



14th International Conference on Geo-resources Engineering and Earth Sciences

Kantary Hills Hotel, Chiang Mai, Thailand

December 3–4, 2025



Conference Sessions

Day 1 – Wednesday, December 3, 2025

Time	Venue: Doi Suthep 1	Venue: Doi Suthep 2
10:30–11:50	Session 1.1 – Mining and Geotechniques <i>[4 Papers]</i>	Session 2.1 – Material Sciences and Engineering <i>[4 Papers]</i>
11:50–13:00	Lunch	
13:00–14:20	Session 1.2 – Mining and Geotechniques <i>[4 Papers]</i>	Session 2.2 – Material Sciences and Engineering <i>[3 Papers]</i>
14:20–14:35	Coffee Break	
14:35–15:55	Session 1.3 – Mining and Geotechniques <i>[4 Papers]</i>	Session 2.3 – Mine Environment and Sustainable Mining <i>[3 Papers]</i>
15:55–16:15	Session 1.4 – Petroleum Engineering and Energy Transition <i>[1 Papers]</i>	
18:00–20:00	Welcome Dinner	

Day 2 – Thursday, December 4, 2025

Time	Venue: Doi Suthep 1	Venue: Doi Suthep 2
09:25–10:45	Session 3.1 – Mining and Geotechniques <i>[4 Papers]</i>	Session 4.1 – Mine Environment and Sustainable Mining <i>[4 Papers]</i>
10:45–11:00	Coffee Break	
11:00–12:20	Session 3.2 – Mining and Geotechniques <i>[3 Papers]</i>	Session 4.2 – Mine Environment and Sustainable Mining <i>[4 Papers]</i>
12:20–13:30	Lunch	
13:30–15:15	Special Session: Selected Thai Presentations <i>[5 Papers]</i>	
15:15–16:00	Best Paper Presentations & Closing Ceremony	



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Technical Sessions

Session 1.1 – Mining and Geotechniques

Date: December 3, 2025

Session Chair: Asst. Prof. Dr. **Manoon Masniyom**, PSU

- 10:30 Slope Stability Analysis and Design for Granite Quarry Walls under Tropical Climate Conditions in Southern Thailand**
Pintunicha Pongsena, Matika Buaphian, Thanathon Khamcharoen and Naruemol Saoanunt*
- 10:50 Experimental Assessment for Durability and Degradation of Fly Ash-Mixed Cement for Riverbank Protection**
Jomsak Idsaranuwat*, Prachya Tepnarong
- 11:10 Comparative analysis of shear strength from multi-stage and single-stage direct shear tests of rock fractures**
Onanong Wangking, Kittitep Fuenkajorn, Laksikar Sitthimongkol and Thanittha Thongprapha*
- 11:30 Retaining Structures Using Gabion: Case Examples for Further Application in Mining Engineering Projects**
Pipat Laowattanabandit*

Session 2.1 – Material Sciences and Engineering

Date: December 3, 2025

Session Chair: Dr. **Hathaichanok Vattanasak**, PSU

- 10:30 Effects of Wet-Dry Cycles on Concrete Strength Reduction in Saline Environments: Experimental Investigation**
Natthaphong Maitriphaen*, Decho Phueakphum
- 10:50 Study of Copper Adsorption by Using Carboxymethyl Cellulose (CMC) Hydrogel Prepared from Cellulose Extracted from Wasted Rubber Wood Sawdust**
Kamhol Thongbun, Kittisak Sriraksa, Nattapat Limtanikkul, Piyada Dissara, Weeradech Kiratitanavit*
- 11:10 Comparing the Bleaching Solutions in Purified Cellulose Extraction from Wasted Sawdust of Rubber Wood Panels**
Weeradech Kiratitanavit*, Nurhanan Smaae, Nisida Utamarat
- 11:30 Corrosion Resistance of Welds in the Steam Turbine Materials Repair**
Thanakon Deenoo, Aumaporn Chaimol, Prapas Muangjanburee, Hein Zaw Oo, and Sasirat Chaideesungnoen*

