Innovative monitoring and modelling for rock slopes' stability: the Carrara marble quarries

Workshop | Th. November 16, 2023 | 13.00-14.00 | Palazzo dei Congressi di Firenze, Room 3A

Technical Scientific Committee

Claudio Margottini *President of* IAEG - *International Association for Engineering Geology and the Environment, Italian National Group*

Orlando Pandolfi *Quarry Innovation Strategist*

Pierpaolo Oreste *Full Professor at Politecnico of Turin, DIATI - Department of Environment, Land and Infrastructure Engineering Mining Engineering*

Claudio Oggeri *Associate Professor at Politecnico of Turin, DIATI - Department of Environment, Land and Infrastructure Engineering Mining Engineering*

Domenico Gullì *Director of Mining Engineering Unit – USL Toscana Nord Ovest – Regione Toscana, Prevention Department*

Organiser Orlando Pandolfi

Under the aegis of: Municipality of Carrara, Confindustria Livorno Massa Carrara, Confindustria Marmomacchine.

Carrara marble quarries represent a model of world excellence for stone quarrying for many reasons: the concentration in a limited geographical area of quarries that have been nurtured for over 2 thousand years, the innovative technologies used in them and the significant scientific research conducted over the years by numerous research institutions.
In this workshop held in the framework of the 6th World Landslide Forum, some specific case histories applicable to marble and ornamental stone quarries' rock walls are presented.
The workshop opens a series of technical-scientific events aimed at encouraging the exchange and sharing of knowledge and best practices in the nurturing of ornamental stone quarries.

Introduction by Claudio Margottini

Presentation of *Carrara Ma.R.Mo. 2023 Network* by Orlando Pandolfi
Greetings of Serena Arrighi, Mayor of Carrara

Case histories 2023 Moderators: Claudio Oggeri

1. Claudio Oggeri - Alberto Cina (DIATI - Department of Environment, Land and Infrastructure Engineering Mining Engineering, Politecnico of Turin): *Survey and monitoring techniques, by contact and remote, for the safe management of quarry rock slopes*

2. Pierpaolo Oreste (DIATI - Department of Environment, Land and Infrastructure Engineering Mining Engineering, Politecnico of Turin): *Numerical modeling for underground and open-pit stone quarries: some aspects of great interest today*

3. Domenico Gullì – Daria Marchetti (USL Toscana Nord Ovest): *Technical measures and conceptual models for stability assessment of marble quarries*

4. Riccardo Salvini, PhD (Department of Environment, Earth and Physical Sciences, University of Siena): *CSIRO HI Cell test and numerical modeling: a case study from an underground marble quarry*

5. Orlando Pandolfi – Nicola Santoro (Orlando Pandolfi Studio – Carrara): *A cost-effective new technology for rock walls' 3D monitoring with high accuracy.*

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