

C38 “Rockmass Characterization with Emphasis in Rock Slope Hazards”

PROPOSED TASKS

TASK 1: Rock slope hazards

- Classification of rock slope hazards (link to landslide classification Hungr et al. 2014, Cruden&Varnes 1996, UNESCO Working Party on World Landslide Inventory (WP/WLI, 1993, new IAEG classification)
- Failure mechanisms and failure types
- Natural slopes versus cuts (man-made slopes in rock)
- Mountain rock slope hazards (rockslides, rock avalanches etc.)
- Study of rockfalls (triggering, analysis, impact, mitigation)
- Causes (Geology, structures, weathering, ...)
- Effect of climate and other triggering factors (temperature, rainfall, freeze- thaw, earthquake & blasting vibrations, etc.)
- Case studies

TASK 2: Rock mass classification for rock slope stability applications

- Geological characterisation (lithology, mineralogy, weathering, hydrothermal alteration, etc.)
- Discontinuity characterisation and analyses
 - Traditional methods (scanline mapping, etc)
 - Mapping and data collection methods (LIDAR, UAV, SfM etc.)
 - Digital analysis of structural discontinuities (automatic, semi-automatic etc.)
- Geomechanical characterisation (e.g. strength)
 - Intact rock
 - Discontinuities
 - Rock mass
- Applications in civil and mining engineering
- Cases studies

TASK 3: Rock slope stability assessment

- Rock mass classifications for slope stability
- Slope stability assessment
 - Kinematical analyses
 - Limit-Equilibrium methods
 - Numerical modelling
 - New methods
- Slope stability design methods
- Slope monitoring
- Cases studies

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