

# Tuesday

## September 13



**Sanna Mustonen**

Project Manager, Posiva Solutions Oy, Finland

**Caroline Darcel**

Project Engineer, Itasca Consultants s.a.s, France

All times are EEST (Eastern European Summer Time)

Venue: Kaleva

9:00 **WELCOME**

9:15 **KEYNOTE SESSION**

**KEYNOTE 1 - SANNA MUSTONEN**

ONKALO® - THE GAME CHANGER IN NUCLEAR ENERGY

**KEYNOTE 2 - CAROLINE DARCEL**

INPUT OF DISCRETE FRACTURE NETWORK METHODOLOGY IN ROCK MECHANICS APPLIED TO THE SWEDISH NUCLEAR WASTE DISPOSAL PROGRAM

10:45 **BREAK, EXHIBITION, NETWORKING & POSTER SESSION**

Venue: Kaleva

Lumituuli

Palaver

Takka

11:15 **SESSION 1**

RECENT ADVANCES IN ROCK MECHANICS RESEARCH 1

**SESSION 2**

FIELD AND LABORATORY INVESTIGATIONS 1

**SESSION 3**

MODELLING OF ROCK 1

**SESSION 4**

MECHANICS OF ROCK JOINTS 1

12:45 **LUNCH, EXHIBITION, NETWORKING & POSTER SESSION**

13:45 **SESSION 5**

RECENT ADVANCES IN ROCK MECHANICS RESEARCH 2

**SESSION 6**

ROCK MASS CHARACTERIZATION 1

**SESSION 7**

MODELLING OF ROCK 2

**SESSION 8**

FIELD AND LABORATORY INVESTIGATIONS 2 & ROCK STRESS MEASUREMENT 1

15:15 **COFFEE, EXHIBITION, NETWORKING & POSTER SESSION**

15:45 **SESSION 9**

FIELD AND LABORATORY INVESTIGATIONS 3

**SESSION 10**

ROCK MASS CHARACTERIZATION 2

**SESSION 11**

ROCK STRESS MEASUREMENT 2

**SESSION 12**

ROCK DRILLING

19:00 **DINNER**

Organizers reserve rights for changes

# Eurock 2022 Finland



Suomen Kalliomekaniikkatoimikunta  
Finnish National Group of ISRM

#### Gold partners



#### Silver partners



SITOWISE

# Wednesday

## September 14

Venue: Kaleva

### 9:00 KEYNOTE SESSION

#### KEYNOTE 3 - MICHAEL DI GIOVINAZZO

PRACTICAL APPLICATION OF ROCK ENGINEERING TECHNIQUES IN MINE PLANNING AND OPERATIONS – FROM CHARACTERISATION TO IMPLEMENTATION

#### KEYNOTE 4 - JOHN HARRISON

IS EUROCODE 7 THE FUTURE OF ROCK ENGINEERING?



#### Michael Di Giovino

Principal Consultant - Mining Geomechanics Engineer at SRK Consulting, Member Australasian Institute of Mining and Metallurgy, AusIMM, Finland



#### John Harrison

W.M. Keck Chair of Engineering Rock Mechanics Lassonde Institute of Mining Dept. of Civil & Mineral Engineering University of Toronto, Canada

### 10:30 BREAK, EXHIBITION, NETWORKING, POSTER SESSION

Venue: Kaleva

Lumituuli

Palaver

Takka

#### 11:00 SESSION 13

FIELD AND LABORATORY INVESTIGATIONS 4

#### SESSION 14

ROCK MASS CHARACTERIZATION 3

#### SESSION 15

CASE STUDIES

#### SESSION 16

ROCK ENGINEERING

### 12:30 LUNCH, EXHIBITION, NETWORKING & POSTER SESSION

#### 13:30 SESSION 17

GEOLOGICAL DISPOSAL OF SPENT NUCLEAR FUEL 1

#### SESSION 18

ROCK SUPPORT 1

#### SESSION 19

JOINTED ROCK MASS BEHAVIOUR

#### SESSION 20

GEOPHYSICS IN ROCK MECHANICS

### 15:00 COFFEE, EXHIBITION, NETWORKING & POSTER SESSION

#### 15:30 SESSION 21

GEOLOGICAL DISPOSAL OF SPENT NUCLEAR FUEL 2

#### SESSION 22

ROCK SUPPORT 2

#### SESSION 23

FIELD AND LABORATORY INVESTIGATIONS 5

#### SESSION 24

ROCK ENGINEERING AND MINING EDUCATION

#### 16:45 CLOSING SESSION

Organizers reserve rights for changes

# Eurock 2022 Finland



Suomen Kalliomekanikkatoimikunta  
Finnish National Group of ISRM

#### Gold partners



#### Silver partners



SITOWISE

# Posters

A brief review of the effect of wildfires on rockfall occurrence  
**Dr. Ignacio Pérez-Rey, Laboratorio de Geotecnia, CEDEX, Spain**

