EAGE

CONFERENCE & EXHIBITION

NEAR SURFACE GEOSCIENCE'20

7-8 DECEMBER 2020 I ONLINE

26th | European Meeting of Environmental and Engineering Geophysics

4th | Applied Shallow Marine Geophysics Conference

3rd | Conference on Geophysics for Mineral Exploration and Mining

TECHNICAL PROGRAMME OVERVIEW

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Presentations | Monday 7 December

26TH EUROPEAN MEETING OF ENVIRONMENTAL AND ENGINEERING GEOPHYSICS

TRACK 1		TRACK 2	
Environmental Geophysics I - Geohazard and Anthropogenic Hazard Studies Session Chairs: D. Đurić (University Of Belgrade, Faculty Of Mining And Geology), F. Tuluca (Romanian Society of Applied Geophysics)		**New Technologies, Developments and Research Trends** Session Chairs: R. Persico (University Of Calabria), M. Manzi (University of the Witwatersrand)	
11:30	**A Non-Seismic Data Interpretation of Gas Seepage in the Mesohellenic Basin in Greece** - G. Papailias[1]*, G. Efremidis[2] [1]Greek Ministry Of Transport And Infrastructure; [2]Geotechnical and Geoenvironmental Engineering of the Civil Engineering Department, University of Thessaly	11:30	**Drone-Borne Electromagnetic (DREM) Surveying in The Netherlands** - M. Karaoulis[1]*, I. Ritsema[1], C. Bremmer[1], M. De Kleine[2] [1]Deltares; [2]Mdk-Geologic
11:40	**Integration of ERT and MASW Methods for Cavity and Weak Zones Detection, Case Studies** - H.A. Hamdan[1]* [1]University of Sharjah	11:40	**Efficient State-of-Art HDR 3D GPR Compared to 2D Traditional Utility Investigations** - J. Emilsson[1], A. Viberg[1], J. Gustafsson[1]*, M. Langton[1], J. Friborg[1] [1]Guideline Geo
11:50	**Two Dimensional ERT Simulations to Check the Integrity of Geomembranes at the Base of Landfill Bodies** - A. Aguzzoli[1]*, A. Hojat[2], L. Zanzi[3], D. Arosio[1] [1]Università Degli Studi di Modena E Reggio Emilia; [2]Shahid Bahonar University of Kerman; [3]Politecnico di Milano	11:50	**A New Technique for Increasing the Sensitivity of Marine DC-Electrical Resistivity Acquisitions** - S. Palma Lopes[1]*, P. Côte[1] [1]Université Gustave Eiffel
12:00	**Practical Application of Kinematic Fracture Analysis in Assessing the Probability of Slope Failure** - S. Korchak[1]*, I. Abaturova[1], I. Savintsev[1], L. Storozhenko[1] [1]Ural State Mining University	12:00	**Surface Seismic with Distributed Acoustic Sensing: Is Trenching Worthwhile?** - A. Nap[1]*, P. Edme[1], C. Schmelzbach[1], P. Paitz[1], J.O.A. Robertsson[1] [1]ETH Zürich
12:10		12:10	**Monitoring a Drilling Trajectory by Using the Drill-Bit Signal as a Source** - J. Ridderbusch[1], M. Abbasian[1], A. Kaslilar[1]* [1]Uppsala University
12:30	**Happy NSG Hour**	12:30	**Happy NSG Hour**
Environmental Geophysics II - Geohazard and Anthropogenic Hazard Studies Session Chair: E. Bloem (Norwegian Institute of Bioeconomy Research)		**Modelling, Inversion and Data-Processing in Near-Surface Geophysics I** Session Chair: T. Burschil (Leibniz Institute for Applied Geophysics)	
13:00	**Geophysical Recipe to Model the Covid-19 Epidemic** - A. Godio[1], F. Pace[1], A. Vergnano[1]* [1]Politecnico Di Torino	13:00	**Joined Migrations in GPR Prospecting: An Example in the Field** - R. Persico[1]*, G. Morelli[2] [1]University Of Calabria; [2]Geostudi Astier Ltd
13:10	**Monitoring System for Remediation of a Brownfield Area** - K. Tsakirmpaloglou[1]*, T. Martin[1], O. Kaufmann[1], P. Goderniaux[1] [1]UMONS	13:10	**A Convolutional Neural Network Approach to Electric Resistivity Tomography** - M. Aleardi[1], A. Vinciguerra[2]*, A. Salusti[2] [1]University of Pisa; [2]University of Florence
13:20	**Coastal Soil Characterization Using Remote Sensing, Geoelectrical and Borehole Data: Insights from Nile Delta Coast, Egypt** - M. Attwa[1,2]*, A. El Mahmoudi[3], A. Altahrany[4], A. Elshennawey[3] [1]Structurasl Geophysics Group (SGG), Zagazig University, Faculty of Science; [2]National Authority for Remote Sensing and Space Sciences, (NARSS); [3]Mansoura University, Faculty of Science; [4]Mansoura University, Faculty of Engineering	13:20	**Novel Approach to Modelling the Elastic Waves in a Cluster of 3D Fractured Structures** - N. Khokhlov[1], P. Stognii[1]*, M. Zhdanov[1,2,3] [1]Moscow Institute of Physics & Technology; [2]University of Utah; [3]TechnoImaging
13:30	**Geostatistical Electromagnetic Inversion for Landfill Characterization** - J. Narciso[1]*, L. Azevedo[1], E. Van De Vijver[2], M. Van Meirvenne[2] [1]CERENA/DECivil, Instituto Superior Técnico, Universidade de Lisboa; [2]Department of Environment, Ghent University	13:30	**Points Per Wavelength Analysis in Global Elastic Fwi of Surface Waves: A Synthetic Case Study** - S. Pierini[1]*, E. Stucchi[1] [1]University Of Pisa
13:40		13:40	**3D Subsurface Resistivity Imaging Using a Modified Roll-Along Measurement Technique** - Y. Gundogdu[1]*, G.E. Karakulak[1], M.E. Candansayar[1] [1]Ankara University, Geophysical Modeling Group