Session 1.2 – Mining and Geotechniques

Date: December 3, 2025

Session Chair: Dr. **Peet Homchuen**, CU

- 13:00 Comparative Study of Post-Blast Size Distribution Analysis using UAV Aerial Imaging and Ground-Based Imaging**
Thawisak Thinpakphanang, Phongpat Sontamino*, Vishnu Rachpech, Manoon Masniyom, and Wikhanet Damkhong
- 13:20 Accuracy of Volume Evaluation by Photogrammetry at Different Light Intensity**
Jakrapat Fangprasertsuk, Anantad Chusirat, Phongpat Sontamino and Vishnu Rachpech*
- 13:40 Using of Pickup Trucks as Ground Control Points for Stockpile Volume Surveying by Photogrammetry Method**
Thaksaporn Choochart, Suchanaree Onchat, Vishnu Rachpech and Phongpat Sontamino*
- 14:00 Numerical Simulation of Twin-Tunnel Deformation under Different Lagging Distances in Stiff Clay**
Wisarut Wongin*, Kantapon Manjaruen, Peerapong Jitsangiam and Suriyah Thongmune

Session 2.2 – Material Sciences and Engineering

Date: December 3, 2025

Session Chair: Dr. **Weeradech Kiratitanavit**, PSU

- 13:00 Study on the Mixing Ratio of Kaolin and Ball Clay for Ceramic Forming by Slip Casting Using Narathiwat Kaolin**
Potsathron Chansupasen and Laddawon Dul*
- 13:20 A Novel Recycling Process for Silicon-Based Photovoltaic Panels Using Physical Separation Techniques**
Ryoei Watanabe*, Ilhwan Park, Mayumi Ito
- 13:40 On-Site Plantation Study for TSF 1 Rehabilitation of a Gold Mine in Phichit Province, Thailand**
Yaowanud Chandung*, Pitsanu Bunnual

Session 1.3 – Mining and Geotechniques

Date: December 3, 2025

Session Chair: Asst. Prof. Dr. **Pipat Laowattanabandit**, CU

- 14:35 Comparison of Sequential Excavation Method Techniques for Tunneling in Hard Clay: Case Study of Phayao Railway Tunnel, Thailand**
Kantapon Munjaruen*, Wisarut Wongin and Peerapong Jitsangiam
- 14:55 Remaining Reserves of Industrial Rock to Support the Demand for Construction the Economic Bridge Project Connecting the Gulf of Thailand and Andaman Sea (Landbridge)**
Chalee Prachakwong*, Napaporn Srihanam, Siriporn Prachakwong
- 15:15 Deposition and Quality Improvement of Low-Grade Quartz from the Silica Sand Deposit in Klaeng District, Rayong Province**
Suttithip Rommayawes and Burapha Phajuy*
- 15:35 Estimation of Lignite Calorific Value from Ash Content Using the Direct Burning Method: A Case Study from Mae Moh Mine**
Sililux Somyom, Wittayakul Sittisarn*, Suttithip Rommayawes, Laddawon Dul, Suphamat Chaichana and Wijit Itthiwongkul

Session 2.3 – Mine Environment and Sustainable Mining

Date: December 3, 2025

Session Chair: Asst. Prof. Dr. **Komsoon Somprasong**, CMU

- 14:35 A Study on Natural Cyanide Decay in Tailings Storage Facility of a Gold Mine in Phichit Province, Thailand**
Yaowanud Chandung, Pitsanu Bunnaul*
- 14:55 Noise Level Mapping in Granite Crushing Plant**
Manoon Masniyom, Tamnakorn Arunraksa
- 15:15 Development of an Automatic Operation Process for a Continuous Jig Separator – Judging the Stratification State Based on Pressure Loss**
Kazuo Miura*, Masashi Yoda, Ilhwan Park, Naoki Hiroyoshi and Mayumi Ito

Session 1.4 – Petroleum Engineering and Energy Transition

Date: December 3, 2025

Session Chair: Assoc. Prof. Dr. **Suparit Tangparitkul**, CMU

- 15:55 Alteration of Dolostone Mineralogy and Relative Permeability During Sulfate-Enriched Low Salinity Waterflooding**
Anantaya Ninnangkul, Worathon Polpitak, Falan Srisuriyachai, Dalad Na Nakorn, Chanapol Charoentanaworakun*