A Methodology for the Analysis of Tunnel Intersections Using Two-dimensional Numerical Modeling  
**Dr. Davide Elmo, University of British Columbia, Canada**

A new experimental device developed to study the creeping behavior of a rock joint under shear stress  
**Sophie Jung, Ecole Nationale des ponts et chaussées, France**

A New Explanation of Loading Rate Effect on Rock Compressive Strength  
**Dr. Jun Zhu, Chinese Academy of Sciences (CAS), China**

A Numerical Investigation on the Effect of Screen Size on the Sand Production Issue in the Oil Wells  
**Prof. Hyung-Mok Kim, Sejong University, Repblic of Korea**

A numerical study on THM coupled behavior in the high-level radioactive waste disposal system  
**Dr. Taehyun Kim, Korea Atomic Energy Research Institute, Republic of Korea**

A review on the application of cohesive zone model in hydraulic fracturing  
**Dr. Xuejiao Li, China University of Petroleum, China**

A study on the characteristics of deep bedrock of Korea's representative rock types for HLW geological disposal  
**Dr. Dae-Sung Cheon, Korea Institute of Geoscience and Mineral Resources, Republic of Korea**

An experimental study on division of fracture ligament and evolution of fracture process zone in sandstone  
**Yang Qiao, University of Oulu, Finland**

Application of DInSAR for monitoring slopes around a dam basin in Japan  
**Yukiko Shoji, Electric Power Development Co., Ltd., Japan**

Application of Seismic Sensors on Measurement While Drilling for Real-time Rock Property Detection  
**Dr. Manoj Khanal, Commonwealth Scientific and Industrial Research Organization, Australia**

A refined evaluation method for the stress field of the Chang 73 shale oil reservoir of northern Shaanxi  
**Prof. Bing Hou, China University of Petroleum, China**

Assessing the tunnel stability in brittle rocks based on strain bursting assessment  
**Dr. Chrysothemis Paraskevopoulou, University of Leeds, United Kingdom**

Biaxial Loading of Brazilian Disc Samples  
**Dr. Mehdi Serati, The University of Queensland, Australia**

Characterisation of Fine Particles Generated at Draw Points During Sub-Level Cave Mining for Assessment of Mud Inrush Hazard  
**Dr. Matthew Musolino, Oz Minerals, Australia**

Close-range photogrammetry for rock mass characterization and risk assessment  
**Dr. Mateusz Janiszewski, Fractuscan Ltd, Finland**

Design of pin-on-disk type abrasion testing machine for wear assessment of rock cutting tools  
**Mun-Gyu Kim, Kyungpook National University, Republic of Korea**

Effect of anisotropic creep on the convergence of deep drifts in Callovo-Oxfordian claystone  
**Sophie Jung, Ecole Nationale des ponts et chaussées, France**

Effect of anisotropy of fracture surface on fluid flow  
**Masoud Torkan, Aalto University, Finland**

Effect of anisotropy on the hydro-mechanical coupled behavior of a metamorphic rock mass  
**Prof. Meng-Chia Weng, National Yang Ming Chiao Tung University, Taiwan**

Empirical mode decomposition approach to simplify the fracture roughness for numerical models  
**Masoud Torkan, Aalto University, Finland**

Estimation of indentation force of chisel in rock cutting-plitting method by scaled model tests  
**Sang-Hwa Yu, Hocang Engineering**

Evaluation of displacement prediction method for mountain tunnels showing time-dependence characteristics  
**Makoto Uda, Tekken Corporation, Japan**

Evaluation of surface roughness of rock-like joints using close range photogrammetry method  
**Masoud Torkan, Aalto University, Finland**

Experimental study of aging-induced cementation effect on permeability property of bentonites  
**Daichi Ito, Waseda University, Japan**

Experimental study of frictional resistance influences on tunnel face stability  
**Ryo Kawanoue, Saitama University, Japan**