26TH EUROPEAN MEETING OF ENVIRONMENTAL AND ENGINEERING GEOPHYSICS

TRACK 1

Exploration under Cover
Session Chair: G. Apostolopoulos (National Technical University of Athens)

14:00	**Imaging Glacial Sediments and Tectonics with a Small-Scale 3-D Reflection Seismic Survey** - H. Buness[1]*, T. Burschil[1], D. Tanner[1] [1]Leibniz Institute for Applied Geophysics (LIAG)
14:10	**Delineating Shallow Bedrock Geology beneath Glacial Cover Using Multi-Parameter Geophysics** - A. Ondercova[1]*, A. Furlan[2], H. Ugalde[2], B. Milkereit[1] [1]Department of Earth Sciences, University Of Toronto; [2]Department of Earth Sciences, Brock University
14:20	**Anticlines Prediction Using Deep Learning** - R. Okhrimchuk[1]*, I. Tishaiev[1], V. Zatserkovnyi[1] [1]Taras Shevchenko National University of Kyiv
14:30	**Utilisation of Stochastic MT Inversion Results to Constrain Gravity Inversion** - J. Giraud[1,2]*, H. Seillé[3], G. Visser[3], V. Ogarko[4], M. Lindsay[1,2], M. Jessell[1,2] [1]Centre of Exploration Targeting (School of Earth Sciences), University of Western Australia; [2]Mineral Exploration Cooperative Research Centre, School of Earth Sciences, University of Western Australia; [3]CSIRO Deep Earth Imaging Future Science Platform; [4]International Centre for Radio Astronomy Research (ICRAR), University of Western Australia
14:40	

Groundwater Exploration and Hydrogeophysics I
Session Chair: M. Manzi (University of the Witwatersrand)

15:00	**A Fully Coupled Hydrogeophysical Inversion Strategy for the Calibration of Groundwater Models Using Geophysical Data** - A. Gonzalez Quiros[1]*, J. Comte[1] [1]University of Aberdeen
15:10	**Hydrological Variability in Crystalline Basement Aquifers – Insight from a First Hydrogeophysics Research Site in Nigeria** - K.O. Doro[1]*, C.O. Adegboyega[2], A.P. Aizebeokhai[3], M.A. Oladunjoye[2] [1]Department of Environmental Sciences, University of Toledo; [2]Department of Geology, University of Ibadan; [3]Department of Physics, Covenant University
15:20	**The Added Value of Combining VES and TEM Data Focusing on Macro-Anisotropy** - J.A. Meekes[1]*, J. Gunnink[1] [1]TNO
15:30	**Geochemistry of Soda-Type Groundwater in the Torey Lakes Region (Russia): Differences between Catchment Area and Beyond** - V. Drebot[1,2]* [1]Tomsk Branch of the Trofimuk Institute of Petroleum Geology and Geophysics in the Siberian Branch of the Russian Academy of Sciences; [2]Tomsk Polytechnic University