Session 3.1 – Mining and Geotechniques

Date: December 4, 2025

Session Chair: Dr. **Theerayut Phengsaart**, CU

- 09:25 Ion Flotation and Related Techniques for Metal Recovery from Aqueous Solution: A Review**
Theerayut Phengsaart*, Palot Srichonphaisarn, Worada Kwathichai, Thanakornkan Limlertchareonwanit, Carlito Baltazar Tabelin
- 09:45 Preliminary Experiments of Agglomeration-Micro-Flotation for Microplastic Removal from Artificially Contaminated Sediments**
Palot Srichonphaisarn, Carlito Baltazar Tabelin, Theerayut Phengsaart*
- 10:05 The Effects of Neodymium Ion Concentration on Ion Flotation Using Sodium Dodecyl Sulfate**
Thanakornkan Limlertchareonwanit, Worada Kwathichai, Palot Srichonphaisarn, Carlito Baltazar Tabelin, Theerayut Phengsaart*
- 10:25 Removal of Polypropylene Microplastics Using Oleate-Modified Natural Magnetic Material and Vegetable Oil via Agglomeration-Magnetic Separation**
Carlito Baltazar Tabelin*, Elvie Jane Sanchez, Leonel Bohol, Jose Greg Osilao, Raul Lucero Jr., Theerayut Phengsaart, Mylah Villacorte-Tabelin

Session 4.1 – Mine Environment and Sustainable Mining

Date: December 4, 2025

Session Chair: Asst. Prof. Dr. **Apisit Numprasanthai**, CU

- 09:25 The Effects of Sodium Silicate as a Depressant on the Flotation of Monazite and Magnetized Zircon Using Sodium Oleate**
Pongsiri Julapong*, Pattaraporn Thongrit, Sawinee Sangutai, Theerayut Phengsaart, Apisit Numprasanthai
- 09:45 Building Up Confidence in the Utilization of Mine Pit Water: A Case Study from Akara Resources**
Thanwarat Teachao, Phuriwit Sangsiri*, Woranipit Kongsorn
- 10:05 Recovery of Gold Ions from Thiosulfate Solution Using Tailings**
Shunsuke Maki, Azizbek Buronov, Sanghee Jeon*, Godirilwe Labone Lorraine, Kazutoshi Haga, Atsushi Shibayama and Carlito Baltazar Tabelin
- 10:25 Life Cycle Assessment of Limestone Quarry Production Processes**
Jittrakorn Worayosh, Supawadee Theerathamakorn*, Bhanupong Phrommarat

Session 3.2 – Mining and Geotechniques

Date: December 4, 2025

Session Chair: Asst. Prof. Dr. **Siwarote Siriluck**, RMUTL

- 11:00 Influence of Degradation of Mixed Material Formed Between Claystone and Red Bed on Waste Dump Slope in Open-Pit Mining**
Sartsin Phakdimek*, Prachya Tepnarong, Anisong Chitnarin, Nawat Preechasin
- 11:20 Geological Deposit and Enhancement of Topaz From African Sources**
Natthapong Monarumit, Rawikan Nitichot, Chatree Saiyasombat, Wiwat Wongkokua, Hathaichanok Vattanasak*
- 11:40 The Development of IOT Prototype for Tracking Blasthole Drilling in Quarry**
Kridtaya Sakamornsnguan*, Sarawoot Watechagit, Worakit Puangsup, Jessada Hengpuchaoen, Kriengkrai Theprungsueetavon, Kularbthip Boonyor, Punyapat Srisuriyasawat

