45 p.m.	Lecture 4	Inter-ramp scale analysis # 1
2:45 p.m. – 3:15 p.m.	Exercise 6	Inter-ramp scale analysis # 1
3:15 p.m. – 3:30 p.m.	Break	
3:30 p.m. – 4:00 p.m.	Lecture 6	Inter-ramp scale analysis # 2
4:00 p.m. – 4:30 p.m.	Exercise 6	Inter-ramp scale analysis # 2
4:30 p.m. – 5:00 p.m.	Closure and discussion	

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