

# TECHNICAL PROGRAMME

Oral Presentations | Monday, 9 September 2024

30 <sup>TH</sup> EUROPEAN MEETING OF ENVIRONMENTAL AND ENGINEERING GEOPHYSICS	
KARL LINDAHL	TARJA HALONEN
09:00	Opening Session "AI in Geosciences: Navigating the Opportunities and Risks"
10:00	Coffee Break
<b>Best of SAGEEP</b>	
10:30	<b>A community led GPR investigation of a former Indian Residential School site in Canada</b> - A. McClymont <sup>*1</sup> , Leah Redcrow <sup>2</sup> , Tyrell Cardinal <sup>2</sup> , Scott Hamilton <sup>3</sup> , Paul Bauman <sup>1</sup> , Max Layton <sup>1</sup> <sup>1</sup> BGC Engineering; <sup>2</sup> Acimowin Opaspiw Society; <sup>3</sup> Lakehead University
10:50	<b>Applying a Hydrogeophysical Toolbox to Identify Hotspots of Contaminated Groundwater Discharges into a Coastal Bay</b> - D. Ntarlagiannis <sup>*1</sup> , H.E. Moore <sup>1</sup> , M. A. Briggs <sup>2</sup> , R. Iery <sup>3</sup> , D. Rey <sup>4</sup> , F. D. Day-Lewis <sup>5</sup> , L. Slater <sup>1,5</sup> <sup>1</sup> Rutgers University Newark, Earth & Environmental Sciences; <sup>2</sup> USGS Water Mission Area; <sup>3</sup> US Navy; <sup>4</sup> USGS, Hydrologic Remote Sensing Branch, Water Resources Mission Area; <sup>5</sup> Pacific Northwest National Laboratory, Energy & Environment Directorate
11:10	<b>Retrieving Subsurface Properties Of Mars-Analog Glaciers With Drone-Based GPR</b> - R. Aguilar <sup>*1</sup> , T. M. Meng <sup>1</sup> , M.S. Christoffersen <sup>2</sup> , S. Nerozzi <sup>1</sup> , J. W. Holt <sup>1</sup> <sup>1</sup> University of Arizona; <sup>2</sup> University of Alaska
11:30	<b>Building Water Resilience in Uganda, One Well at a Time</b> - P. Bauman <sup>1</sup> , L. Woods <sup>1</sup> , K. Robey <sup>1</sup> , S. Edris <sup>2</sup> <sup>1</sup> BGC Engineering Inc; <sup>2</sup> IsraAID
11:50	Lunch Break
<b>New Technologies, Developments and Research Trends, Machine Learning I</b>	
13:00	<b>Variational Mode Decomposition Based Processing of Surface NMR Data</b> - K. Naveed <sup>1</sup> , J.J. Larsen <sup>*1*</sup> <sup>1</sup> Aarhus University
13:20	<b>Nodal landstreamer vs. planted geophones for seismic imaging of shallow crystalline bedrock: a comparative performance study</b> - M. Cyzl <sup>*1*</sup> , M. Malinowski <sup>1</sup> , V. Laakso <sup>1</sup> , B. Brodic <sup>2</sup> , E. Koskela <sup>1</sup> <sup>1</sup> Geological Survey of Finland; <sup>2</sup> University of the Witwatersrand
13:40	<b>Inversion of DC Resistivity Data using Physics-Informed Neural Networks</b> - R. Sharma <sup>1*</sup> , D. Vashisth <sup>2</sup> , K. Sarkar <sup>1</sup> , U.K. Singh <sup>1</sup> <sup>1</sup> Department of Applied Geophysics, Indian Institute of Technology Dhanbad; <sup>2</sup> Department of Energy Science and Engineering, Stanford University
14:00	<b>Deep learning predictions of Dynamic Cone Penetrometer Data using Electromagnetic Induction mapping: a test site experiment.</b> - J. Cárdenas Chapellín <sup>*1*</sup> , C. Finco <sup>2</sup> , A. Wang <sup>2</sup> , F. Rejiba <sup>1</sup> <sup>1</sup> Sorbonne Université, CNRS, EPHE, UMR 7619 METIS; <sup>2</sup> Cerema, Research Team ENDSUM , F-76121, Le-Grand-Quevilly
<b>Groundwater Exploration and Hydrogeophysics I</b>	
13:00	<b>Estimation of hydraulic conductivity variations within glacial sediments at Endelave island by borehole NMR data</b> - S.R. Mashhadi <sup>1*</sup> , D. Grombacher <sup>1</sup> , J.B. Pedersen <sup>1</sup> , F. Jørgensen <sup>2</sup> , T.R. Andersen <sup>3</sup> <sup>1</sup> Hydrogeophysics Group, Department of Geoscience, Aarhus University; <sup>2</sup> Central Denmark Region, Viborg; <sup>3</sup> Research Centre for Built Environment, Climate, Water Technology and Digitalisation, VIA University College, Horsens
13:20	<b>Uncertainty quantification in groundwater volume predictions from seismic data using neural networks</b> - M. Khalili <sup>*1*</sup> , P. Göransson <sup>2</sup> , J.S. Hesthaven <sup>3</sup> , S. Heinonen <sup>4</sup> , A. Pasanen <sup>5</sup> , M. Vauhkonen <sup>1</sup> , T. Lähivaara <sup>1</sup> <sup>1</sup> Department of Technical Physics, University of Eastern Finland; <sup>2</sup> Department of Aeronautical and Vehicle Engineering, KTH Royal Institute of Technology, Stockholm; <sup>3</sup> Computational Mathematics and Simulation Science, Ecole Polytechnique Federale de Lausanne, Lausanne; <sup>4</sup> Institute of Seismology, University of Helsinki; <sup>5</sup> Geological Survey of Finland
13:40	<b>Using tTEM and geostatistics to update and improve the hydrostratigraphic model for the island of Ærø</b> - P. Thomsen <sup>1</sup> , G. Hollenbo Westergaard <sup>1</sup> , T. Norvin Vilhelmsen <sup>1</sup> , K. Albers Grunnet <sup>1*</sup> , A. Pytlich <sup>2</sup> <sup>1</sup> Niras; <sup>2</sup> Ministry of Environment of Denmark
14:00	<b>Assessing groundwater-surface water connectivity using land and waterborne TEM surveys</b> - P. McLachlan <sup>1*</sup> , J.C. Zamora Luria <sup>1</sup> , D. Grombacher <sup>1</sup> , A.V. Christiansen <sup>1</sup> <sup>1</sup> Aarhus University
14:20	Coffee Break

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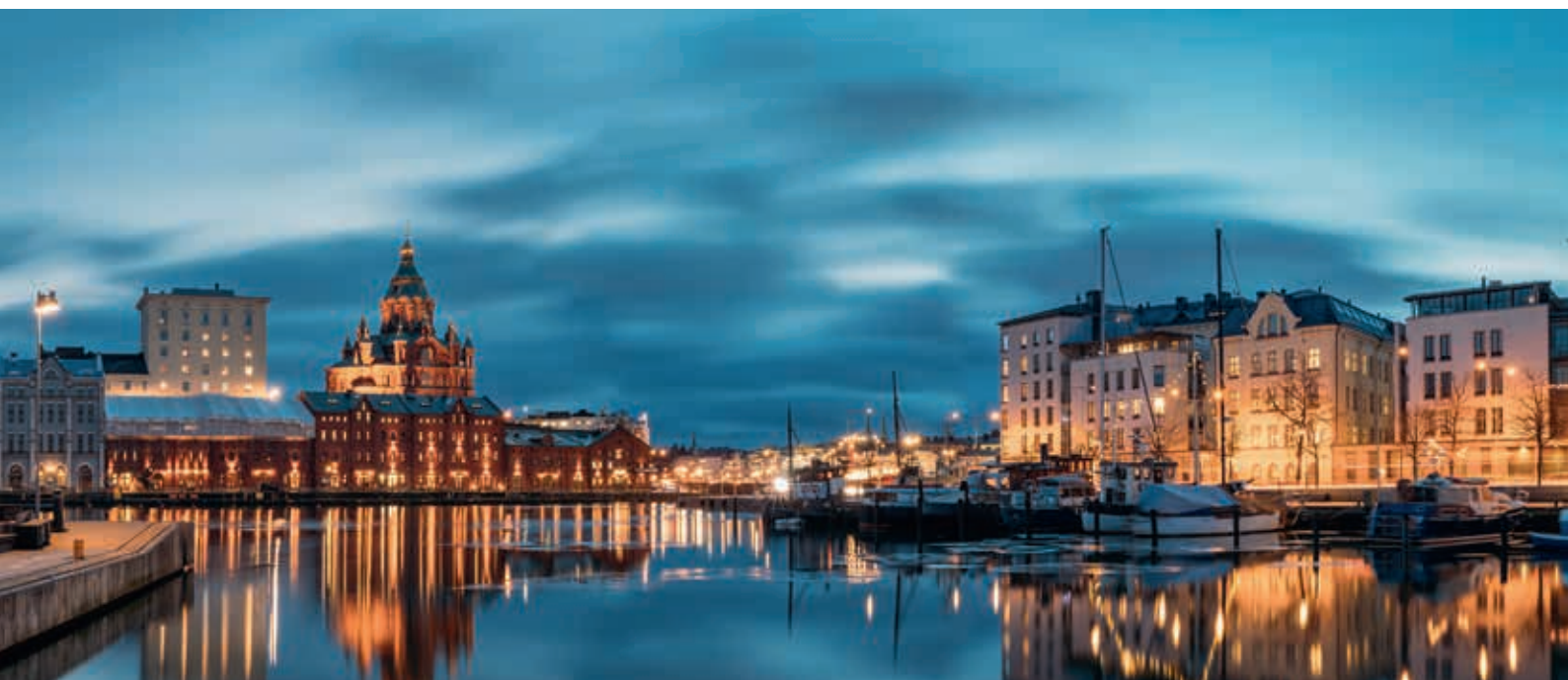
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5 <sup>TH</sup> CONFERENCE ON GEOPHYSICS FOR MINERAL EXPLORATION AND MINING		4 <sup>TH</sup> CONFERENCE ON AIRBORNE, DRONE AND ROBOTIC GEOPHYSICS	
JUHO RISSANEN		TIVOLI	
10:00 Coffee Break			
<b>AI and Machine Learning</b>		<b>Drone EM I</b>	
10:30	<b>An automated approach to incorporate structural information into the inversion using image segmentation</b> - J. Kuttai <sup>1*</sup> , L. Heagy <sup>1</sup> <sup>1</sup> University Of British Columbia - Earth, Ocean And Atmospheric Sciences Department	10:30	Keynote talk
10:50	<b>Inverting airborne electromagnetic data with machine learning</b> - M. McMillan <sup>1,2*</sup> , B. Peters <sup>2</sup> , O. Greif <sup>2</sup> , P. Wozniakowska <sup>2</sup> , E. Haber <sup>3</sup> <sup>1</sup> Invert Geophysics; <sup>2</sup> Computational Geosciences Inc; <sup>3</sup> University of British Columbia		
11:10	<b>Predicting Rock Quality Designation with geophysical wireline data</b> - D. Kieu <sup>1</sup> , M. Parsajoo <sup>1,2*</sup> , A. Kopic <sup>1</sup> <sup>1</sup> RoqSense; <sup>2</sup> Iranian Mining Engineering Organisation	11:10	<b>UAV-electromagnetic measurements to map variations of depth to bedrock in southern Sweden</b> - M. Bastani <sup>1,3*</sup> , L. Beckel <sup>1</sup> , T. Martin <sup>2</sup> <sup>1</sup> Geological Survey of Sweden; <sup>2</sup> Lund University; <sup>3</sup> Uppsala University
11:30	<b>Comparing modern deep learning with traditional methods for seismic fault interpretation</b> - N. Ngcobo <sup>1*</sup> , M. Manzi <sup>1</sup> , G. Nwaila <sup>1</sup> , J. Bourdeau <sup>2</sup> , S. Zhang <sup>2</sup> <sup>1</sup> University Of The Witwatersrand; <sup>2</sup> Geological Survey of Canada	11:30	<b>Louhi - novel drone-based electromagnetic survey system</b> - M. Pirttijarvi <sup>1*</sup> , P. Korkeakangas <sup>1</sup> , A. Saartenoja <sup>1</sup> <sup>1</sup> Radai Oy
11:50 Lunch Break			
<b>Downhole Geophysics</b>		<b>Drone EM II</b>	
13:00	<b>Simple Solutions By Using P And S Suspension Logging Data In Unstable Borehole Conditions</b> - S.H. Majumdar <sup>1</sup> , H. Butler <sup>1*</sup> <sup>1</sup> Fugro	13:00	<b>Exploring groundwater salinization using drone-based electromagnetics in the North Sea region, Germany</b> - B. Blanco Arrué <sup>1*</sup> , R. Rochlitz <sup>1</sup> , T. Günther <sup>1</sup> , M. Ronczka <sup>1</sup> , M. Müller-Petke <sup>1</sup> <sup>1</sup> Liag Institute for Applied Geophysics
13:20	<b>Polarization ellipse-driven Model Normalization for borehole EM anomaly residuals</b> - H. Kaaretkoski <sup>1*</sup> , S. Dempsey <sup>1</sup> , A. Pantze <sup>1</sup> <sup>1</sup> Boliden	13:20	<b>Comparing inductive and galvanic sources in semi-airborne transient electromagnetic (TEM) method: a parameter analysis</b> - A. Almpanis <sup>1*</sup> , A. Christiansen V <sup>1</sup> , P. McLachlan <sup>1</sup> , D. Grombacher <sup>1</sup> <sup>1</sup> Aarhus University
13:40	<b>Enhancing Deep Ore Exploration with Drillhole Electromagnetic Loop Inside Active Mine</b> - M. Smirnova <sup>1*</sup> , A. Holmgren <sup>1</sup> , K. McGimpsey <sup>1</sup> , S. Schöttle <sup>2</sup> <sup>1</sup> Boliden Mineral AB; <sup>2</sup> University of Cologne	13:40	<b>Testing an airborne TEM system in Denmark using a heavy-lift drone</b> - N.S. Nyboe <sup>1*</sup> , A.A. Pfaffhuber <sup>2</sup> , K.S. Mohr <sup>1</sup> , M. Panzner <sup>3</sup> <sup>1</sup> SkyTEM Surveys; <sup>2</sup> EMerald Geomodelling; <sup>3</sup> Equinor, formerly EMerald Geomodelling
		14:00	<b>A new semi-airborne loop source TEM system for 3D mapping of groundwater and mineral resources</b> - P. Maurya <sup>1*</sup> , E. Auken <sup>1</sup> , A.V. Christiansen <sup>2</sup> , D.J. Grombacher <sup>2</sup> , P.J. McLachlan <sup>2</sup> , A.L.C. Harbo <sup>3</sup> , S. Jensen <sup>3</sup> , J.J. Naundrup <sup>3</sup> <sup>1</sup> Temcompany Aps; <sup>2</sup> Institute of Geosciences, Aarhus university; <sup>3</sup> Drone Research Lab Aalborg University
14:20 Coffee Break			