TRACK 2

Modelling, Inversion and Data-Processing in Near-Surface Geophysics II
Session Chairs: R. Persico (University Of Calabria)

14:00	**3-D Multi-Component S-Wave Survey in the Tannwald Basin: Data Processing and Component Rotation** - T. Burschil[1]*, H. Buness[1], C. Schmelzbach[2] [1]Leibniz Institute for Applied Geophysics; [2]Institute of Geophysics, ETH Zurich
14:10	**Discrete Cosine Transform for Parameter Space Reduction in Bayesian ERT Inversion** - A. Vinciguerra[1]*, M. Aleardi[2], A. Hojat[3], E. Stucchi[2] [1]University of Florence; [2]University of Pisa; [3]University of Kerman
14:20	**Inverse Scattering of Surface Waves: Imaging Density and Lame Parameter Contrasts of near Surface Scatterers** - U. Harmankaya[1]*, A. Kaslilar[2] [1]Istanbul Technical University; [2]Uppsala University
14:30	**Azimuthal Anisotropy in Layer Media from SV and SH Velocities Obtained by Ray-Based Tomography** - G. Böhm[1]* [1]OGS - Istituto Nazionale di Oceanografia e di Geofisica Sperimentale
14:40	**Differential Inversion of Surface Wave Methods: Proposition of Diagram Distance as Inversion Data** - A. Wang[1]*, D. Leparoux[1], O. Abraham[1], M. Le Feuvre[1] [1]Gustave Eiffel University, Campus Nantes

Integrated Approaches in Near-Surface Geophysics
Session Chair: D. Đurić (University Of Belgrade, Faculty Of Mining And Geology)

15:00	**In-Situ Stresses and Pore Pressure Prediction of a Well in an Iranian Southwest Oil Field** - M. Motahari[1]*, H. Ameri[1] [1]Petroleum University of Technology
15:10	**Multiple Method Monitoring in a Declining Norway Spruce Forest: Challenge for Electrical Resistivity Tomography** - U. Noell[1]*, C. Neukum[1], H. Meesenburg[2], S. Stadler[1], P. Koeniger[1] [1]Federal Institute for Geosciences and Natural Resources (BGR); [2]Northwest German Forest Research Institute
15:20	**A Geophysical Study at an Anthropogenic Created Coastal Area of Thorikos, Attica, Greece** - S. Karizonis[1]*, G. Apostolopoulos[1], G. Amolochitis[1] [1]National Technical University of Athens
15:30	**Effect of Data Normalization on Neural Networks for the Forward Modelling of Transient Electromagnetic Data** - M.R. Asif[1]*, T.S. Bording[2], A.S. Barfod[1], E. Auken[2], J.J. Larsen[1] [1]Department of Engineering, Aarhus University; [2]HydroGeophysics Group (HGG), Department of Geoscience, Aarhus University

Presentations | Monday 7 December

4TH APPLIED SHALLOW MARINE GEOPHYSICS CONFERENCE

TRACK 3

Advanced Processing and Case Studies
Session Chairs: M. Vanneste (Norwegian Geotechnical Institute), N.B. Soerenes (Equinor)

