



RMCC 2024

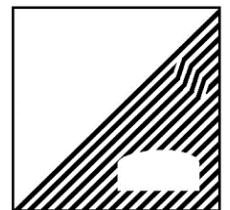
Hosted by
Norwegian Geotechnical Institute



Conference supported by the
International Association of Engineering Geology and the Environment



Exhibitors and Sponsors



NBG

1st international Rock Mass Classification Conference 2024
Preliminary detailed program - Content still subject to change!

Day 1 - Tuesday 29. October 2024				
Workshop and Ice Breaker				
Time	Title	Organizer		Location
13:00 - 13:30	Registration			Entrance
13:30 - 18:00	Digital Innovation Preconference Workshop	RockMass Technologies & Industry Partners		Forstander- skapssalen
18:30 - 22:00	Ice Breaker & Registration			Forstander- skapssalen

Day 2 - Wednesday 30. October 2024				
Session 1 - Comparing and Correlating Rock Mass Classification Systems - Chair: Neil Bar				
Time	Title	Presenter	Affiliation	Location
08:00 - 08:30	Registration			Sentrallen - Entrance
08:30 - 09:00	Opening Ceremony	Georg Erharter, Lars Andresen (NGI)	NGI	Marmorsalen
09:00 - 09:20	Systematic rock classification for empirical tunnel design	Herbert Einstein	Massachusetts Institute of Technology	Marmorsalen
09:20 - 10:05	KeyNote Lecture 1: Rock mass classifications and modern engineering design: a limit states and probabilistic engineering design perspective	Nezam Bozorgzadeh, John Harrison	University of Toronto, NGI	Marmorsalen
10:05 - 10:25	Design of rock support in low overburden and hard rock conditions with the use of rock mass classification systems and numerical analyses. A study based on the construction of the Hestnes railway tunnel, Norway	Jorge Terron- Almenara	Norwegian University of Science and Technology	Marmorsalen
10:25 - 10:45	TBM tunnelling in Central Europe: a brief overview of the recent developments	Nedim Radoncic	iC Consulenter ZT gmbh	Marmorsalen
10:45 - 11:30	Coffee Break, Poster Session, Exhibition			Marmorsalen
11:30 - 11:50	Argillaceous soft rock in-situ test program in tunneling	Ines Metzler	Graz University of Technology	Marmorsalen
11:50 - 12:10	Rock mass classification of chalk, a UK perspective	Chrysothemis Paraskevopoulou, Harry Saroglou	University of Leeds	Marmorsalen
12:10 - 12:30	Q-slope – rock slope engineering 10 years on	Neil Bar	Gecko Geotechnics	Marmorsalen
12:30 - 13:30	Lunch			Marmorsalen

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Day 2 - Wednesday 30. October 2024				
Session 2 - Digital technology for rock mass classification and characterization - Chair: Prof. Thomas Marcher				
Time	Title	Presenter	Affiliation	Location
13:30 - 14:15	KeyNote Lecture 2: It takes two to tango and three to commercialize	Shelby Yee	RockMass Technologies	Marmorsalen
14:15 - 14:35	Machine Learning Approach for Rock Mass Classification with Imbalanced Database of TBM Tunnelling in Himalayan Geology	Tek Bahadur Katuwal	Norwegian University of Science and Technology	Marmorsalen
14:35 - 14:55	Enhancing Semantic Models in Digital Twin Representations of Rock Masses using Universal Discontinuity Index	Amin Hekmatnejad	Catholic University of Chile	Marmorsalen
14:55 - 15:15	Unsupervised machine learning for data-driven classification of rock mass using drilling data: How can a data-driven system handle limitations in existing rock mass classification systems?	Tom F. Hansen	NGI	Marmorsalen
15:15 - 15:45	Coffee Break, Poster Session, Exhibition			Marmorsalen
15:45 - 16:05	A critical discussion on the use of discrete fracture network models in rock engineering practice: why rock mass characterisation methods can benefit from considering fracture connectivity	Davide Elmo, Ph.D.	University of British Columbia	Marmorsalen
16:05 - 16:25	Assessment the relationship between rock mass classification systems using hybrid XGBoost algorithms based on a database from mechanized tunnelling projects	Jafar Hassanpour	University of Tehran	Marmorsalen
16:25 - 16:45	Application of the Geophysical Strata Rating in Sedimentary Environments	Terry Medhust	Resource Geotechnical Pty Ltd	Marmorsalen
16:45 - 17:05	AI-Powered Geotechnics: Enhancing Rock Mass Classification for Safer Engineering Practices	Ghader Saadati	University of Innsbruck	Marmorsalen
17:15 - 18:15	RMCC Scientific Committee meeting			Marmorsalen
18:30 - 22:00	Conference Dinner			Kronesalen