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30 <sup>TH</sup> EUROPEAN MEETING OF ENVIRONMENTAL AND ENGINEERING GEOPHYSICS	
KARL LINDAHL	TARJA HALONEN
Geophysical Surveys of Cryosphere and Arctic	Data processing, modeling and integrated approaches
<p><b>14:50</b> <b>Nine years of the retreating Hans Glacier's (South Spitsbergen) frontal zone evolution in geophysical imaging</b> - A. Marciniak<sup>1*</sup>, S. Oryński<sup>1</sup>, S. Uhlemann<sup>2</sup>, W. Dobiński<sup>3</sup>, J. Cader<sup>4</sup>, M. Majdański<sup>1</sup>  <sup>1</sup>Institute of Geophysics, Polish Academy of Sciences; <sup>2</sup>Lawrence Berkeley National Laboratory; <sup>3</sup>Faculty of Natural Sciences, University of Silesia; <sup>4</sup>Mineral and Energy Economy Research Institute, Polish Academy of Sciences</p>	<p><b>14:50</b> <b>Low and intermediate frequency electromagnetic methods for cavity detection</b> - F. Dubois<sup>1*</sup>, B. Bourgeois<sup>1</sup>, M. Darnet<sup>1</sup>  <sup>1</sup>BRGM</p>
<p><b>15:10</b> <b>Modelling of temporal and spatial trends in soil conditions in Finland using HydroBlocks model</b> - E. Kokko<sup>1*</sup>, N. Chaney<sup>2</sup>, L. Torres-Rojas<sup>2</sup>, D. Guyumus<sup>2</sup>, L. Bacelar<sup>2</sup>, J. Okkonen<sup>3</sup>  <sup>1</sup>Oulu Mining School, University Of Oulu; <sup>2</sup>Environmental and Civil Engineering Department, Duke University; <sup>3</sup>Geological Survey Of Finland</p>	<p><b>15:10</b> <b>Rayleigh surface wave focal spot imaging</b> - G. Hillers<sup>1*</sup>, C. Tsarsitalidou<sup>1</sup>, B. Giammarinaro<sup>2</sup>, P. Boué<sup>3</sup>, L. Stehly<sup>3</sup>, K. Kolehmainen<sup>1</sup>  <sup>1</sup>Institute of Seismology, Department of Geosciences and Geography, University of Helsinki; <sup>2</sup>LabTAU, INSERM, Centre Léon Bérard, Université Claude Bernard Lyon 1; <sup>3</sup>Institut des Sciences de la Terre, Université Grenoble Alpes</p>
<p><b>15:30</b> <b>Polythermal glaciers: a link between GPR EM facies and glacial thermal modeling</b> - P. Gutgesell<sup>1*</sup>, E. Forte<sup>2</sup>  <sup>1</sup>Università degli studi di Trieste, Dipartimento di Matematica Informatica e Geoscienze; <sup>2</sup>Università degli studi di Trieste, Dipartimento di Matematica Informatica e Geoscienze</p>	<p><b>15:30</b> <b>Multi survey investigation of active seismic techniques for environmental seismology</b> - E. Roshdy<sup>1,2*</sup>, M. Majdański<sup>1</sup>, A. Marciniak<sup>1</sup>, S. Oryński<sup>1</sup>, P. Popielski<sup>3</sup>, S. Kowalczyk<sup>4</sup>, I. Ostrzotek<sup>5</sup>, S. Długosz<sup>6</sup>  <sup>1</sup>Institute Of Geophysics Polish Academy Of Sciences; <sup>2</sup>Geophysics Department, Faculty of Science, Cairo University; <sup>3</sup>Faculty of Building Services, Hydro and Environmental Engineering Warsaw University of Technology; <sup>4</sup>Faculty of Geology, University of Warsaw; <sup>5</sup>PGE Górnictwo I Energetyka, O. El. Rybnik; <sup>6</sup>SHM System SP. Z o.o.</p>
<p><b>15:50</b> <b>Frostquakes and frost tremors in northern Finland and associated hazard to urban infrastructure</b> - N. Afonin<sup>1</sup>, E. Kozlovskaya<sup>1*</sup>, K. Moioio<sup>1</sup>, E. Kokko<sup>1</sup>, J. Okkonen<sup>2</sup>  <sup>1</sup>University of Oulu; <sup>2</sup>Geological Survey of Finland</p>	<p><b>15:50</b> <b>Integrating Geophysical Inversion with Markov-Type Categorical Prediction for Improved Geological Modelling</b> - L. Guo<sup>1*</sup>, T. Hermans<sup>1</sup>, D. Duda<sup>2</sup>, E. Van De Vijver<sup>1</sup>, N. Benoit<sup>3</sup>, W. Deleersnyder<sup>2</sup>  <sup>1</sup>Ghent University; <sup>2</sup>Katholieke Universiteit Leuven; <sup>3</sup>Geological Survey of Canada</p>
<p><b>16:10</b> <b>Joint Poster Session Monday</b></p>	<p><b>16:10</b> <b>Joint Poster Session Monday</b></p>
<p><b>17:15</b> <b>Icebreaker Reception</b></p>	



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<b>5<sup>TH</sup> CONFERENCE ON GEOPHYSICS FOR MINERAL EXPLORATION AND MINING</b>		<b>4<sup>TH</sup> CONFERENCE ON AIRBORNE, DRONE AND ROBOTIC GEOPHYSICS</b>	
<b>JUHO RISSANEN</b>		<b>TIVOLI</b>	
<b>Mine Planning &amp; Safety</b>		<b>Remote Sensing</b>	
<b>14:50</b>	<b>3D seismic attribute analysis for gold exploration and mine planning in the Witwatersrand Basin, South Africa</b> - N. Mutshafa <sup>1*</sup> , M. Manzi <sup>1</sup> , R. Durrheim <sup>1</sup> <sup>1</sup> University Of The Witwatersrand	<b>14:50</b>	<b>The integral role of digital outcrop models in geological disposal facility site selection and environmental management.</b> - D. Hodgetts <sup>1*</sup> , B. Burnham <sup>1</sup> , W. Head <sup>2</sup> <sup>1</sup> VRGeoscience Limited. <a href="https://www.vrgeoscience.com">https://www.vrgeoscience.com</a> ; <sup>2</sup> Westinghouse Electric Company.
<b>15:10</b>	<b>Surface wave attributes for the mapping of geo-structural features in mineral exploration</b> - C. Colombero <sup>1*</sup> , F. Khosro Anjom <sup>1</sup> , S. Gomo <sup>1</sup> , V. Socco <sup>1</sup> , M. Manzi <sup>2</sup> <sup>1</sup> Politecnico Di Torino; <sup>2</sup> Wits University	<b>15:10</b>	<b>High-Resolution Near-Surface Soil Water Content Estimation, Using Remote Sensing Data and Deep Computer Vision Methods</b> - M. Rafiei <sup>1*</sup> , M.R. Asif <sup>1</sup> , M. Nørremark <sup>1</sup> , C.A.G. Sørensen <sup>1</sup> <sup>1</sup> Aarhus University
<b>15:30</b>	<b>UAV magnetic surveys for mineral exploration: implications for mine planning and safety</b> - J. Dildar <sup>1*</sup> , M. Manzi <sup>1</sup> , O. Brovko <sup>2</sup> , M. Sihoyiya <sup>1</sup> <sup>1</sup> University Of The Witwatersrand; <sup>2</sup> GF International and GeoFocus (Pty) Ltd.	<b>15:30</b>	<b>Deep learning based identification of oil-slick emissions in the Arctic using satellite SAR data</b> - O. Millinge <sup>1*</sup> , C. Böttner <sup>1</sup> , M.R. Asif <sup>1*</sup> <sup>1</sup> Aarhus University
<b>15:50</b>	<b>3D-Underground Seismics with a focus on clay rocks</b> - H. Richter <sup>1,2*</sup> , K. Jaksch <sup>1</sup> , R. Giese <sup>1</sup> , R. Esefelder <sup>1,3</sup> , B. Wawerzinek <sup>1</sup> , S. Lüth <sup>1</sup> <sup>1</sup> Helmholtz Centre Potsdam, GFZ German Research Centre for Geosciences; <sup>2</sup> Technical University Berlin; <sup>3</sup> Friedrich Schiller University Jena	<b>15:50</b>	<b>Exploring Mineralization Potential Through Remote Sensing and Geophysical Analysis Along Fatira Shear Zone, Eastern Desert, Egypt</b> - M. Badawi <sup>1*</sup> , A. Shebl <sup>2</sup> , N. Németh <sup>1</sup> <sup>1</sup> Miskolc Egyetem; <sup>2</sup> Debrecen University
<b>16:10</b>	<b>Joint Poster Session Monday</b>	<b>16:10</b>	<b>Joint Poster Session Monday</b>
<b>17:15</b>	<b>Icebreaker Reception</b>		