11:30	**A Comparison of HR2D and 3D Seismic Anomalies by Frequency Dependent AVO Analysis** - F. Buckley[1]*, Ø. Tysse[2] [1]Lloyd's Register; [2]OMV (Norge) A/S
11:40	**Assessment of Imaging Approaches for Ultra-High Frequency Seismic Data in the Shallow Subsurface** - S. Clay[1]*, T. Henstock[1], M. Vardy[2] [1]University Of Southampton; [2]SAND Geophysics
11:50	**Sub-Seafloor Object Detection through Dedicated Diffraction Imaging** - S. Wenau[1,2]*, N. Römer-Stange[1,2], H. Keil[2], V. Spiess[2], B. Preu[1] [1]Fraunhofer IWES; [2]University of Bremen
12:00	**Geophysical Mapping of Coastal Landscape During the Last Glacial Cycle, NW Shelf Australia** - A. Fogg[1]*, J. Dix[1], H. Farr[1] [1]University of Southampton
12:10	**Marine Karst Environment Characterization Using Jointly Seismic Imaging, Marine ERT and Geotechnical Data** - J. Flamme[1,2]*, P. Tarits[1], A. Lepot[2], R. Isorna[3], M. Fabre[1] [1]European Institute for Marine Studies (IUEM); [2]MAPPEM Geophysics SAS; [3]France Energies Marines
12:30	**Happy NSG Hour**

Site Characterization and Imaging
Session Chairs: S. Oakley (Fugro), C.F. Forsberg (Norwegian Geotechnical Institute)

13:00	**Using Migrated Dip-Angle Gathers for Boulder Detection in UHR Seismic Reflection Data** - N. Ettrich[2], V. Tschannen[2], S. Wenau[1]* [1]Fraunhofer IWES; [2]Fraunhofer ITWM
13:10	**Reconstruction of P-Wave Velocity Model through Geostatistical Inversion of Seismic Travel Time for Offshore Site Characterization** - M. Moradi[1]*, Z. Medina-Cetina[1] [1]Texas A&m University
13:20	**Characterization of Shallow Gas in Coastal Environment Using Jointly Marine ERT and UHR Seismic Imaging** - J. Flamme[1,2]*, P. Tarits[1], M. Fabre[1], G. Jouet[3], A. Ehrhold[3], A. Lepot[2], B. Marsset[3] [1]European Institute for Marine Studies (IUEM); [2]MAPPEM Geophysics SAS; [3]IFREMER
13:30	**Acoustic Impedance Inversion of High Resolution Marine Seismic Data with Deep Neural Network** - J.R. Dujardin[1]*, G. Sauvin[1], M. Vanneste[1] [1]NGI
13:40	**Interpolation of CPT Data Supported by 3D Seismic Data for Offshore Soil Characterization** - A. Werpup Oguro[1], H. Keil[2], V. Spiess[2], B. Preu[1], V. Herwig[3], S. Wenau[1] [1]Fraunhofer IWES; [2]University of Bremen; [3]Innogy SE

3RD CONFERENCE ON GEOPHYSICS FOR MINERAL EXPLORATION AND MINING

TRACK 4

Seismic Methods in Mineral Exploration I
Session Chair: A. Malehmir (Uppsala University)

11:30	**Mineral Exploration with Active- and Passive-Source Seismic Interferometry: More Data for Less** - D. Draganov[1]* [1]TU Delft
11:40	**Seismic Imaging of the Subsurface at the Malmberget Iron Ore Mine, Northern Sweden** - C. Juhlin[1]*, E. Lundberg[1], B. Brodic[1], J. Juslenius[2], F. Ersholm[2], H. Van den Berg[2], N. Juhojuntti[3], S. Buske[4] [1]Uppsala University; [2]LKAB Malmberget; [3]LKAB Kiruna; [4]TU Bergakademie Freiberg
11:50	**Combination of 3D Borehole Radar and Underground Reflection Seismic - A Case Study for In-Mine Exploration** - T. Hupe[1]*, D. Orlowsky[1], U. Swoboda[1], M. Sniehotta[2] [1]DMT GmbH & Co.KG; [2]BGE - Federal company for radioactive waste disposal
12:00	**Data Reconstruction Using Seismic Interferometry Applied to Active-Source Data from the Ludvika Mines of Sweden** - F. Balestrini[1]*, M. Sacchi[2], A. Malehmir[3], P. Marsden[4], R. Ghose[1], D. Draganov[1] [1]Delft University Of Technology; [2]University of Alberta; [3]Uppsala University; [4]Nordic Iron Ore AB (NIO)
12:10	**Data-Driven Weathering Layer Statics for Hardrock Imaging: Solutions Based on First-Breaks and Surface Waves** - B. Brodic[1]*, M. Papadopoulo[2], L. Bräunig[3], V. Socco[2], D. Draganov[4], S. Buske[3], A. Malehmir[1] [1]Uppsala University; [2]Politecnico di Torino; [3]TU Bergakademie Freiberg; [4]Delft University of Technology
12:30	**Happy NSG Hour**