Session 4.2 – Mine Environment and Sustainable Mining

Date: December 4, 2025

Session Chair: Asst. Prof. Dr. **Phongpat Sontamino**, PSU

- 11:00 Identification and Evaluation of Bioindicators for Sustainable Long-Term Monitoring of Soil Pollution in a Rehabilitated Nickel-Laterite Mine in the Philippines**
Shiela W. Mainit, Carlito Baltazar Tabelin*, Florifern C. Paglinawan, Jaime Q. Guihawan, Alissa Jane S. Mondejar, Vannie Joy T. Resabal, Ma. Reina Suzette B. Madamba, Dennis Alonzo, Aileen H. Orbecido, Michael Angelo Promentilla, Joshua B. Zoleta, Dayle Tranz Daño, Ilhwan Park, Mayumi Ito, Takahiko Arima, Theerayut Phengsaart, Mylah Villacorte-Tabelin
- 11:20 Investigation on the Contamination of Heavy Metals from Overland Flow Sediment in the Thailand–Myanmar Border Zone**
Komsoon Somprasong*, Peet Homchuen, Chanapol Charoentanaworakun
- 11:40 Effects of Galvanic Interactions on the Flotation Behavior of Metal Particles in Waste Recycling**
Kosei Aikawa, Yohei Sakanishi*, Sota Kimura, Ilhwan Park, Mayumi Ito
- 12:00 Evaluating the Applicability of Conventional Bubble Generators to Flotation for Waste Products Recycling: a Bubble Size Distribution Perspective**
Kosei Aikawa, Sota Kimura*, Yohei Sakanishi, Ilhwan Park, Mayumi Ito

Special Session: Selected Thai Presentations

Date: December 4, 2025

Session Chair: **Suttitthep Rommayawes, CMU**

- 13:30** การใช้รถกระบะเป็นจุดควบคุมภาคพื้นดินเพื่อการสำรวจปริมาณกองวัสดุโดยวิธีโฟโตแกรมเมตรี
Using of Pickup Trucks as Ground Control Points for Stockpile Volume Surveying by Photogrammetry Method
Thaksaporn Choochart, Suchanaree Onchat, Vishnu Rachpech, Phongpat Sontamino*
- 13:45** ผลของโซเดียมซิลิเกตในการใช้เป็นตัวกดในการลอยแร่ โมนาไซต์และแมกเนไทซ์เซอร์คอน โดยใช้โซเดียมโอเลต
The Effects of Sodium Silicate as a Depressant on the Flotation of Monazite and Magnetized Zircon Using Sodium Oleate
Pongsiri Julapong*, Pattaraporn Thongrit, Sawinee Sangutai, Theerayut Phengsaart, Apisit Numprasanthai
- 14:00** การศึกษาการสลายตัวของไซยาไนด์ตามธรรมชาติในโรงเก็บกากแร่ของเหมืองทองคำในจังหวัดพิจิตร ประเทศไทย
A Study on Natural Cyanide Decay in Tailings Storage Facility of a Gold Mine in Phichit Province, Thailand
Yaowanud Chandung, Pitsanu Bunnaul*
- 14:15** การนำเสนอผลิตภัณฑ์ทางด้านกลศาสตร์หิน จากบริษัท ชิมตัน จำกัด
- 14:30** การพัฒนาต้นแบบ IOT สำหรับติดตามการเจาะหลุมระเบิดในเหมืองหิน
The Development of IOT Prototype for Tracking Blasthole Drilling in Quarry
Kridtaya Sakamornsnguan*, Sarawoot Watechagit, Worakit Puangsup, Jessada Hengpucharoen, Kriengkrai Theprungsatavon, Kularbthip Boonyor, Punyapat Srisuriyasawat
- 14:45** การทบทวนวรรณกรรมเกี่ยวกับการลอยไอออนและเทคนิคที่เกี่ยวข้องสำหรับการเก็บกลับคืนโลหะจากสารละลาย
Ion Flotation and Related Techniques for Metal Recovery from Aqueous Solution: A Review
Theerayut Phengsaart*, Palot Srichonphaisarn, Worada Kwathichai, Thanakornkan Limlertchareonwanit, Carlito Baltazar Tabelaín
- 15:00** การนำเสนอผลิตภัณฑ์ทางการวิเคราะห์แร่ จากบริษัท ควอลิตี้รีพอร์ต จำกัด