# TECHNICAL PROGRAMME

## Poster Presentations | Monday, 9 September 2024

POSTER AREA	
Joint Poster Session Monday	
16:10	<p><b>An analysis of the application of the electromagnetic slingram method for peatland monitoring.</b> - S. Orynski<sup>1*</sup>, S. Kowalczyk<sup>2</sup>  <sup>1</sup>Institute of Geophysics, Polish Academy of Sciences; <sup>2</sup>Faculty of Geology, University of Warsaw</p> <p><b>Analysis of Sea Effects on Magnetotelluric data from the Yeonil Tectonic Line and Ulsan Fault, Korea</b> - K. Ryu<sup>1*</sup>, H. Kwon<sup>1</sup>, S. Oh<sup>1</sup>  <sup>1</sup>Kangwon National University</p> <p><b>Automatic algorithm detection of microbialites in geophysical data.</b> - A. Urruela Garcia<sup>1*</sup>, M. Himi<sup>1</sup>, L. Rivero<sup>1,2</sup>, F. Pinheiro<sup>3</sup>, A. Sendrós<sup>1,2</sup>, C. Abancó<sup>1</sup>, R. Lovera<sup>1,2</sup>, A. Casas<sup>1,2</sup>  <sup>1</sup>Earth Science Faculty - Universitat de Barcelona; <sup>2</sup>Water Research Institute - Universitat de Barcelona; <sup>3</sup>Universidade Federal do Rio Grande do Norte</p> <p><b>Automatic surface-consistent analysis for geohazard detection</b> - E. Sandoval Curiel<sup>1*</sup>, D. Colombo<sup>1</sup>, T. Alyousuf<sup>1</sup>, E. Turkoglu<sup>1</sup>  <sup>1</sup>EXPEC Advanced Research Center, Saudi Aramco</p> <p><b>Co-locating glacial seismicity, temperature, and snow cover: geophones as weather stations</b> - R. Ferguson<sup>1*</sup>, C. Mosher<sup>2</sup>  <sup>1</sup>University of Calgary; <sup>2</sup>MoMacMo</p> <p><b>Comparison of inversion algorithms for traffic noise data</b> - Y. Choi<sup>1*</sup>, S. Jang<sup>1</sup>, D. Lee<sup>1</sup>, W. Son<sup>1</sup>, Y. Joo<sup>1</sup>, S. Cheong<sup>1</sup>, B. Kim<sup>1</sup>  <sup>1</sup>Korea Institute Of Geoscience And Mineral Resources</p> <p><b>ERT survey to determine the geometry of a landslide at Pont de Bar (Central Pyrenees-Spain)</b> - C. Herrero<sup>1,3</sup>, L. Rivero<sup>1,2</sup>, J.M. Vilaplana<sup>1</sup>, R. Lovera<sup>1,2</sup>, C. Abancó<sup>1</sup>, L. Galone<sup>4</sup>, A. Urruela<sup>1*</sup>, M. Himi<sup>1,5</sup>, A. Sendros<sup>1,2</sup>, A. Casas<sup>1,2</sup>  <sup>1</sup>Earth Science Faculty-University of Barcelona; <sup>2</sup>Water Research Institute-University of Barcelona; <sup>3</sup>Enviro Engineerig; <sup>4</sup>University of Malta; <sup>5</sup>Institute of Archaeology-University of Barcelona</p> <p><b>Getica Ccs Project-Feasibility Of Local Logging Technologies</b> - S. Anghel<sup>1*</sup>  <sup>1</sup>National Research and Development Institute for Marine Geology and Geoecology</p> <p><b>Imaging of Cole-Cole parameters from time domain SIP inversion results</b> - M. Yi<sup>1*</sup>, S. Jeong<sup>1</sup>, B. Jochum<sup>2</sup>, D. Ottowitz<sup>2</sup>  <sup>1</sup>Korea Institute of Geoscience and Mineral Resources; <sup>2</sup>Geosphere Austria</p> <p><b>Integration of surface wave analysis with electrical resistivity and seismic refraction tomography to characterise rock glaciers</b>            - S.J. Gaona Torres<sup>1*</sup>, M. Pavoni<sup>1</sup>, I. Barone<sup>1</sup>, A. Bast<sup>2,3</sup>  <sup>1</sup>Dipartimento di Geoscienze, Università di Padova; <sup>2</sup>WSL Institut for Snow and Avalanche Research SLF, Alpine Environment and Natural Hazards / Permafrost, Davos Dorf.; <sup>3</sup>Climate Change, Extremes and Natural Hazards in Alpine Regions Research Center CERC, Davos Dorf"</p> <p><b>Location of favourable areas for compressed air energy storage in salt domes using gravity data</b> - V. Serrano<sup>1</sup>, A. Sendrós<sup>1,2</sup>, L. Rivero<sup>1,2</sup>, R. Lovera<sup>1,2</sup>, A. Urruela<sup>1</sup>, M. Himi<sup>1</sup>, A. Casas<sup>1,2*</sup>  <sup>1</sup>Earth Science Faculty, Universitat de Barcelona; <sup>2</sup>Water Research Institute, Universitat de Barcelona</p> <p><b>Seismic activity of the Kurbnesh-Kukes-Prizren cross-border transversal fault and its effects on the Albanian-Kosovo cities</b> - K. Skrame<sup>1,2,3*</sup>, R. Ormeni<sup>2,3</sup>, I. Hoxha<sup>4</sup>, N. Peci<sup>5</sup>, B. Shala<sup>5</sup>  <sup>1</sup>Polytechnic University of Tirana, Albania; <sup>2</sup>Albanian Association of Geoscientists and Engineers – AAGE; <sup>3</sup>Academy of Sciences of Albania; <sup>4</sup>Polytechnic University of Tirana, Institute of Geosciences; <sup>5</sup>University Isa Buletini of Mitrovica</p> <p><b>Seismic methods for geoenery-related site investigations in crystalline rocks: case study from Pirkkala, Finland</b> - E. Koskela<sup>1*</sup>, B. Brodic<sup>2</sup>, M. Malinowski<sup>1</sup>, V. Laakso<sup>1</sup>, A. Martinkauppi<sup>1</sup>, M. Cyz<sup>1</sup>  <sup>1</sup>Geological Survey of Finland; <sup>2</sup>University of the Witwatersrand</p> <p><b>Seismic microzonation geotechnical and geophysical tests. A case study of Granada (Spain) focused on seismic risk</b> - I. Valverde Palacios<sup>1*</sup>, P. Martínez-Pagán<sup>3</sup>, A. García-Jerez<sup>2</sup>, J.J. Hellin-Rodríguez<sup>1</sup>, M. Navarro-Bernal<sup>3</sup>, M. Martínez-Segura<sup>3</sup>, K. Suto<sup>4</sup>, K. Hayashi<sup>5</sup>  <sup>1</sup>University of Granada; <sup>2</sup>University of Almería; <sup>3</sup>University of Cartagena; <sup>4</sup>Terra Australis Geophisica; <sup>5</sup>Geometrics</p> <p><b>Study on Depth-domain Seismic Imaging Subsurface Structures for CO2 Storage of Gunsan Basin, Yellow Sea, Korea</b> - W. Son<sup>1*</sup>, S. Cheong<sup>1</sup>, B. Kim<sup>1</sup>, M. Kang<sup>1</sup>  <sup>1</sup>Korea Institute of Geoscience and Mineral Resources</p> <p><b>Subsoil investigation through geophysical surveys on the shores of the "Bagno dell'Acqua" lake in Pantelleria, Italy</b> - P. Capizzi<sup>1</sup>, F.L. Chiocci<sup>2</sup>, S. D'Amico<sup>3</sup>, R. Martorana<sup>1*</sup>, A. Canzoneri<sup>1</sup>, A. Carollo<sup>1</sup>, E. Colica<sup>3</sup>  <sup>1</sup>Department of Earth and Marine Sciences - University of Palermo; <sup>2</sup>Department of Earth Sciences - Sapienza University of Rome; <sup>3</sup>Department of Geosciences - University of Malta</p> <p><b>The Importance Of Seismic Microzonation In Historic Buildings:A Case Study</b> - M.A. Martinez<sup>1*</sup>, M.C. García-Nieto<sup>1</sup>, M. Navarro<sup>2</sup>  <sup>1</sup>Universidad Politecnica de Cartagena; <sup>2</sup>Universidad de Almería"</p> <p><b>The integration of geophysical data in mud volcano research, a case study from Romania</b> - A. Mihai<sup>1*</sup>, A. Gereau<sup>1</sup>, D. Tataru<sup>1</sup>, E. Nastase<sup>1</sup>, B. Zaharia<sup>1</sup>, B. Grecu<sup>1</sup>, B. Cerbu<sup>1</sup>, D. Toma<sup>1</sup>  <sup>1</sup>National Institute for Earth Physics Romania</p> <p><b>Time-lapse electrical resistivity tomography to monitor moisture content in a laboratory compacted soil dam</b> - L. Guireli Netto<sup>1,2*</sup>, M.P. De Oliveira<sup>3</sup>, R. Serafim<sup>1</sup>, T.M. Spinelli<sup>4</sup>, C.C. Arbiato<sup>4</sup>, P.D.G. Orlando<sup>1</sup>  <sup>1</sup>Institute For Technological Research of The State of São Paulo - IPT; <sup>2</sup>São Paulo State University; <sup>3</sup>São Paulo University; <sup>4</sup>Intergeo Geofísica Aplicada</p>