Innovative EU-Funded Mineral Exploration Solutions
Session Chair: G. Apostolopoulos (National Technical University of Athens)

13:00	**Subsurface Imaging Using Ambient Noise Surface Wave Tomography in Areas with Limited Surface Access** - D. Hollis[1]*, S. Beaupretre[2], A. Kantsler[3], J. Ong[4], A. Mordret[2], J. McNutt[3] [1]Sisprobe SAS; [2]Sisprobe SAS; [3]Transform Exploration; [4]PT Gema Terra
13:10	**Smart Exploration: Stepping Up Innovative Geophysical Solutions for Mineral Exploration** - A. Malehmir[1]*, P.G. Gisselø[2], V.L. Socco[3], J. Carvalho[4], P. Marsden[5], A. Onar Verboon[6], M. Loska[7] [1]Uppsala University; [2]SkyTEM Surveys; [3]Politecnico di Torino; [4]LNEG; [5]Nordic Iron Ore AB; [6]EAGE; [7]Proxis
13:20	**SIT4ME - Seismic Imaging for Mineral Exploration** - J. Alcalde[1]*, R. Carbonell[1], A. Malehmir[2], A. Gil[2], S. Buske[3], D. Orlowsky[4], T. Hupe[4], P. Ayarza[5], Y. Martínez[5], F. Tornos[6] [1]ICTJA-CSIC; [2]Uppsala University; [3]TU Bergakademie Freiberg; [4]DMT GmbH & Co; [5]University of Salamanca; [6]IGEO-CSIC
13:30	**Integrated Study of the Gerolekas Bauxite Mining Site Using Passive Geophysical Methods** - K. Polychronopoulou[1,2]*, C. Orfanos[1,2], K. Leontarakis[1,2], G. Apostolopoulos[1], N. Martakis[2], C. Tzimopoulos[3] [1]National Technical University of Athens; [2]Seismotech S.A.; [3]DELPHI-DISTOMON S.A.
13:40	

3RD CONFERENCE ON GEOPHYSICS FOR MINERAL EXPLORATION AND MINING

TRACK 3		TRACK 4	
		Geophysical Methods in Mining Engineering Session Chair: D. Draganov (Delft University of Technology)	
14:00		14:00	**Characterisation of the Tunnel-Channel Wave around a Coal Mine Roadway Based on Synthetic and Real Data** - R. Czarny[1]*, M. Malinowski[1], M. Ćwiękała[2], S. Olechowski[2], Z. Isakow[3], P. Sierodzki[3] [1]Institute of Geophysics, Polish Academy of Sciences; [2]PGG KWK ROW Ruch Rydułtowy; [3]Centre of Technology Transfer EMAG
14:10		14:10	**Microseismic Monitoring of Rockburst with an Ensemble Kalman Filter** - A.C. Dip[1]*, B. Giroux[1], E. Gloaguen[1] [1]Institut National De La Recherche Scientifique
14:20		14:20	**Sparse 3D Reflection Seismic Survey at Ludvika Mines of South-Central Sweden** - M. Markovic Juhlin[1]*, A. Malehmir[1], S. Buske[2], E. Bäckström[3], P. Marsden[3], Ł. Sito[4] [1]Uppsala University; [2]TU Bergakademie Freiberg; [3]Nordic Iron Ore AB; [4]Geopartner Ltd.
14:30		14:30	**Geophysical Investigation of Copper-Gold Deposit at Cukaru Peki, Serbia** - D. Stojanovic Stepic[1]*, M. Urosevic[2] [1]Rakita Exploration; [2]Curtin University
Rock Physics of Mineral Deposits & Electrical Methods in Mineral Exploration Session Chair: F. Dauti (Pisa University)		**Best of KEGS** Session Chair: C.J.M. Nind (Abitibi Geophysics)	
15:10	**An Investigation Into Seismic Modeling of Iron-Oxide Mineralization in a Heterogeneous Hardrock Environment** - G. Maries[1]*, A. Malehmir[1], P. Marsden[2] [1]Uppsala University; [2]Nordic Iron Ore AB	15:10	**Inversion of Borehole Gravity Data using GeoTk** - N. Young[1]*, N. Foudil-Bey[1], M. Chemam[1], C. Nind[1] [1]Abitibi Geophysics
15:20	**Application of the Tau Transformation over the Pole Dipole IP Data in the Gold Deposit** - B. Turtogtokh[1]*, T. Endre[1], D. Mihály[1,2] [1]University of Miskolc, Department of Geophysics; [2]MTA-ME Geoengineering Research Group, University of Miskolc	15:20	**3D Inversion Modeling of Natural and Controlled Source EM in Complex Terrain** - W. Soyer[1]*, R. Mackie[1], F. Miorelli[1], V. Schifano[2], S. Hallinan[1,3] [1]CGG Geoscience; [2]EOST; [3]University of Strasbourg
15:30	**Fast Finite-Difference Audiomagnetotelluric Simulation** - M. Malovichko[1,2]*, N. Yavich[1,2], Y. Kravets[2], A. Shlykov[3] [1]Skolkovo Institute of Science and Technology; [2]Moscow Institute of Physics and Technology; [3]Saint-Petersburg State University	15:30	**Deeper, Cheaper and Faster – Recent Advances in Long-Range Ground Penetrating Radar** - J. Francke[1]*, J. Macnae[2] [1]Groundradar Inc; [2]RMIT University
15:40		15:40	**Machine Learning Applications and Examples for Natural Resources** - N. Phillips[1]*, M. McMillan[1], J. Fohring[1], B. Peters[1], E. Haber[1] [1]Computational Geosciences Inc