Fluid flow of various configurations in a rock-proppant-system  
**Lucas Conrad Witte, Ruhr University Bochum, Germany**

Geomechanical characterization and analysis of the influence of durability tests on metabasalts  
**Dr. Eduardo Marques, Federal University of Viçosa, Brazil**

Geometrical aspects in the consideration of actual opposed surface along shearing direction in rock joints  
**Dr. Diego-José Guerrero-Miguel, DinRock Group. University of Oviedo, Spain**

Geotechnical Characterization of an Amphibolite from Baixada Santista – Sp, Brazil  
**Dr. Eduardo Marques, Federal University of Viçosa, Brazil**

Identifying the "unidentifiable" contributors to large-scale instability experienced at a UG2 mine along the Western Limb of the Bushveld Complex  
**Shaune Liebenberg, Sibanyestillwater, South Africa**

Instrumental response of borehole tensor strainmeters for oblique-incident seismic waves  
**Prof. Jiayong Tian, National Institute of Natural Hazards, Ministry of Emergency Management, China**

Intact rock deformation bimodularity: an experimental study  
**Dr. Mauro Muñiz-Menéndez, Laboratorio de Geotecnia, Spain**

Interpretation of changing pore pressure on heated unsaturated/saturated bentonite-sand mixture  
**Prof. Tomoyoshi Nishimura, Ashikaga University, Japan**

Management of contaminated water at the Sulkavuori Wastewater Treatment Plant during the excavation phase  
**Cassandra af Hällström, Kalliosuunnittelu Oy Rockplan Ltd, Finland**

Morphological and physical-mechanical characterization of a syenogranite weathering profile developed on tropical climate  
**Dr. Eduardo Marques, Federal University of Viçosa, Brazil**

Numerical simulation of rock cutting performace of a 130t Roadheader  
**Dr. Jung-Woo Cho, Korea Institute of Industrial Technology, Republic of Korea**

Prediction of Blast Vibration Coefficients of Rockmass for the Unknown Cases from the Vibration Records  
**Dr. Myung Kyu Song, Hyundai E&C, Republic of Korea**

Predicting rockburst damage scale in seismically active mines using a classifier ensemble approach  
**Dr. Amoussou Adoko, Nazarbayev University, Kazakhstan**

Riskcoast: a south european approach for coastal landslide hazard: presentation and French results  
**Dr. Muriel Gasc, cerema, France**

Static and Dynamic Stability of Rock Boulders on Slopes  
**Prof. Ömer Aydan, University of the Ryukyus, Japan**

Synergies between Heat- and Stress-Induced Spalling Theory Applied to Rock and Concrete in Tunnel Applications  
**Dr. Mehdi Serati, The University of Queensland, Australia**

The Influence of Roof Lithology on the Fracture Propagation of Horizontal Well Multistage Fracturing in the Roof of Broken Soft Coal Seams  
**Dr. Xuejiao Li, China University of Petroleum, China**

The relict landslide in bimsoils in downtown Genova, Italy: a new modeling approach  
**Prof. Monica Barbero, Politecnico di Torino, Italy**

Thermally induced shear reactivation of critically-stressed smooth and rough granite fractures  
**Changlun Sun, Korea institute of civil engineering and building technology, Republic of Korea**

Use of a thermoplastic resin to generate rock surface impressions and geometrically accurate replicas  
**Dr. Mai Sawada, Kyoto University, Japan**

Validation of the Crack Mode-Changing Stress in Circular Tunnels Under Generalized Triaxial Tensile Stress States  
**Dr. Mehdi Serati, The University of Queensland, Australia**

Verification of Spalling Tensile Strength of Rocks using 3D GPGPU-accelerated Hybrid FEM/DEM  
**Dr. Gyeongjo Min, Jeonbuk National University, Republic of Korea**

Vertical Well Assisted Hydraulic Fracturing in Mudstone Interlayer of Terrestrial Ultra-heavy Oil Reservoir  
**Qiqi Wang, China university of Petroleum, China**

Virtual reality learning system for remote rock mass mapping  
**Dr. Mateusz Janiszewski, Aalto University, Finland**

Vulnerability Assessment of Different Types of Building Structures to Debris Flow Events  
**Tanja Miteva, HEIG-VD, Switzerland**

Organizers reserve rights for changes

## Eurock 2022 Finland



Suomen Kalliomekaniikkatoimikunta  
Finnish National Group of ISRM

### Gold partners



### Silver partners