# TECHNICAL PROGRAMME

Oral Presentations | Tuesday, 10 September 2024

30 <sup>TH</sup> EUROPEAN MEETING OF ENVIRONMENTAL AND ENGINEERING GEOPHYSICS	
KARL LINDAHL	TARJA HALONEN
Geophysics in Geohazard Studies I	Geophysics in Engineering Geology and Geotechnical Investigations I
<b>09:00</b> <b>Evaluation of karstification risks using borehole radar measurements during tunnel excavation in Slovenia</b> - J. Roth <sup>1*</sup> , M. Opelt <sup>1</sup> , P. Lehmann <sup>1</sup> , M. Prelovšek <sup>2</sup> , J. Fux <sup>3</sup> , V. Vukadin <sup>3</sup> <sup>1</sup> Bo-Ra-tec GmbH; <sup>2</sup> ZRC SAZU; <sup>3</sup> IRGO Consulting d. o. o.	<b>09:00</b> <b>Improved planning of geotechnical investigations using GPR</b> - J. Gustafsson <sup>1*</sup> , J. Emilsson <sup>1</sup> , J. Friborg <sup>1</sup> , M. Langton <sup>1</sup> , A. Viberg <sup>1</sup> , A. Abrahamsson <sup>1</sup> <sup>1</sup> Guideline Geo
<b>09:20</b> <b>Fast and agile 3D Deep ERT for imaging complex geological features: example at La Soufriere volcano</b> - F. Fischanger <sup>2</sup> , C. Truffert <sup>1*</sup> , A. Rosselli <sup>2</sup> , F. Barsuglia <sup>2</sup> , S. Del Ghianda <sup>3</sup> , G. Penno <sup>3</sup> , A. Ferdeghini <sup>2</sup> , A. Coletti <sup>2</sup> , M. Lupi <sup>4</sup> , G. Savard <sup>4</sup> , E.A. Jiwani-Brown <sup>4</sup> , S. Bouteille <sup>1</sup> <sup>1</sup> Iris Instruments; <sup>2</sup> GEG Experts; <sup>3</sup> Geostudi Astier; <sup>4</sup> Department of Earth Sciences, University of Geneva	<b>09:20</b> <b>Combined geophysical, geological and geotechnical study of offshore soft sediments at a planned wind farm area</b> - M. Saresma <sup>1*</sup> , D. Mohapatra <sup>2</sup> , S. Mohammadi Hasanbarough <sup>2</sup> , W. Sotowski <sup>2</sup> , J.J. Virtasalo <sup>1</sup> <sup>1</sup> Geological Survey of Finland; <sup>2</sup> Aalto University
<b>09:40</b> <b>Investigation of subsidence impacting a UK motorway using electromagnetic and multidimensional resistivity surveys</b> - A. O'Reilly <sup>1*</sup> , J. Whiteley <sup>1</sup> , E. Cox <sup>1</sup> , S. Oakley <sup>1</sup> , S. Archer <sup>1</sup> , A. Thomas <sup>2</sup> , R. Speller <sup>3</sup> , I. McKenzie <sup>4</sup> <sup>1</sup> AtkinsRéalis; <sup>2</sup> TerraDat; <sup>3</sup> South Wales Trunk Road Agent (SWTRA); <sup>4</sup> Welsh Government	<b>09:40</b> <b>Seasonal variation in railway embankment condition from passive analysis of train generated surface waves using DAS</b> - A. Trafford <sup>1*</sup> , M. Saqlain <sup>1</sup> , J. Chambers <sup>2</sup> , B. Dashwood <sup>2</sup> , R. Crickmore <sup>3</sup> , J. Harms <sup>4</sup> , S. Donohue <sup>1</sup> <sup>1</sup> University College Dublin; <sup>2</sup> British Geological Survey; <sup>3</sup> Luna Innovations; <sup>4</sup> Network Rail
<b>10:00</b> <b>Importance of time-lapse high quality bathymetric dataset in dynamic environment for geohazard evaluation: a case study</b> - M. Marello <sup>1*</sup> , M. Sammartini <sup>1</sup> , F. Zolezzi <sup>1</sup> <sup>1</sup> RINA Consulting S.p.a	<b>10:00</b> <b>Geophysical investigations of a new subway in the city of Stockholm, Sweden</b> - M. Dehghannejad <sup>1*</sup> , C. Albrechtsen <sup>2</sup> , S. Knappe Hansén <sup>1</sup> <sup>1</sup> Ramboll Sweden; <sup>2</sup> Ramboll Denmark
<b>10:20</b> <b>Engineering Geophysical Solutions A Tool For Ground Risk Management In Karstic Environments</b> - S.H. Majumdar <sup>1</sup> , H. Butler <sup>1*</sup> <sup>1</sup> Fugro	<b>10:20</b> <b>Structural health investigation of the earthen dam using passive seismic</b> - S. Jang <sup>1*</sup> , D. Lee <sup>1</sup> , K. Lee <sup>2</sup> , B. Kim <sup>1</sup> <sup>1</sup> KIGAM; <sup>2</sup> K-water Research Institute, Korea water Resource Corporation
<b>10:40</b> Coffee Break	
New Technologies, Developments and Research Trends, Machine Learning II	Modelling, Inversion and Data-Processing in Near Surface Geophysics I
<b>11:10</b> <b>Using machine learning to estimate thermal conductivity based on optical image data</b> - R. Kiuru <sup>1,2*</sup> , D. Wawita Widanalage Don <sup>3</sup> <sup>1</sup> Rock Physics Finland Ltd; <sup>2</sup> Aalto University, School of Engineering; <sup>3</sup> University of Oulu, Oulu Mining School	<b>11:10</b> <b>ERT and TDIP survey for mapping of leachate plumes: application to a MSW landfill in Italy</b> - D. Melegari <sup>1*</sup> , G. De Donno <sup>1</sup> <sup>1</sup> Sapienza - University Of Rome
<b>11:30</b> <b>Bayesian inversion for large-scale towed transient electromagnetic data using probabilistic neural networks</b> - J. Chen <sup>1*</sup> , G. Fiandaca <sup>1</sup> <sup>1</sup> University Of Milan	<b>11:30</b> <b>Coupling ERT and SRT data through cross-gradient joint inversion and clustering on structured meshes incorporating topography</b> - G. Penta De Peppo <sup>1*</sup> , M. Cercato <sup>1</sup> , G. De Donno <sup>1</sup> <sup>1</sup> "Sapienza" University of Rome – DICEA
<b>11:50</b> <b>Feasibility study of steady-state surface NMR with adiabatic pulses</b> - M. Hardenberg <sup>1</sup> , M.P. Griffiths <sup>1</sup> , D. Grombacher <sup>1</sup> , J.J. Larsen <sup>1*</sup> <sup>1</sup> Aarhus University	<b>11:50</b> <b>Surface-wave supervirtual seismic interferometry: the ugly, the bad, and the good</b> - S. Hassing <sup>1*</sup> , D. Draganov <sup>1</sup> , E. Verschuur <sup>1</sup> <sup>1</sup> TU Delft
<b>12:10</b> <b>A new compact, portable, and fast transient electromagnetic system for rapid subsurface imaging - sTEMprofiler</b> - P. Maurya <sup>1*</sup> , E. Auken <sup>1</sup> , T. Bording <sup>1</sup> <sup>1</sup> Temcompany Aps	<b>12:10</b> <b>Automated processing of time-domain electromagnetic data influenced by induced polarization effects</b> - M.R. Asif <sup>1*</sup> , J.J. Larsen <sup>1</sup> , A.V. Christiansen <sup>1</sup> <sup>1</sup> Aarhus University
<b>12:30</b> <b>Physics-guided deep learning DC-resistivity inversion with uncertainty quantification</b> - F. Rincón <sup>1*</sup> , M. Aleardi <sup>1</sup> , A. Tognarelli <sup>1</sup> , E. Stucchi <sup>1</sup> <sup>1</sup> Università Di Pisa	<b>12:30</b> <b>EEMverter, a new modelling tool for Electric and Electromagnetic data with focus on induced polarization</b> - G. Fiandaca <sup>1*</sup> , J. Chen <sup>1</sup> , B. Zhang <sup>2</sup> <sup>1</sup> University of Milano "La Statale"; <sup>2</sup> Jilin University
<b>12:50</b> Lunch Break	

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Oral Presentations | Tuesday, 10 September 2024

5 <sup>TH</sup> CONFERENCE ON GEOPHYSICS FOR MINERAL EXPLORATION AND MINING		4 <sup>TH</sup> CONFERENCE ON AIRBORNE, DRONE AND ROBOTIC GEOPHYSICS	
JUHO RISSANEN		TIVOLI	
Seismic Methods in Mineral Exploration I		Drone geophysics	
09:00	<b>Reassessing seismic legacy data of crooked-line acquisition for deep mineral exploration in Outokumpu, Finland</b> - Y. Ding <sup>1*</sup> , I.T. Kukkonen <sup>1</sup> , S. Heinonen <sup>1,2</sup> <sup>1</sup> University of Helsinki; <sup>2</sup> Institute of Seismology	09:00	<b>Snow measurements with UAV GPR tools</b> - B. Dupuy <sup>1*</sup> , M. Lee <sup>1</sup> , M. Chatel <sup>1</sup> , A. Grøver <sup>1</sup> , S. Garambois <sup>4</sup> , H. Dahle <sup>2</sup> , A. Tobiesen <sup>1</sup> , S. Salazar <sup>3</sup> , R. Frauenfelder <sup>3</sup> , T. Humstad <sup>2</sup> , J. Hendrikx <sup>5</sup> <sup>1</sup> SINTEF; <sup>2</sup> NPRA; <sup>3</sup> NGI; <sup>4</sup> Université Grenoble Alpes; <sup>5</sup> UIT
09:20	<b>Broadband seismics for deep mineral exploration at South Deep gold mine, South Africa</b> - M. Sihoyiya <sup>1*</sup> , M. Manzi <sup>1</sup> , I. James <sup>1</sup> , M. Rapetsoa <sup>1</sup> <sup>1</sup> University Of The Witwatersrand	09:20	<b>The guidelines for drone geophysics: radiometric UAV-borne guidelines</b> - S. Van Der Veeke <sup>1*</sup> , H. Limburg <sup>1</sup> , R. Koomans <sup>1</sup> <sup>1</sup> Medusa Radiometrics
09:40	<b>Mapping Regional Reflectivity of Mineral-prone Koillismaa Layered Intrusion Complex in Northern Finland using Crooked Seismic Profiles</b> - B. Singh <sup>1*</sup> , A. Górszczyk <sup>1</sup> , M. Malinowski <sup>1,2</sup> , S. Heinonen <sup>3</sup> , U. Autio <sup>2</sup> , M. Wojdyła <sup>4</sup> , J. Kamm <sup>2</sup> <sup>1</sup> Institute of Geophysics, Polish Academy of Sciences Warsaw; <sup>2</sup> Geological Survey of Finland; <sup>3</sup> Institute of Seismology, University of Helsinki; <sup>4</sup> Geopartner Geofizyka Sp. z o.o.	09:40	<b>Design of the EM metal objects detection system based on the GPR experience</b> - A. Dobrovolskiy <sup>*</sup> , S. Zelenkov, V. Zolotarev <sup>1</sup> SPH Engineering; <sup>2</sup> Radar Systems, Inc.
10:00	<b>Seismic imaging of the deep-seated orebody and fault systems at South Deep Gold Mine, South Africa</b> - M.K. Rapetsoa <sup>1*</sup> , M. Manzi <sup>1</sup> , A. Malehmir <sup>2</sup> , V. Socco <sup>3</sup> , C. Colombo <sup>3</sup> <sup>1</sup> University of the Witwatersrand; <sup>2</sup> Uppsala University; <sup>3</sup> Politecnico di Torino	10:00	<b>Results from two generations of SkyTEM systems at Liikavaara, Sweden</b> - P. Gisselø <sup>1*</sup> , A. Voutilainen <sup>2</sup> <sup>1</sup> SKYTEM Surveys ApS; <sup>2</sup> Boliden
10:20	<b>The impact of seismic nodes on enhancing subsurface imaging for nickel mining</b> - E. Murray <sup>1*</sup> , A. Stone <sup>1</sup> , C. Giersz <sup>1</sup> , A. Ourabah <sup>1</sup> , B. Bengert <sup>2</sup> <sup>1</sup> Stryde; <sup>2</sup> Talon Metals Corp.	10:20	<b>Magnetic UAV survey enhances the geological interpretation of the Aijala-Metsämonttu VMS region, southwestern Finland</b> - H. Levaniemi <sup>1*</sup> , J. Hokka <sup>1</sup> , V. Järvinen <sup>1</sup> <sup>1</sup> Geological Survey of Finland
10:40	Coffee Break		
Geophysics for critical metals		AEM Modelling and Inversion I	
11:10	<b>Multimethod geophysical modelling for granite-related tungsten exploration: example of the Puy-les-vignes/ Saint-Goussaud district (Limousin, France)</b> - G. Dubreuil <sup>1*</sup> , M. Harlaux <sup>1</sup> , G. Martelet <sup>1</sup> , G. Vic <sup>1</sup> , J. Bernard <sup>1</sup> , P. Reninger <sup>1</sup> , A. Raingard <sup>1</sup> , F. Dubois <sup>1</sup> , A. Peyrefitte <sup>1</sup> <sup>1</sup> Brgm	11:10	<b>Validation of the wavelet-based deterministic inversion ensemble approach with Markov-Chain Monte Carlo</b> - W. Deleersnyder <sup>1,2*</sup> , T. Hermans <sup>2</sup> , D. Dudal <sup>1</sup> <sup>1</sup> Department of Physics, KU Leuven Kulak; <sup>2</sup> Department of Geology, Ghent University
11:30	<b>Exploration of Fe-Ti-V oxides in an Orthomagmatic system using the Airborne Induced Polarization</b> - F. Dauti <sup>1*</sup> , A. Viezzoli <sup>2</sup> , A. Jesus <sup>3</sup> , M. Guerra <sup>4</sup> , F. Delgado <sup>4</sup> , I. Fernandez <sup>5</sup> , G. Fiandaca <sup>1</sup> <sup>1</sup> The EEM Team for Hydro & eXploration, Univeristy Of Milan; <sup>2</sup> EMergo srl; <sup>3</sup> Instituto Dom Luiz, University of Lisbon; <sup>4</sup> Xcalibur Smart Mapping; <sup>5</sup> Gaia Exploration	11:30	<b>Resistivity imaging test based on resistivity models from airborne electromagnetic surveys</b> - P. Reninger <sup>1*</sup> , D. Ciolczyk <sup>1,2</sup> <sup>1</sup> BRGM; <sup>2</sup> LMV-UCA
11:50	<b>Integrated geophysical approach for REE exploration: A case study using MASW, P-wave tomography and reflection seismic</b> - B. Brodic <sup>1*</sup> , M.S.D. Manzi <sup>1</sup> , M. Sihoyiya <sup>1</sup> , M. Mkhomazi <sup>1</sup> , B.A. Jogege <sup>1</sup> <sup>1</sup> University of the Witwatersrand	11:50	<b>Correcting canopy effect for HEM resistivity using DEM: An example of quick-clay mapping from Norway</b> - V.C. Baranwal <sup>1*</sup> , B.E. Larsen <sup>1</sup> , S. Gradmann <sup>1</sup> , I. Solberg <sup>1</sup> <sup>1</sup> Geological Survey of Norway (NGU), Trondheim
12:10	<b>Unveiling Tysfjord's subsurface: GREENPEG project's 4-year journey in pegmatite exploration through GPR and ERT</b> - G. Tassis <sup>1*</sup> , M. Brønner <sup>1</sup> , B.E. Larsen <sup>1</sup> <sup>1</sup> Geological Survey of Norway (NGU)	12:10	<b>Is AEM really useless for prospectivity mapping ?</b> - S. Campo <sup>1*</sup> , A.H. Rasmussen <sup>2</sup> <sup>1</sup> EMergo; <sup>2</sup> Aarhus Geophysics Aps
12:30	<b>Geophysics for Lithium Exploration</b> - C. Nind <sup>1*</sup> , P. Coles <sup>1</sup> , C. Phaneuf <sup>1</sup> , M. Chemam <sup>1</sup> <sup>1</sup> Abitibi Geophysics	12:30	<b>Three-dimensional vector finite element forward modelling and inversion for airborne electromagnetic data using adaptive Octree mesh</b> - J. Chen <sup>1*</sup> , B. Zhang <sup>2</sup> , G. Fiandaca <sup>1</sup> <sup>1</sup> University Of Milan; <sup>2</sup> Jilin University
12:50	Lunch Break		