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26TH EUROPEAN MEETING OF ENVIRONMENTAL AND ENGINEERING GEOPHYSICS

TRACK 1

Groundwater Exploration and Hydrogeophysics II
Session Chair: G. Apostolopoulos (National Technical University of Athens)

10:30	**Groundwater Level Monitoring Tests with Seismic Interferometry** - M. Taruselli[1]*, A. Aguzzoli[2], L. Zanzi[1], D. Arosio[2] [1]Politecnico di Milano; [2]Università degli Studi di Modena e Reggio Emilia
10:40	**Parallelized Hybrid Bloch Solver for Surface Nuclear Magnetic Resonance** - M. Griffiths[1]*, D. Grombacher[2], J.J. Larsen[1] [1]Department of Engineering, Aarhus University; [2]Department of Geoscience, Aarhus University
10:50	**Incorporation of Unsaturated Zone Effects in Coupled Hydrogeophysical Modelling of Gravity Anomalies Caused by Pumping Tests** - A. Gonzalez Quiros[1]*, J.P. Fernández Álvarez[2] [1]University of Aberdeen; [2]University of Oviedo
11:00	**An ERT Time-Lapse Method to Characterize Water Movements in a Karstic Medium** - C. Verdet[1]*, C. Sirieix[1], J. Riss[1], D. Lacanette[1] [1]University of Bordeaux, CNRS, Arts et Metiers Institute of Technology, Bordeaux INP, INRAE, I2M Bordeaux
11:10	**Multi-Sensor Acoustic Parameter Analysis System for Monitoring, Characterization and Evaluation of Drilling and Reservoir Stimulation Operations** - S. Jamali[1]*, V. Wittig[1], R. Bracke[1] [1]Fraunhofer IEG

Geophysics in Engineering Geology and Geo-Technical Investigations
Session Chair: J. Sugawara (Department Of Transport And Main Roads)

11:30	**Combined Shear-Wave Seismic Reflection and H/V Spectral Ratio Surveys - A Case Study** - B. Dietiker[1]*, A.J.-. Pugin[1], J.A. Hunter[1] [1]Geological Survey of Canada
11:40	**Combined Geophysical-Geotechnical Investigations Using Share Waves: A Case Study from Budapest** - A.C. Kovács[1]*, Z. Szilágyi[2], J. Stickel[3], M. Bauer[4], R. Csabafi[4], G. Bernáth[1] [1]Geo-Log Ltd; [2]Geoplan Ltd; [3]Elgoscar 2000 Ltd; [4]MBFSZ
11:50	**A Surface Wave Tomography Tool in Geotechnical Applications - A 3D Experiment at a Controlled Test Site** - C. Orfanos[1]*, K. Leontarakis[1], G. Apostolopoulos[1] [1]National Technical University of Athens
12:00	**Blind Testing Using Seismic Methods for Detecting Flaws in an Experimental Embankment Dam in Älvkarleby, Sweden** - S. Salas-Romero[1]*, C. Juhlin[1], C. Bernstone[2] [1]Department of Earth Sciences, Uppsala University; [2]Business Area Generation, Vattenfall AB
12:10	
12:30	**Lunch break**

