

Japan-Korea Joint Symposium on Rock Engineering 2023

1. Overview

Organizer	Japan Society of Rock Mechanics (JSRM)
Co-Organizer	Korea Society of Rock Mechanics (KSRM), Japan Society of Civil Engineering (Rock Mechanics Committee), The Mining and Materials Processing Institute of Japan, The Japanese Geotechnical Society, The Society of Materials Science, Japan (JSMS)
Date	10 th and 11 th January, 2024
Location	Japan Society for Civil Engineering Yotsuya 1-chome, Shinjuku-ku, Tokyo JAPAN 160-0004 https://www.jsce-int.org/about/access
Registration Fee	<ul style="list-style-type: none"> ▪ Regular (JSRM & KSRM member) 22,000 JPY (including tax) ▪ Regular (non JSRM & KSRM member) 26,400 JPY (including tax) ▪ Student 11,000 JPY <p style="color: red;">(In principle, there will be no on-site registration)</p>
Presentation	<p>Oral presentation will only be available in the Symposium.</p> <p>Each presentation shall take 20 minutes including discussions. Presentation material in MS PowerPoint (PPT) format will work.</p>
Contact	<p>Japan-Korea Joint Symposium Office</p> <p>E-mail : Please at JK-joint-symp@rocknet-japan.org</p>



*<https://www.rock-jsce.org/japan-korea-joint-symposium-on-rock-engineering-2023>

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●International Journal of the JSRM

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2. Schedule

Day 1: 10th January, 2024 (Wed) Oral presentation: 18 (Japan:8, Korea:10)

Time		Contents	
9:00	9:10	Welcome speech ¹⁾	
9:15	10:15	Session 1	3
10:25	11:45	Session 2	4
11:45	13:00	Lunch	
13:00	14:20	Session 3	4
14:30	15:50	Session 4	4
16:00	17:00	Session 5	3

1) Prof. Kiyoshi Kishida (Kyoto University)

Day 2: 11th January, 2024 (Wed) (Day 1 of Annual symposium for Japan Rock Mechanics*)

※Presentations are in Japanese, but all participants are available to join this symposium.

Time		Contents		Room
9:00	9:10	Welcome speech		Room 1
9:10	10:00	Special Lecture1	50th anniversary Lecture (from JSRM)	
10:10	11:00	Special Lecture 2	Japan-Korea Joint Lecture (from KSRM)	
11:10	12:00	Special session1	Report of each research subcommittee	
12:00	13:00	Lunch		
13:00	14:45	Special session 2-1	Research Subcommittee on Rock Dynamics ①	Room 1
		Special session 3	DX (Digital Transformation) in Rock Mechanics	Room 2
15:00	16:30	Special session 2-2	Research Subcommittee on Rock Dynamics ②	Room 1
		Session 1	Laboratory test	Room 2
16:45	18:15	Special session 2-3	Research Subcommittee on Rock Dynamics ③	Room 1
		Session 2	Rock properties and evaluation + radioactive waste disposal	Room 2
19:00	21:00	Night session		

Detail Program : https://www.rock-jsce.org/wp-content/uploads/2023/12/50thRMS_program_231221.pdf

3. Program

- 『Session 1』 / 10th January 9:15~10:15 Chair : Prof. Sho OGATA

Paper No	Title/Authors (○: presenter)
1	DEM Analysis of Shielding Property Improvement in Porous Rocks Due to Enzyme-Induced Calcite Precipitation ○Eldan ARKIN · Ayato KOBAYASHI · Atsushi SAINOKI · Akira SATO
2	Modeling Rock Permeability Alteration in NaCl Solution Flow-through Experiments ○Achmad HAFIDZ · Sho OGATA · Hideaki YASUHARA · Naoki KINOSHITA · Yuri IWABUCHI
3	Quantitative Evaluation of Rock Anisotropy through Experimental Analysis of Cylindrical Specimens ○Dae Yeong KIM · Melvin DIAZ · Sang Sub KIM · Kwang Yeom KIM

