



5th International Conference on Information Technology in Geo-Engineering

August 5-8, 2024
Colorado School of Mines
Golden, Colorado, USA

Conference Program

Venue: Green Center, Colorado School of Mines, Golden, CO 80401
<https://maps.app.goo.gl/oMB47bFXwYLUjieg7>

DAY 3 - August 7, 2024 (Wednesday)		
8:30 - 9:00 AM	Continental breakfast (Lobby, Green Center)	
9:00 AM - 12:15 PM	SESSION 3: Geotechnical Instrumentation, Sensor and Sensing Technology (Metals Hall, Green Center)	
	SESSION CHAIRS: Fang Liu and Yanming Shi	
9:00 - 9:45 AM	Jian Chu, S.F. Wu, Y. Zhang, K. Chiam	KEYNOTE LECTURE: Establishment of Singapore's Web-Based 3D Geological Modelling and Management System Using Borehole and Geophysical Data
9:45 - 10:05 AM	Seung-won Lee, Seokwon Jeon	Analysis of Errors in Terrestrial Laser Scanner to Estimate Joint Roughness Coefficient of Rock Mass using Deep Learning
10:05 - 10:25 AM	Bashar Al-Nimri, Basil Abualshar, Chung Song, Alex Silvey, Nikolas Glennie	Evaluation of Critical Shear Strength of Soils Based on Revised CPT
10:25 - 10:45 AM	Simon Heru Prasetyo, Erwin Lim, Ridho Kresna Wattimena, Fuchen Teng, Aswin Lim, Fariz Aditya, Muhammad Hafid Fahrudinsyah, Dany Yugi, George Abraham Tuwan, Silvester Sandy Mulyadi, Christian Luis, Danang Hadiyatmoko, Prasetyo Nur Hakikie, Nadia Sekarlangit, Billy Adriansyah, and Rezky	Ground Load Monitoring in Weak Rock Tunneling using VW Pressure Cells and Strain Gauges
10:45 - 11:15 AM	COFFEE BREAK	
11:15 - 11:35 AM	Alessandro Valletta, Andrea Carri, Marco Conciatori, Andrea Segalini	Detecting Debris Flow Events in Real Time with a Multi-Parametric Monitoring System for Flexible Barriers
11:35 - 11:55 AM	Wendy Zhou, Benjamin Lowry, Kendall Wnuk, Linan Liu, Marte Gutierrez	InSAR and Its Applications in Geo-engineering: Case Studies with Different Platforms and Sensors
11:55 AM - 12:15 PM	Jiaxin Li, Mian Chen, Changjun Zhao, Yunhu Lu, Zheng Fang, Kunpeng Zhang	A Novel Laboratory Approach for Dynamic Monitoring of Shale Hydration-Induced Strains Using Fiber Optics
12:15 - 1:15 PM	LUNCH (Friedhoff Hall, lower level of the Green Center)	
1:15 - 4:50 PM	SESSION 4: Machine Learning and Artificial Intelligence (Metals Hall, Green Center)	
	SESSION CHAIRS: Wendy Zhou and Chung Song	
1:15 - 2:00 PM	Kenichi Soga	KEYNOTE LECTURE: The Value of Distributed Fiber Optic Sensing for Geotechnical Engineering
2:00 - 2:20 PM	Xu Linrong, Bamaiyi Usman Aliyu, Wang Min, Al-Amin Danladi Bello, Musa Inusa, Yuanxingzi He	Predicting Karst Deformation from Climate Indices Using Hybrid Multi-Layer Perceptron (MLP) Model
2:20 - 2:40 PM	Lin-Fabao Dai, Wen-Ming Chen, Guang-Qiao Xue, Wen-Hao Sun	Prediction of Tunnel Portal Boundary Mileage Based on Artificial Intelligence Technologies
2:40 - 3:00 PM	Qing Ai, Yining Gu	Cost-effective Recognition of Water Leakage in Shield Tunnels via Self-Supervised Learning with a Small Amount of Labeled Data
3:00 - 3:30 PM	COFFEE BREAK	
3:30 - 3:50 PM	Ellie K. Johnson, QiQuan Xiong, Jesse C. Hampton	Integrating Graph Neural Networks and Acoustic Emissions for Rock Fracture Path Prediction
3:50 - 4:10 PM	Vivek Kumar Himanshu, Ashish Kumar Vishwakarma, M. P. Roy, Praveen Sharma, Kaushik Dey	Prediction of Induced Ground Vibration at the Surface due to Blasting Operation in Underground Hard Rock Mine Using Empirical Approach and Random Forest Model
4:10 - 4:30 PM	Jorge Loy-Benitez, Sean Seungwon Lee	Optimization of a Conventional Tunneling Process through Offline Reinforcement Learning
4:30 - 4:50 PM	Narayan Kumar Bhagat, Rakesh Kumar Singh, Arvind Kumar Mishra	Mitigating Blast-Induced Slope Failure in Railway Infrastructure: A Machine Learning Approach for Risk Assessment and Rapid Decision-Making
4:50 - 5:10	Xiaobin Ding, Junxing Zhao	Predictive Analysis of TBM Cutter Wear Utilizing the Transformer Model: A Case Study of Shenzhen Metro
7:00 - 9:00 PM	CONFERENCE BANQUET (Friedhoff Hall, lower level of the Green Center)	



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