# TECHNICAL PROGRAMME

Oral Presentations | Tuesday, 10 September 2024

30 <sup>TH</sup> EUROPEAN MEETING OF ENVIRONMENTAL AND ENGINEERING GEOPHYSICS	
KARL LINDAHL	TARJA HALONEN
Geophysical investigations in Archaeology (Archaeogeophysics)	Groundwater Exploration and Hydrogeophysics II
<p><b>14:00</b> <b>Assessment of walls coverings and floor of historical Portuguese buildings with GPR and ERT</b> - R. Mota<sup>1*</sup>, D. Costa<sup>1</sup>, M. Pereira<sup>1</sup>, N. Senos<sup>2</sup>, M.J. Coelho<sup>1</sup>, A. Pais<sup>3</sup>, J. Mimoso<sup>1</sup>  <sup>1</sup>National Laboratory for Civil Engineering-LNEC; <sup>2</sup>Universidade Nova de Lisboa; <sup>3</sup>Azulejo Museum</p>	<p><b>14:00</b> <b>Towards the use of passive seismic for hydrogeological characterization</b> - J. Cunha Teixeira<sup>1*</sup>, L. Bodet<sup>1</sup>, A. Rivière<sup>3</sup>, A. Hallier<sup>2</sup>, M. Dangeard<sup>2</sup>, A. Gesret<sup>3</sup>, A. Dhemaied<sup>2</sup>, J. Boisson Gaboriau<sup>2</sup>  <sup>1</sup>Sorbonne University, CNRS, EPHE, UMR 7619 METIS, 4 place Jussieu, 75252 Paris 05; <sup>2</sup>SNCF Réseau, 6 avenue François Mitterrand, 93210 Saint-Denis; <sup>3</sup>Geosciences Department, Mines Paris - PSL, PSL University, Paris</p>
<p><b>14:20</b> <b>New findings at Hacimusalar Mound through the Ground-Penetrating Radar Measurements</b> - B. Karadoller<sup>1*</sup>, C. Imren, B. Arkan  <sup>1</sup>Istanbul Technical University</p>	<p><b>14:20</b> <b>Synthetic studies to investigate the ability of steady-state surface NMR to resolve T2</b> - M. Griffiths<sup>1*</sup>, D. Grombacher<sup>1</sup>, J.J. Larson<sup>1</sup>  <sup>1</sup>Aarhus University</p>
<p><b>14:40</b> <b>Geophysical and remote sensing multi-method analysis on the largest unexplored mound in Neamț County, Romania</b> - A.G. Gereă<sup>1*</sup>, D. Tătaru<sup>1</sup>, V. Diaconu<sup>2</sup>, E. Năstase<sup>1</sup>, B. Grecu<sup>1</sup>, B. Cerbu<sup>1</sup>, A.E. Mihai<sup>1</sup>  <sup>1</sup>National Institute for Earth Physics Romania; <sup>2</sup>Museum of History and Ethnography Târgu Neamț, Neamț National Museum Complex</p>	<p><b>14:40</b> <b>Clustering on SNMR and TEM parameters over a saline-freshwater interface to resolve hydrogeological layers</b> - M. Vang<sup>1*</sup>, D. Grombacher<sup>1</sup>, J.J. Larsen<sup>2</sup>, A.V. Christiansen<sup>1</sup>  <sup>1</sup>HydroGeophysics Group, Aarhus University; <sup>2</sup>Department of Electrical and Computer Engineering, Aarhus University</p>
<p><b>15:00</b> <b>The creation of a mobile geophysical laboratory, lessons from studies on national heritage</b> - A. Mihai<sup>1*</sup>, D. Tataru<sup>1</sup>, A. Gereă<sup>1</sup>, E. Nastase<sup>1</sup>, B. Grecu, D. Toma-Danila<sup>1</sup>, B. Zaharia<sup>1</sup>, A. Tiğanescu, B. Cerbu  <sup>1</sup>National Institute of Earth Physics</p>	<p><b>15:00</b> <b>Unveiling environmental dynamics: on the use of time-lapse TEM for remediation assessment</b> - J.C. Zamora-Luria<sup>1*</sup>, A. Almpañis<sup>1</sup>, D. Grombacher<sup>1</sup>, A.V. Christiansen<sup>1</sup>  <sup>1</sup>HydroGeophysics Group, Aarhus University</p>
<b>15:20</b>	<b>Coffee Break &amp; Joint Poster Session Tuesday</b>





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Oral Presentations | Tuesday, 10 September 2024

5 <sup>TH</sup> CONFERENCE ON GEOPHYSICS FOR MINERAL EXPLORATION AND MINING	
JUHO RISSANEN	
Innovative EU-funded Projects	
14:00	<b>Time-synchronized surface-underground seismic surveys for improved deep targeting</b> - A. Malehmir <sup>1*</sup> <sup>1</sup> Uppsala University
14:20	<b>Deep underground mines – perfect laboratories to conduct in-mine seismic experiments for deep mineral exploration</b> - M. Manzi <sup>1*</sup> , C. Colombero <sup>2</sup> , A. Malehmir <sup>3</sup> , M. Sihoyiya <sup>1</sup> , F.K. Anjom <sup>2</sup> , L.V. Socco <sup>2</sup> , D. Valishin <sup>4</sup> <sup>1</sup> University of the Witwatersrand; <sup>2</sup> Politecnico di Torino, Department of Environment, Land and Infrastructure Engineering (DIATI); <sup>3</sup> Uppsala University, Dept. of Earth Sciences; <sup>4</sup> Sercel
14:40	<b>UAV-borne geophysical measurements for mapping mineral resources: Examples from Enåsen Au-Cu-deposit and Blötberget Fe-oxide-deposit, Central Sweden</b> - M. Bastani <sup>1,2*</sup> , S. Luth <sup>1</sup> , J. Jönberger <sup>1</sup> , H. Johansson <sup>1</sup> <sup>1</sup> Geological Survey of Sweden; <sup>2</sup> Department of Earth Sciences, Uppsala University
15:00	<b>Integrating seismic and electromagnetic methods for deep mineral exploration – results from the SEEMS DEEP project</b> - U. Autio <sup>1*</sup> , M. Darnet <sup>2</sup> , A. Górszczyk <sup>3</sup> , J. Kamm <sup>1</sup> , S. Heinonen <sup>4</sup> , M. Malinowski <sup>1</sup> , B. Kim <sup>2</sup> , B. Singh <sup>2</sup> , S. Vedrine <sup>2</sup> , F. Breteau <sup>2</sup> , C. Patzer <sup>1</sup> , T. Karinen <sup>1</sup> , T. Kalscheuer <sup>5</sup> , C. Truffert <sup>6</sup> , M. Wojdyła <sup>7</sup> , A. Kivinen <sup>8</sup> , Y. Koltun <sup>9</sup> <sup>1</sup> Geological Survey Of Finland; <sup>2</sup> BRGM; <sup>3</sup> Institute of Geophysics, Polish Academy of Sciences; <sup>4</sup> Institute of Seismology, University of Helsinki; <sup>5</sup> Uppsala University; <sup>6</sup> IRIS Instruments; <sup>7</sup> Geopartner Geofizyka; <sup>8</sup> GRM-services; <sup>9</sup> Laakso Minerals
15:20	<b>Coffee Break &amp; Joint Poster Session Tuesday</b>