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Day 3 - Thursday 31. October 2024				
Scientific Farewell Dr. Evert Hoek - Chair: Dr. Georg Erharter				
Time	Title	Presenter	Affiliation	Location
08:45 - 09:00	Biography of Dr. Evert Hoek	John Harrison	University of Toronto	Marmorsalen
09:00 - 09:45	IAEG: Reliably Mastering Rockmass Strength Estimation using GSI	Vassilis Marinos	President IAEG	Marmorsalen
09:45 - 10:30	ISRM: Contributions of Dr. Evert Hoek to Rock Mechanics and Rock Engineering: "From intact rock to rockmass strength and practical rock engineering approaches"	Leandro Alejano	EX VP ISRM Europe	Marmorsalen
10:30 - 11:00	Coffee Break, Poster Session, Exhibition			Marmorsalen

Podium's Discussion - Chair: Dr. Georg Erharter			
Time	Title	Discussors	Location
11:00 - 12:30	Podium's discussion	Harry Saroglou, Davide Elmo, Rita Sousa, Are Håvard Høien, Nedim Radončić	Marmorsalen
12:30 - 13:30	Lunch		Marmorsalen

Session 3 - The future of rock mass classification – questioning the state of the art - Chair: Dr. Rita Sousa				
Time	Title	Presenter	Affiliation	Location
13:30 - 14:15	KeyNote Lecture 3: Rock mass classification systems: a useful rock mechanics tool, often misused	Leandro Rafael Alejano	University of Vigo	Marmorsalen
14:15 - 14:35	A critical view on the recommendation of Ribs of Reinforced Sprayed concrete support in the Q-system	Are Håvard Høien	Norwegian Public Roads Administration	Marmorsalen
14:35 - 14:55	Seismic Stability Assessment of Volcanic Slopes: A Case Study from São Miguel Island, Azores	Rita Sousa	New York University AD	Marmorsalen
14:55 - 15:15	The challenge of Rock Mass Classification of anisotropic rockmasses	Harry Saroglou	NTUA/ GEOCON ENGINEERING LTD	Marmorsalen
15:15 - 15:45	Coffee Break, Poster Session, Exhibition			Marmorsalen
15:45 - 16:05	Rock Mass Classification for and ultra-high Concrete Arch Dam	Jonas Weil, Irmina Pöschl	iC Consulenter ZT gmbh	Marmorsalen
16:05 - 16:25	Relationship between Geomechanical Classifications and Underground Modelling: A Case Study in Stratified Rock	Edgar Montiel, Esteban Hormazabal	SRK Consulting	Marmorsalen
16:25 - 16:45	A Review of the Q-System and the GSI based on Recent Tunnel and Cavern Projects in Hong Kong	Philip Kam Kuen	Aurecon Hong Kong Limited	Marmorsalen
16:45 - 17:15	Closing Ceremony	Georg Erharter	NGI	Marmorsalen

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Day 2 and 3 - 30. and 31. October 2024				
Permanent Poster Exhibition				
Time	Title	Presenter	Affiliation	Location
	The challenge of classification of argillaceous soft rock (HSSR)	Ines Metzler et al.	Graz University of Technology	Marmorsalen
	Rock Mass Classification in the Digital Era: A Transformation in Hard Rock Tunneling	Lasse Klein et al.	Herrenknecht AG	Marmorsalen
	A Data-Driven Approach to Mapping Rock Mass Discontinuities	Mary Hurtgen and Ryan Detert	Mine Vision Systems	Marmorsalen
	Practical approach of the modification of RQD in RMR- A case study Railway tunnel in Himalaya, Rishikesh- Karanprayag Broad Gauge Rail Link project (PKG 5)	Gholamreza Keshtparvar and Vahid Abolhasani Rahnama		Marmorsalen
	Rock mass characterization on Mars	Øyvind Dammyr and Eivind Paulsen	NGI	Marmorsalen
	Transfer learning based tunnel boring machine advance classification	Paul Unterlass et al.	Graz University of Technology	Marmorsalen
	Introducing groundwater on GSI chart: a practical approach based on tunnel excavation	Cláudio Santa	University of Lisbon	Marmorsalen
	Research on the failure mechanism of surrounding rock in water-rich weakly cementing sandstone strata	Xin Kang and Xiongyao Xie		Marmorsalen
	Enhancing Rock Mass Characterization with Advanced Pre-processing of MWD Data	Alla Saponova et al.	Graz University of Technology	Marmorsalen
	Charting the Future of Rock Mass Classification: Digitalization and Sustainability in Geotechnical Engineering	Hasan Eteraf et al.	University of Miskolc, Hungary	Marmorsalen

Day 4 - Friday 1. November 2024				
Time	Title	Presenter	Affiliation	Location
09:30 - 11:00	Visit of NGI's soil and rock mechanical lab	Magnus Soldal, Halvard Smith	NGI	NGI Sandakerveien 140