- 『Session 2』 / 10th January 10:25~11:45 Chair : Prof. Sangho CHO

Paper No	Title/Authors (○: presenter)
16	R-DoGAN: Task-Specific Convolutional Neural Network for Rock Fracture Segmentation Using Perceptual Loss and Edge Information Input ○Jineon KIM · Junsu LEEM · Jae-Joon SONG
4	Verification of Buckling Stability of TBM Thrust Jack on Helical Segment by Compression Test and Fatigue Analysis ○Mun-Gyu KIM · Jung-Woo CHO · Hyun-Jun PARK · Joo-Young OH · Chang-Heon SOSNG · Han-Young JEONG · Sung-Bo SIM
6	Estimation of Uniaxial Compressive Strength of Rock Using Shield TBM Operation Data and Supervised Machine Learning Methods ○Yun Seong KANG · Se Jin PARK · Ji Hye HWANG · Ju Pyo HONG · Tae Young KO
7	An Example of Applying Text Mining in Mountain Tunnel Construction Using Generative AI ○Takafumi KITAOKA · Kaori MORIWAKI · Kazuo SAKAI · Tomofumi KOYAMA

- 『Session 3』 / 10th January 13:00~14:20 Chair : Prof. Akira SATO

Ppaer No	Title/Authors (○: presenter)
8	Analysis of Rock Failure Patterns in Mountain Tunnels Using Logistic Regression Modelling based on Geological Types ○Karnallisa Desmy HALIM · Kei YAMASHITA · Yasuyuki MIYAJIMA
9	Rock Damage of Circular Tunnels under Millisecond Blasting-unloading in DEM ○Siyu PENG · Yasuhiro MITANI · Hiroyuki HONDA
10	A review of excavation damaged zone for rock mechanics and rock engineering ○JeongHwan YOON · Ki-Bok MIN · Sangki KWON · Myung Kyu SONG · Tae Young KO · Sean Seungwon LEE · Hoyoung JEONG · Youngjin SHIN · Jaehoon JUNG · Juhyi YIM
11	Deep Learning Approach for Automatic Discontinuity Mapping on 3D Model of Tunnel Face ○Chuyen PHAM · Hyu-Soung SHIN

■ 『Session 4』 / 10th January 14:30~15:50 Chair : Prof. Tae Young KO

Paper No	Title/Authors (○: presenter)
12	Prediction of Box-Jacking Force Using a Probabilistic Observational Approach ○Bosong YU · Hideki SHIMADA · Takashi SASAOKA · Akihiro HAMANAKA · Fumihiko MATSUMOTO · Tomo MORITA
13	Swelling Characteristics of Bentonite-based Mixed Buffer-Backfill Materials for High-level Radioactive Waste Disposal ○Melvin DIAZ · Gyung Won LEE · Su Hyun YUN · Min Sup LIM · Kwang Yeom KIM
14	Analysis of borehole DITF regime with geomechanical and thermal factors ○Joong-Ho SYNN · Yong-Bok JUNG · Chan PARK · Dae-Sung CHEON · Myungsun KIM
15	Soundness evaluation of stone walls in Kanazawa Castle by Self-Organizing Maps (SOM) ○Tomofumi KOYAMA · Kohei HARA · Ikuno NISHIDA · Minoru YAMANAKA · Hiroshi KITANO · Wakio TOMITA

■ 『Session 5』 / 10th January 16:00~17:00 Chair : Prof. Shinichiro NAKASHIMA

Paper No	Title/Authors (○: presenter)
5	Optimization of thrust forces for consecutive advance of shield TBM and validation test by scaled TBM model ○Jung-Woo CHO · Mun-Gyu KIM · Hyun-Jun PARK · Joo-Young OH · Chang-Heon SONG
17	Investigation of Anisotropic Characteristics of Mode I Rock Fractures under Various Loading-rate Conditions using 3-D GPGPU-accelerated Hybrid FEM/DEM ○Gyeongjo MIN · Daisuke FUKUDA · Yoshitaka NARA · Sewook OH · Sangho CHO
18	Coupling simulations based on DDA in the evolution of water inrush hazards in underground engineering ○Jingyao GAO · Yasuhiro MITANI · Hiroyuki HONDA · Guangqi CHEN

■ 『Night Session』 / 11th January 19:00~21:00

Place: Plaza EFU (プラザエフ) 9F Suzuran



4. Notes

For the presenters

- Please be at the venue at least 5 minutes before the session starts.
- Each presentation time is 20 minutes (including Q&A).
- Please finish your presentation in about 15 minutes.
- Please make your presentation on your own computer.
- The presentation room will be equipped with HDMI connection only.
- The aspect ratio of the slides is recommended to be 4:3.

For the Participants

- There is no reception desk at the venue on the day of the event.
(Please enter the venue directly.)
- The symposium proceedings are download by yourself from the website.
It is available to use the free Wi-Fi.
SSID : JSCEMUSEN
PW : DbkM\$n1@N
- Lunch will not be provided, so please use nearby restaurants and convenience stores.