# TECHNICAL PROGRAMME

## Poster Presentations | Tuesday, 10 September 2024

POSTER AREA	
Joint Poster Session Tuesday	
15:20	<p><b>A Multi-Faceted Approach for 3D Thermophysical Characterisation of Geological Heterogeneity in a Rock-Mass for Heat Transfer</b> - H. Lharti<sup>1</sup>, C. Sirieix<sup>1*</sup>, S. Fabien<sup>1</sup>, J. Riss<sup>1</sup>, A. Marache<sup>1</sup>, C. Verdet<sup>1</sup>, D. Lacanette<sup>1</sup> <sup>1</sup>University of Bordeaux</p> <p><b>Application of machine learning for fast detection of karst bauxite deposits based on synthetic geophysical models</b> - J. Kapuralic<sup>1*</sup>, L. Perkovic<sup>1</sup>, F. Šumanovac<sup>1</sup> <sup>1</sup>University of Zagreb, Faculty Of Mining, Geology And Petroleum Engineering</p> <p><b>Automatic time lapse monitoring of fluid injection using self-potential method</b> - F. Muin<sup>1*</sup>, M.F. Yuliasongko<sup>1</sup>, Y. Udin<sup>2</sup>, S. Mufidah<sup>2</sup>, M.N.A. Fuadillah<sup>2</sup>, T.M. Irnaka, E. Hartantyo<sup>2</sup>, R. Nirmalasari<sup>2</sup>, B.N. Suwardi<sup>1</sup>, T. Suroso<sup>1</sup>, N.C. Wibowo<sup>1</sup> <sup>1</sup>Upstream Innovation Pertamina Hulu Energi; <sup>2</sup>Geophysics Laboratory, Faculty of Mathematics and Natural Sciences, Universitas Gadjah Mada</p> <p><b>Case study for accurate density log estimation considering mineral composition of crystalline rock in South Korea</b> - J. Choi<sup>1*</sup>, Y. Lee<sup>1</sup>, J. Shin<sup>1</sup>, S.K. Lee<sup>1</sup>, D. Cheon<sup>1</sup> <sup>1</sup>Korea Institute of Geoscience and Mineral Resources</p> <p><b>Data acquisition for DAS performance evaluation at Aquistore CCS site in Canada</b> - T. Kobayashi<sup>1*</sup>, N. Shimoda<sup>1</sup>, H. Tanaka<sup>1</sup>, H. Shimizu<sup>1</sup>, Z. Movahedzadeh<sup>2</sup>, D. White<sup>3</sup>, M. Mondanos<sup>4</sup>, A. Stork<sup>4</sup>, A. Poulin<sup>4</sup> <sup>1</sup>JOGMEC; <sup>2</sup>PTRC Sustainable Energy; <sup>3</sup>Geological Survey Canada; <sup>4</sup>Silixa Ltd.</p> <p><b>Deciphering meteorological influencing factors for historical instabilities time series in the Pyrenees</b> - J. Bruneau<sup>1*</sup> <sup>1</sup>University of Bordeaux</p> <p><b>Development of geophysical apps in Matlab since undergraduate studies</b> - F. Pace<sup>1*</sup>, A. Amendola<sup>1</sup>, C. Francardo<sup>1</sup>, A. Godio<sup>1</sup> <sup>1</sup>Politecnico di Torino</p> <p><b>DroneSOM – more precise, efficient, and environmentally friendly mineral exploration</b> - N. Thurman<sup>1*</sup>, J. Kamm<sup>1</sup>, L. Xiao<sup>1</sup>, B. Chudasama<sup>1</sup>, J. Pesonen<sup>2</sup>, S. Niemi<sup>2</sup>, R. Forsberg<sup>3</sup>, A. Knobloch<sup>4</sup>, A. Saartenoja<sup>5</sup> <sup>1</sup>Geological Survey of Finland, P.O. Box 96, 02151 Espoo; <sup>2</sup>Geological Survey of Finland, P.O. Box 1237,70211 Kuopio; <sup>3</sup>Technical University of Denmark, Elektrovej, 328, 016, 2800 Kgs. Lyngby; <sup>4</sup>Beak Consultants GmbH, Am St.-Niclas-Schacht 13, 09599 Freiberg; <sup>5</sup>Radai Oy, Teknologiantie 18, 90590 Oulu</p> <p><b>Experiments of Spectral Density, Neutron-Neutron, and Neutron-Gamma Logging in Small-Diameter Cased Boreholes</b> - S. Hwang<sup>1*</sup>, J. Shin<sup>1</sup>, J. Choi, S. Jeong<sup>1,2</sup> <sup>1</sup>Korea Institute of Geoscience and Mineral Resources; <sup>2</sup>Chonnam National University</p> <p><b>Initial analysis of ERT monitoring data measured on a platinum tailings dam</b> - A. Hojat<sup>1,2*</sup>, G. Tresoldi<sup>3</sup>, L. Zanzi<sup>1</sup> <sup>1</sup>Dipartimento di Ingegneria Civile e Ambientale, Politecnico di Milano; <sup>2</sup>Department of Mining Engineering, Shahid Bahonar University of Kerman; <sup>3</sup>LSI LASTEM</p> <p><b>Inversion of time-domain induced-polarization decay curve using second-order differentiation</b> - H. Yu<sup>1*</sup>, M.J. Nam<sup>1,2</sup>, B. Kim<sup>3</sup> <sup>1</sup>Energy and mineral resources engineering, Sejong University; <sup>2</sup>Energy Resources &amp; Geosystems Engineering, Sejong University; <sup>3</sup>Bureau de Recherches Géologiques et Minières</p> <p><b>Laboratory study on the relationship between NMR parameters and hydraulic conductivity of peat soil</b> - G. Beisembina<sup>1</sup>, T. Hiller<sup>1</sup>, S. Costabel<sup>1*</sup> <sup>1</sup>German Federal Institute for Geosciences and Natural Resources</p> <p><b>Large Scale Deployment of Self-Potential Monitoring System in The Kawengan Oil Field</b> - S. Mufidah<sup>1*</sup>, Y. Udin<sup>1</sup>, M.N.A. Fuadillah<sup>1</sup>, D. Alfiansyah<sup>1</sup>, E. Hartantyo<sup>1</sup>, F. Muin<sup>2</sup>, N. Wibowo<sup>2</sup>, M.F. Yuliasongko<sup>2</sup>, B. Nurdianto<sup>2</sup>, T. Suroso<sup>2</sup>, T.M. Irnaka<sup>1</sup> <sup>1</sup>Geophysics Laboratory, Faculty of Mathematics and Natural Sciences, Universitas Gadjah Mada; <sup>2</sup>Pertamina Hulu Energi Upstream Innovation</p> <p><b>Net Pay Thickness Estimation Using Band-Limited Impedance Approach: Pannonian Basin Case Study</b> - M. Elbalawy<sup>1*</sup>, M. Balash<sup>1</sup>, E. Takács<sup>2</sup>, F. Velledits<sup>1</sup> <sup>1</sup>Miskolc University; <sup>2</sup>Geological Directorate, Supervisory Authority for Regulated Services</p> <p><b>Phosphorus Content Estimation in Iron Ore Mine Using Advanced Neural Networks</b> - S.T. MOUSAVIPOURTAGHIZADEH<sup>1*</sup>, A. Najafabadipour<sup>2</sup>, M. Bahadori<sup>3</sup>, M.M. Rajjzadeh<sup>1</sup> <sup>1</sup>Islamic Azad University; <sup>2</sup>Shahid Bahonar University of Kerman; <sup>3</sup>University of Gonabad</p>

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Poster Presentations | Tuesday, 10 September 2024 (continued)

POSTER AREA	
Joint Poster Session Tuesday	
15:20	<b>Quantitative interpretation of the seismic reflection data from Ni-Cu-PGE ore-bearing Kevitsa intrusion, northern Finland</b> - N. Junno <sup>1*</sup> , E. Koivisto <sup>2</sup> , I. Kukkonen <sup>2</sup> <sup>1</sup> Institute of Seismology, University of Helsinki; <sup>2</sup> Department of Geosciences and Geography, University of Helsinki
	<b>Regional subsurface mapping with geological database construction in the southern region of South Korea</b> - J. Shin <sup>1*</sup> , S. Yu <sup>1</sup> , J. Jung <sup>1</sup> , J. Choi <sup>1</sup> , H.S. Moon <sup>1</sup> , S. Hwang <sup>1</sup> <sup>1</sup> Korea Institute of Geoscience and Mineral Resources
	<b>The establishment of the Finnish mobile seismic instrument pool</b> - R. Courbis <sup>1*</sup> , G. Hillers <sup>1</sup> , E. Koivisto <sup>2</sup> , P. Haapanala <sup>10</sup> , I. Kukkonen <sup>2</sup> , Y. Ding <sup>2</sup> , T. Fordell <sup>3</sup> , S. Heinonen <sup>1</sup> , N. Junno <sup>1</sup> , A. Juntunen <sup>1</sup> , K. Komminaho <sup>1</sup> , E. Kozlovskaya <sup>5</sup> , J. Leveinen <sup>6</sup> , J. Mäkinen <sup>8</sup> , T. Luhta <sup>4</sup> , K. Moiso <sup>5</sup> , J. Näränen <sup>7</sup> , T. Oksanen <sup>1</sup> , E. Tanskanen <sup>9</sup> , T. Tiira <sup>1</sup> <sup>1</sup> Institute of Seismology, Department of Geosciences and Geography, University of Helsinki; <sup>10</sup> Research Infrastructure Services, Natural Resources Institute Finland; <sup>2</sup> Department of Geosciences and Geography, University of Helsinki; <sup>3</sup> Technical Research Center of Finland Ltd, National Metrology Institute VTT MIKES; <sup>4</sup> Geologian tutkimuskeskus GTK--Geological Survey of Finland; <sup>5</sup> Oulu Mining School, Faculty of Technology, University of Oulu; <sup>6</sup> Department of Civil Engineering, Aalto University; <sup>7</sup> Department of Geodesy and Geodynamics, Finnish Geospatial Research Institute FGI, National Land Survey of Finland; <sup>8</sup> Department of Geography and Geology, University of Turku; <sup>9</sup> Sodankylä Geophysical Observatory, University of Oulu
	<b>The use of geo-electric geo-membrane leakage detection and localization method in Hungary</b> - L. Vincze <sup>2*</sup> <sup>1</sup> Geoelectro; <sup>2</sup> University of Miskolc, Department of Geophysics
	<b>Use of electrical resistivity tomography for characterising the quality of aggregates in a gravel pit</b> - M. Himi <sup>1*</sup> , L. Martí <sup>1</sup> , C. Abancó <sup>1</sup> , A. Sendrós <sup>1,2</sup> , L. Rivero <sup>1,2</sup> , R. Lovera <sup>1,2</sup> , A. Urruela <sup>1</sup> , A. Casas <sup>1,2</sup> <sup>1</sup> Earth Science Faculty - Universitat de Barcelona; <sup>2</sup> Water Research Institute - Universitat de Barcelona

