

Oral Session

E-1: AI and Big Data Analysis for Geoscience and Resource Exploration (Jointed with 16th International Symposium on Mineral Exploration (ISME-16))

Chairman: Akihito Kizaki (Akita University), Taiki Kubo (Kyoto University), Mohamad Nur Heriawan (Bandung Institute of Technology, Indonesia)

Fri. Aug 18, 2023 2:00 PM - 5:15 PM ROOM1 (Exhibition Hall 1-A)

[OE1-01] Comprehensive Analysis of Multidimensional Geochemical Data of Tsunami Deposits in Eastern and Central Japan Using dimension reduction

*Tomohisa Shimada¹, Satoshi Matsuno¹, Mindaleva Diana¹, Noriyoshi Tsuchiya¹ (1. Tohoku university (Japan))

2:00 PM - 2:15 PM

[OE1-02] Traceability from ore to final material of Tungsten by REE patterns using machine Learning discrimination

*Yuya Kato¹, Noriyoshi Tsuchiya¹, Diana Mindaleva¹, Matsuno Satoshi¹, Geri Agrolì¹ (1. Tohoku university (Japan))

2:15 PM - 2:30 PM

[OE1-03] Utilizing 4D Synchrotron Experiments and Artificial Intelligence to Reconnect Natural Reaction-Induced Porosity in Hydrothermally Altered Rocks

*Hamed Amiri¹, Florian Füsseis², Damien Freitas², Roberto Rizzo², Alireza Chogani¹, Christian Schlepütz³, Oliver Plümper¹ (1. Utrecht university (Netherlands), 2. University of Edinburgh (UK), 3. Paul Scherrer Institute (Switzerland))

2:30 PM - 2:45 PM

[OE1-04] Geostatistical and Machine Learning-Based Spatial Modeling and Characterization of Rare Earth Elements in Seafloor Deposits

*Vitor University Ribeiro de Sá¹, Katsuaki Koike¹ (1. Kyoto University (Japan))

2:45 PM - 3:00 PM

[OE1-05] Simulation of multi-airborne hyperspectral imagery for high-resolution mineral mapping associated with metal resources

Nguyen Tien Hoang¹, Yuya Kubo², *Katsuaki Koike² (1. The Research Institute for Humanity and Nature (Japan), 2. Kyoto University (Japan))

3:00 PM - 3:15 PM

[OE1-06] Development of a Different Altitude Spectral Image Registration Protocol Utilizing Digital Twin

*Natsuo Okada¹, Hisatoshi Toriya², Takahiko Arima¹, Yoko Ohtomo¹, Takahiro Shigemi¹, Armandine Rasoanindriana², Hiromasa Nozaki¹, Shinichiro Nakamura¹, Youhei Kawamura¹ (1. Hokkaido Univ. (Japan), 2. Akita Univ. (Japan))

3:15 PM - 3:30 PM

[OE1-07] Application of noncontact measurement by 3D scanner and spectral camera as a new approach of mineral resource exploration

*Taiki Kubo¹, Jacek Scibek, Masahide Kishimoto¹, Yusuke Ohta², Katsuaki Koike¹ (1. Kyoto

University (Japan), 2. Nagoya University (Japan))

3:45 PM - 4:00 PM

[OE1-08] Mapping the Distribution of Small Volcanic Hummocks in The Distal Zone of Mt. Raung's Colossal Debris Avalanche at Jember Area, East Java, Indonesia

*Mohamad Nur Heriawan¹, Abd. Hadid Rahman Ulfa¹, Arie Naftali Hawu Hede¹, Haeruddin Haeruddin Haeruddin² (1. Bandung Institute of Technology (Indonesia), 2. University of Jember (Indonesia))

4:00 PM - 4:15 PM

[OE1-09] Three-dimensional resistivity imaging of supercritical geothermal reservoir in Onikobe area, Japan

*Keiichi Ishizu¹, Yasuo Ogawa², Hiromi Fukino², Masahiro Ichiki³ (1. University of Hyogo (Japan), 2. Tokyo Institute of Technology (Japan), 3. Tohoku University (Japan))

4:15 PM - 4:30 PM

[OE1-10] Shallow resistivity structure in a geothermal area estimated from a new static shift correction method using spatial filter and stable inversion scheme.

*Nagi Yamashita¹, Tada-nori Goto¹, Kodo Umakoshi², Hiroshi Sasaki² (1. University of Hyogo (Japan), 2. Nagasaki University (Japan))

4:30 PM - 4:45 PM

[OE1-11] Subsurface temperature Distribution inferred from Geophysical Exploration Data Using Deep Learning: From Numerical Test to Trials at Observation Sites

*Soma Yamamoto¹, Tada-nori Goto¹ (1. University of Hyogo (Japan))

4:45 PM - 5:00 PM

[OE1-12] Data assimilation for reconstructing mantle thermal convection with geochemical tracers

*Atsushi Nakao^{1,2}, Tatsu Kuwatani², Shin-ichi Ito³, Hiromichi Nagao³ (1. Graduate School of Engineering Science, Akita University (Japan), 2. Research Institute for Marine Geodynamics, Japan Agency for Marine-Earth Science and Technology (Japan), 3. Earthquake Research Institute, The University of Tokyo (Japan))

5:00 PM - 5:15 PM