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# TECHNICAL PROGRAMME

## Oral Presentations | Wednesday, 11 September 2024

30 <sup>TH</sup> EUROPEAN MEETING OF ENVIRONMENTAL AND ENGINEERING GEOPHYSICS	
KARL LINDAHL	TARJA HALONEN
Geophysics in Geohazard Studies II	Modelling, Inversion and Data-Processing in Near Surface Geophysics II
<b>09:00 Seismotectonics and near-surface features for geohazard studies in Southern Ukraine</b> - O. Tiapkin <sup>1*</sup> , M. Dovbnich <sup>1</sup> , L. Anisimova <sup>2</sup> , A. Skjeltorp <sup>3</sup> , I. Viktosenko <sup>4</sup> <sup>1</sup> Dnipro University of Technology; <sup>2</sup> M.S. Poliakov Institute of Geotechnical Mechanics of NAS of Ukraine; <sup>3</sup> Institute for Energy Technology; <sup>4</sup> Charles University	<b>09:00 Conventional approaches for new usage: Pre-Stack simultaneous inversion method of Ultra-High Resolution seismic</b> - A. Comanescu <sup>1*</sup> , P. Cox <sup>2</sup> , S. Caruso <sup>1</sup> , W. Hodshon <sup>1</sup> <sup>1</sup> Vysus Group; <sup>2</sup> RockWave
<b>09:20 Integrated subsoil model for a better earthquake emergency response plan: the case of Durres city, Albania</b> - K. Skrame <sup>1,2,3*</sup> , R. Ormeni <sup>2,3</sup> , R. Muci <sup>1</sup> <sup>1</sup> Polytechnic University of Tirana, Albania; <sup>2</sup> Albanian Association of Geoscientists and Engineers; <sup>3</sup> Academy of Sciences of Albania	<b>09:20 Investigating Near Offset Seismic Wave Propagation in Elastic Media</b> - C. Cearley <sup>1*</sup> , S. Sloan <sup>1</sup> , D. Feigenbaum <sup>1</sup> , L. Zhang <sup>1</sup> , A. Scates <sup>1</sup> <sup>1</sup> U.S. Army Engineer Research And Development Center
<b>09:40 Possible cause of seismic activity in the Tugela Terrane in KwaZulu-Natal, South Africa</b> - V. Mapuranga <sup>1*</sup> <sup>1</sup> Seequent	<b>09:40 Efficient workflow for near-surface characterization from the joint inversion of surface and compressional wave data</b> - R. Tarnus <sup>1*</sup> , C. Cai <sup>1</sup> , T. Allemand <sup>1</sup> , T. Bardainne <sup>1</sup> <sup>1</sup> Sercel
<b>10:00 Assessing 3D slope condition with fibre optic seismic imaging using trains as sources</b> - E. Thevenet <sup>1</sup> , H. Toubiana <sup>1</sup> , A. Trafford <sup>2</sup> , S. Donohue <sup>2</sup> , J. Harms <sup>3</sup> , T. Bardainne <sup>1*</sup> <sup>1</sup> sercel; <sup>2</sup> university college dublin; <sup>3</sup> network rail	<b>10:00 EEMstudio: process and model electric and electromagnetic data with a QGIS plugin</b> - N.A.L. Sullivan <sup>1*</sup> , A. Viezzoli <sup>2</sup> , G. Fiandaca <sup>3</sup> <sup>1</sup> The EEM Team Spin-off company Srl; <sup>2</sup> EMergo Srl; <sup>3</sup> The EEM Team for Hydro & eXploration
<b>10:20 S-wave velocity structure in the source area of liquefied mud-flow detected by MASW method</b> - Y. Li <sup>1*</sup> , J. Wang <sup>1</sup> , H. Yang <sup>1</sup> , W. Huang <sup>1</sup> <sup>1</sup> Chang 'An University	<b>10:20 Surface waves back-scattering analysis of a vertical surface crack</b> - R. Puiggros Valentines <sup>1,2*</sup> , I. Barone <sup>1</sup> , G. Cassiani <sup>1</sup> , C. Strobbia <sup>2</sup> <sup>1</sup> Università degli Studi di Padova; <sup>2</sup> Realtimeseismic
10:40 Coffee Break	
Geophysical Investigations on Soils & Agriculture	Geophysical Monitoring of Buildings/Structures
<b>11:10 Influence of tree removal on the water dynamic of the Lascaux hill by time lapse ERT</b> - M. Larcanché <sup>1</sup> , C. Sirieix <sup>1</sup> , C. Verdet <sup>1*</sup> , J. Domec <sup>2</sup> , F. Salmon <sup>1</sup> , S. Matéo <sup>1</sup> , J. Riss <sup>1</sup> , S. Perrin <sup>3</sup> <sup>1</sup> University Of Bordeaux; <sup>2</sup> Bordeaux Sciences Agro; <sup>3</sup> Forêt Conseils	<b>11:10 Geophysical Survey for Tank's Foundation Integrity Evaluation: SAVM and MASW Case Study</b> - F. Abbas <sup>1</sup> , H. Butler <sup>1*</sup> <sup>1</sup> Fugro
<b>11:30 Monitoring the Critical Zone with ambient seismic noise recorded on a dense nodal array</b> - K. Davidson <sup>1*</sup> , J. Hammond <sup>1</sup> , V. Lane <sup>2</sup> , L. Finch <sup>2</sup> , J.M. Kendall <sup>3</sup> , C. Ogden <sup>4</sup> , C. Han <sup>1</sup> , J. Wu <sup>1</sup> , D. Ryan <sup>1</sup> , K. Doherty <sup>5</sup> , N. Tranter <sup>6</sup> , T. O'Toole <sup>5</sup> <sup>1</sup> Birkbeck, University Of London; <sup>2</sup> SEIS-UK; <sup>3</sup> University of Oxford; <sup>4</sup> University Of Leicester; <sup>5</sup> Stryde	<b>11:30 Geophysical insight into a near-failure of a water dam</b> - S. Ostrowski <sup>1*</sup> , M. Lasocki <sup>1</sup> , P. Wilkołazki <sup>1</sup> <sup>1</sup> Polish Geological Institute
<b>11:50 Integrating electromagnetic induction measurements and electrical resistivity tomography to monitor rainwater lenses in Dutch polders</b> - M. Carrizo <sup>1*</sup> , F. Riakhi <sup>2</sup> , E. Slob <sup>1</sup> , D. Werthmüller <sup>1</sup> , B. Van Breukelen <sup>2</sup> <sup>1</sup> Delft University of Technology, Faculty of Civil Engineering and Geosciences, Department of Geosciences and Engineering; <sup>2</sup> Delft University of Technology, Faculty of Civil Engineering and Geosciences, Department of Water Management	<b>11:50 Eigenmode identification and characterization via GF3DPM analysis</b> - G. Dal Moro <sup>1*</sup> <sup>1</sup> Institute of Rock Structure and Mechanics (Czech Academy of Sciences)
<b>12:10 Ground-penetrating radar to map peatland subsurface and the impacts of forest-to-bog restoration</b> - L. Hughes-Dowdle <sup>1*</sup> , B. Kulesa <sup>1,2</sup> , T. Murray <sup>1</sup> , J. Walker <sup>1</sup> , R. Low <sup>3</sup> , R. Cox <sup>4</sup> , J. Pickard <sup>1,5</sup> , T. Irvine-Fynn <sup>6</sup> <sup>1</sup> Swansea University; <sup>2</sup> University of Tasmania; <sup>3</sup> Rigare Ltd; <sup>4</sup> Vattenfall Wind; <sup>5</sup> Lost Peatlands Project; <sup>6</sup> Aberystwyth University	<b>12:10 Ground-penetrating radar (GPR) test measurements to examine the wall structure of Diósgy r Castle</b> - E. Nadasi <sup>1*</sup> <sup>1</sup> University of Miskolc
<b>12:30 Prepolarized surface nuclear magnetic resonance for characterising peat soils using T1-T2* correlation maps</b> - S. Costabel <sup>1*</sup> , T. Splith <sup>2</sup> , T. Hiller <sup>1</sup> , M. Müller-Petke <sup>2</sup> <sup>1</sup> Federal Institute for Geosciences and Natural Resources; <sup>2</sup> Leibniz Institute for Applied Geophysics	
12:50 Lunch Break	

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**Oral Presentations | Wednesday, 11 September 2024**

<b>5<sup>TH</sup> CONFERENCE ON GEOPHYSICS FOR MINERAL EXPLORATION AND MINING</b>	
<b>JUHO RISSANEN</b>	
<b>Seismic Methods in Mineral Exploration II</b>	
<b>09:00</b>	<b>A novel 3D seismic survey over the 2.5-2.4 Ga Koillismaa Layered Intrusion Complex, Finland</b> - M. Malinowski <sup>1*</sup> , S. Heinonen <sup>2</sup> , A. Górszczyk <sup>3</sup> , B. Singh <sup>3</sup> , L. Sito <sup>4</sup> , T. Karinen <sup>1</sup> , U. Autio <sup>1</sup> <sup>1</sup> Geological Survey of Finland (GTK); <sup>2</sup> Institute of Seismology University of Helsinki; <sup>3</sup> Institute of Geophysics PAS; <sup>4</sup> Geopartner Geofizyka
<b>09:20</b>	<b>Oak Dam sparse 3D seismic application: geological model and IOCG exploration implications</b> - M. Norman <sup>1*</sup> , R.T.T. To <sup>2</sup> , M.L. Chua <sup>2</sup> , M. Huang <sup>2</sup> <sup>1</sup> CGG; <sup>2</sup> CGG
<b>09:40</b>	<b>Reverse time migration with vector reflectivity acoustic wave equation</b> - L. Zhang <sup>1*</sup> , D. Feigenbaum <sup>1</sup> , S. Sloan <sup>1</sup> , J. McCleave <sup>1</sup> <sup>1</sup> US Army Corps of Engineer Research and Development Centert
<b>10:00</b>	<b>Estimation of anisotropy from real SV and SH seismic data acquired in a circular acquisition geometry</b> - G. Bohm <sup>1*</sup> , A. Affatato <sup>1</sup> , L. Baradello <sup>1</sup> , G. Brancatelli <sup>1</sup> , E. Forlin <sup>1</sup> <sup>1</sup> OGS - Istituto Nazionale di Oceanografia e di Geofisica Sperimentale
<b>10:20</b>	<b>Challenges in 3D geomodelling for mineral exploration: complex reflectivity patterns in the Kylylahti mining area, Finland</b> - S. Heinonen <sup>1*</sup> , P. Sorjonen-Ward <sup>2</sup> , H. Leväniemi <sup>2</sup> <sup>1</sup> University Of Helsinki; <sup>2</sup> Geological Survey of Finland
<b>10:40</b>	<b>Coffee Break</b>
<b>Electrical / EM Methods in Mineral Exploration I</b>	
<b>11:10</b>	<b>Keynote presentation: Getting geology from geophysics</b> - S. Hallinan*
<b>11:50</b>	<b>GROUND ELECTRICAL AND ELECTROMAGNETIC METHODS FOR DEEP MINERAL EXPLORATION – RESULTS FROM THE SEEMS DEEP PROJECT</b> - M. Darnet <sup>1*</sup> , S. Vedrine <sup>1</sup> , B. Kim <sup>1</sup> , J. Deparis <sup>1</sup> , F. Bretaudeau <sup>1</sup> , J. Gance <sup>2</sup> , F. Vermeersch <sup>2</sup> , C. Truffert <sup>2</sup> , U. Autio <sup>3</sup> , J. Kamm <sup>3</sup> , C. Patzer <sup>3</sup> , T. Kalscheuer <sup>4</sup> , S. Heinonen <sup>5</sup> <sup>1</sup> BRGM; <sup>2</sup> IRIS Instruments; <sup>3</sup> GTK; <sup>4</sup> Uppsala University; <sup>5</sup> Institute of seismology, University of Helsinki, Finland
<b>12:10</b>	<b>Magnetotellurics across the Koillismaa Layered Intrusion Complex – passive electromagnetic data from the SEEMS DEEP project</b> - U. Autio <sup>1*</sup> , C. Patzer <sup>1</sup> , J. Kamm <sup>1</sup> , V. Pajunen <sup>2</sup> , M. Darnet <sup>3</sup> , F. Bretaudeau <sup>3</sup> , S. Vedrine <sup>3</sup> , B. Kim <sup>3</sup> , S. Heinonen <sup>4</sup> <sup>1</sup> Geological Survey Of Finland; <sup>2</sup> University of Oulu; <sup>3</sup> BRGM; <sup>4</sup> Institute of Seismology, University of Helsinki
<b>12:30</b>	<b>Efficient 3D imaging of airborne and ground electromagnetics</b> - C. Scholl <sup>1*</sup> , R. Mackie <sup>1</sup> , W. Soyer <sup>1</sup> , T. Kimura <sup>1</sup> , S. Hallinan <sup>1</sup> <sup>1</sup> CGG
<b>12:50</b>	<b>Lunch Break</b>

# TECHNICAL PROGRAMME

Oral Presentations | Wednesday, 11 September 2024

30 <sup>TH</sup> EUROPEAN MEETING OF ENVIRONMENTAL AND ENGINEERING GEOPHYSICS	
KARL LINDAHL	TARJA HALONEN
Adapting Approaches from Oil & Gas industry in Near Surface Geophysics	Geophysics in Engineering Geology and Geotechnical Investigations II
<b>14:00</b> <b>Full-Waveform inversion of surface waves with Annealed Stein Variational Gradient Descent</b> - S. Berti <sup>1*</sup> , M. Ravasi <sup>2</sup> , M. Aleardi <sup>1</sup> , E. Stucchi <sup>1</sup> <sup>1</sup> University Of Pisa; <sup>2</sup> King Abdullah University of Science and Technology	<b>14:00</b> <b>Efficient 2D Vs profiling via surface wave multi-component passive data</b> - G. Dal Moro <sup>1*</sup> <sup>1</sup> Institute of Rock Structure and Mechanics (Czech Academy of Sciences); <sup>2</sup> ELIOSOFT
<b>14:20</b> <b>High-resolution, large-scale seismic imaging of halokinetic-induced structures for geological carbon storage: results from East Jutland, Denmark</b> - M. Westgate <sup>1*</sup> , A. Malehmir <sup>1</sup> , E. Konstantinidis <sup>1</sup> , K. Kucinskaite <sup>1</sup> , M. Keiding <sup>2</sup> , U. Gregersen <sup>2</sup> , M. Bjerager <sup>2</sup> <sup>1</sup> Uppsala University; <sup>2</sup> Geological Survey of Denmark and Greenland	<b>14:20</b> <b>An applied study of surface wave method for detecting hidden faults</b> - J. Wang <sup>1*</sup> , Y. Li <sup>1</sup> , H. Yang <sup>1</sup> , W. Huang <sup>1</sup> <sup>1</sup> Chang'an University
<b>14:40</b> <b>Fracture characterization using pre-stack seismic anisotropy approaches</b> - F. Bouchaala <sup>1*</sup> <sup>1</sup> Khalifa University of Science and Technology	<b>14:40</b> <b>Imaging of temporal changes in large scale critical objects – Earthfill dam in Rybnik</b> - M. Majdanski <sup>1*</sup> , E. Roshdy <sup>1</sup> , A. Marciniak <sup>1</sup> , S. Oryński <sup>1</sup> , P. Popielski <sup>2</sup> , S. Kowalczyk <sup>3</sup> , R. Mieszkowski <sup>3</sup> , Z. Trześniowski <sup>4</sup> , S. Długosz <sup>5</sup> , I. Ostrzofek <sup>6</sup> <sup>1</sup> Institute of Geophysics Polish Academy of Sciences; <sup>2</sup> Faculty of Building Services, Hydro and Environmental Engineering, Warsaw University of Technology; <sup>3</sup> Faculty of Geology, University of Warsaw; <sup>4</sup> WIDMO Spectral Technologies SP. z o.o., Kraków; <sup>5</sup> SHM System Sp. z o.o. Sp. kom., Kraków; <sup>6</sup> PGE GiEK O. El. Rybnik
<b>15:00</b> <b>Advanced seismic imaging solutions for nuclear waste repository site evaluation and characterization</b> - C. Cosma <sup>1*</sup> , N. Enescu <sup>2</sup> <sup>1</sup> Vibrometric Oy; <sup>2</sup> Vibrometric	<b>15:00</b> <b>GEOPHYSICAL METHODS FOR MINING TAILINGS DEPOSITS CLOSURE. A CASE STUDY AT THE LIRIO MINING DEPOSIT(SE SPAIN)</b> - X.K. Capa Camacho <sup>1*</sup> , J.J. Hellín-Rodríguez <sup>1</sup> , I. Valverde-Palacios <sup>3</sup> , L. Garcia <sup>5</sup> , P. Martínez-Pagán <sup>2</sup> , M.A. Martínez-Segura <sup>2</sup> , R. Mollehuara-Canales <sup>4</sup> <sup>1</sup> Sustainable Use, Management and Reclamation of Soil and Water Research Group, Universidad Politécnica de Cartagena, Paseo Alfonso XIII 52, 30203, Cartagena; <sup>2</sup> Applied Near-Surface Geophysics Research Group, Departamento de Ingeniería Minería y Civil, Universidad Politécnica de Cartagena, Paseo Alfonso XIII 52, 30203, Cartagena; <sup>3</sup> Andalusian Institute of Geophysics and Prevention of Seismic Disasters, University of Granada, C/ Profesor Clavera, 12, 18071, Granada; <sup>4</sup> Oulu Mining School, University of Oulu, 90570; <sup>5</sup> Department of Mining and Civil Engineering, Universidad Politécnica de Cartagena, Pº Alfonso XIII, 52, 30203, Cartagena
<b>15:20</b> <b>Coffee Break</b>	
Geophysics in 3D Geological/Geotechnical Modelling	Geophysics in Engineering Geology and Geotechnical Investigations III
<b>15:50</b> <b>Characterising the condition of a Napoleonic era embankment using multi-disciplinary, non-intrusive ground investigation</b> - S. Oakley <sup>1*</sup> , J. Whiteley <sup>1</sup> , R. Whitehead <sup>2</sup> , E. Cox <sup>1</sup> , R. Newton <sup>3</sup> <sup>1</sup> AtkinsRéalis; <sup>2</sup> Zetica; <sup>3</sup> Environment Agency	<b>15:50</b> <b>Innovative 3D karst structure detection in the Raenthal Tunnel using borehole radar</b> - J. Dreiling <sup>1*</sup> , M. Opelt <sup>1</sup> , M. Schmidt <sup>1</sup> , D. Schulte <sup>2</sup> , P. Johnen <sup>2</sup> <sup>1</sup> Bo-Ra-tec GmbH; <sup>2</sup> Deutsche Bahn InfraGO AG
<b>16:10</b> <b>Data-driven, reliable translation of shear-wave velocity to CPT cone-tip resistance using machine learning</b> - E. Revelo Obando <sup>1*</sup> , R. Ghose <sup>1</sup> , M. Hicks <sup>1</sup> <sup>1</sup> Dept. of Geoscience and Engineering, Delft University Of Technology	<b>16:10</b> <b>GPR detection of underground galleries to prevent subsidence of workshop floor</b> - M.J. Coelho <sup>1*</sup> , M. Pereira <sup>1</sup> <sup>1</sup> Laboratorio Nacional de Engenharia Civil - LNEC
<b>16:30</b> <b>Tunnel seismic reflection survey planning using 3D numerical simulations at South Deep Gold Mine, South Africa</b> - S. Plaattjie <sup>1*</sup> , M. Manzi <sup>1</sup> , L. Linzer <sup>1,2</sup> , M. Sihoyiya <sup>1</sup> <sup>1</sup> University Of The Witwatersrand; <sup>2</sup> SRK Consulting	<b>16:30</b> <b>Long-term characterization of innovative backfilling grout for mechanized tunnelling via ultrasonic pulse velocity</b> - F. Pace <sup>1*</sup> , C. Todaro <sup>1</sup> , A. Di Giovanni <sup>1</sup> , E. Barbero <sup>2</sup> , D. Peila <sup>1</sup> , A. Godio <sup>1</sup> <sup>1</sup> Politecnico di Torino; <sup>2</sup> Mapei
<b>16:50</b> <b>Quantum-annealing based seismic refraction residuals estimation on field data</b> - D. Rovetta <sup>1*</sup> , M. Dukalski <sup>1</sup> <sup>1</sup> Aramco Research Center Delft, Aramco Europe	<b>16:50</b> <b>Towards the automation of MASW data acquisition and processing for the diagnosis of railway earthworks</b> - A. Burzawa <sup>1,2*</sup> , L. Bodet <sup>1</sup> , M. Dangeard <sup>2</sup> , J. Cardenas <sup>1</sup> , N. Radic <sup>2</sup> , R. Vidal <sup>2</sup> , R. Whitehead <sup>3</sup> , B. Barrett <sup>3</sup> , D. Byrne <sup>3</sup> , C. Chaptal <sup>3</sup> , J. Cunha Teixeira <sup>1,2</sup> , R. Sanchez Gonzalez <sup>4</sup> , A. Eriksen <sup>3</sup> , A. Dhemaied <sup>2</sup> <sup>1</sup> Sorbonne Université, CNRS, EPHE, UMR 7619 METIS; <sup>2</sup> SNCF Réseau; <sup>3</sup> Zetica Ltd, Zetica House; <sup>4</sup> Geosciences Department, Mines Paris – PSL

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Oral Presentations | Wednesday, 11 September 2024

5 <sup>TH</sup> CONFERENCE ON GEOPHYSICS FOR MINERAL EXPLORATION AND MINING	
JUHO RISSANEN	
Electrical / EM Methods in Mineral Exploration II	
14:00	<b>An integrated geophysical study to understand the structural architecture of Kheis Terrane for future mineral exploration</b> - M. Motsoai <sup>1*</sup> , M. Manzi <sup>1</sup> , S. Enslin-Scheiber <sup>1</sup> , D. Khoza <sup>2</sup> <sup>1</sup> University Of The Witwatersrand; <sup>2</sup> Integrated Geoscience Solutions
14:20	<b>Large-scale mineral exploration using semi-Airborne EM in Harz Mountains, Germany</b> - S. Nazari <sup>1*</sup> , C. Walther <sup>2,5</sup> , A. Thiede <sup>3</sup> , M. Schiffler <sup>4</sup> , R. Rochlitz <sup>1</sup> , M. Becken <sup>3</sup> , T. Günther <sup>1</sup> <sup>1</sup> LIAG Institute for Applied Geophysics; <sup>2</sup> Federal Institute for Geosciences and Natural Resources (BGR); <sup>3</sup> Institute for Geophysics, University of Münster; <sup>4</sup> Leibniz Institute of Photonic Technology; <sup>5</sup> Public Authority for Mining, Energy and Geology (LBEG)
14:40	<b>Evaluation of Specific Capacitance for Faradaic and Non-Faradaic Electron-Conducting Minerals</b> - N. Oncul <sup>1*</sup> , J. Kingman <sup>2</sup> , L. Slater <sup>1,3</sup> <sup>1</sup> Department of Earth and Environmental Science, Rutgers University Newark; <sup>2</sup> Terrigena Ltd; <sup>3</sup> Pacific Northwest National Laboratory, Energy and Environment Directorate, Richland
15:00	<b>Joint Inversion of DC Resistivity and MT Data using Multi-Objective Grey Wolf Optimization</b> - R. Sharma <sup>1*</sup> , D. Vashisth <sup>2</sup> , K. Sarkar <sup>1</sup> , U.K. Singh <sup>1</sup> <sup>1</sup> Department of Applied Geophysics, Indian Institute of Technology Dhanbad; <sup>2</sup> Department of Energy Science and Engineering, Stanford University
15:20	Coffee Break
Passive seismic & surface waves	
15:50	<b>Near-surface characterization of an active mine through surface wave analyses</b> - S. Gomo <sup>1*</sup> , F. Anjom <sup>2</sup> , C. Colombero <sup>2</sup> , M. Karimpour <sup>2</sup> , M. Manzi <sup>1</sup> , V. Socco <sup>2</sup> <sup>1</sup> University of the Witwatersrand; <sup>2</sup> Politecnico di Torino
16:10	<b>Seismic tomography with diamond drilling and permanent arrays</b> - A. Kepic <sup>1*</sup> , D. Kieu <sup>1</sup> , B. Crettenden <sup>2</sup> , R. Zawadzki <sup>2</sup> <sup>1</sup> RoqSense; <sup>2</sup> Veracio
16:30	<b>Passive seismic imaging of Akanvaara V-Cr-PGE deposit in Northern Finland using coda wave interferometry</b> - N. Afonin <sup>1</sup> , E. Kozlovskaya <sup>1*</sup> , K. Moisisio <sup>1</sup> , J. Puputti <sup>1</sup> <sup>1</sup> University of Oulu, Finland
16:50	<b>Seismic surface-wave attributes to detect geological discontinuities in deep mines.</b> - F. Khosro Anjom <sup>1*</sup> , C. Colombero <sup>1</sup> , S. Gomo <sup>1</sup> , V. Socco <sup>1</sup> , M. Manzi <sup>2</sup> <sup>1</sup> Politecnico di Torino; <sup>2</sup> University of the Witwatersrand