TRACK 2

Modelling, Inversion and Data-Processing in Near-Surface Geophysics III
Session Chair: R. Persico (University Of Calabria)

10:30	**Probabilistic Inversion of Magnetic UXO Data: Implementing Prior UXO Data from the North Sea** - M.D. Wigh[1]*, A. Døssing[1], T.M. Hansen[2] [1]Crustal Magnetism Technology and Research Group, DTU Space, Danish Technical University; [2]Department of Geoscience, Aarhus University
10:40	**Data Adaptive GPR Diffraction Focusing Using Multi-Path Summation** - H. Hamdan[1]*, N. Economou[2], A. Vafidis[2] [1]University of Sharjah, Petroleum Geosciences and Remote Sensing Program, Department of Applied Physics and Astronomy; [2]Technical University of Crete, School of Mineral Resources Engineering, Applied Geophysics Lab
10:50	**Addressing the Inherent Issues with the Deconvolution of Vibroseis Seismic Data in View of Near-Surface Exploration** - L. Gupta[1]*, N. Vedanti[2] [1]Indian Institute of Technology Roorkee; [2]National Geophysical Research Institute
11:00	**Using Convolutional Neural Networks to Expedite the Hamiltonian Monte Carlo Inversion of Rayleigh Wave Dispersion Curves** - A. Salusti[2]*, M. Aleardi[1] [1]University of Pisa; [2]University of Florence
11:10	**Model-Parameterization Scaling for Improving Accuracy of Seismic Tomography in Reconstructing Near-Surface Velocity Model** - G. Chernyshov[1]*, A. Duchkov[1], I. Kulakov[1] [1]IPGG SB RAS

Geophysical Methods and Applications for Groundwater and Archaeological Studies
Session Chair: F. Tuluca (Romanian Society of Applied Geophysics)

11:30	**Time Based Radar Signal Analysis Revealing Nature and Properties of Surface Scans** - H. Kelderman[1]*, S.S. Kataeva[2], M. Klein Wolterink[1], N.A. Antonyuk[1], S.G. Kataev[3] [1]Staal Technologies B.V.; [2]Tomsk State University; [3]Tomsk State Pedagogical University
11:40	**Characterization of Shallow Sediments in an Urban Area from Inversion of P, SV and SH Arrivals** - G. Böhm[1], F. Accaino[1], F. Meneghini[1], A. Schleifer[1], Ž. Nikolić[2] [1]OGS - Istituto Nazionale di Oceanografia e di Geofisica Sperimentale; [2]Faculty of Civil Engineering and Architecture, University of Split
11:50	**Detection of Shallow-Buried Objects by the Ditmar-Yanovskaya Method of Surface-Wave Tomography** - A. Ponomarenko[1,2]*, V. Polovkov[1,2], A. Nikitin[2], I. Levin[1], D. Popov[2], B. Kashtan[1] [1]St Petersburg State University; [2]LTD SPBU IMRC
12:00	**A Geophysical Study near the Temple of Olympian Zeus, Athens, for the Detection of Ancient Structures** - G. Apostolopoulos[1]*, K. Leontarakis[1], C. Orfanos[1], G. Amolochitis[1], D. Karaiskos[1], S. Karizonis[1] [1]National Technical University of Athens
12:10	**Laboratory Study of the Electrical Properties of Lutetian Limestones after Heating Up** - B. Souffaché[1], A. Tabbagh[1]* [1]Sorbonne Université
12:30	**Lunch break**

26TH EUROPEAN MEETING OF ENVIRONMENTAL AND ENGINEERING GEOPHYSICS

TRACK 1

Posters: Environmental and Engineering Geophysics 1
Session Chair: E. Bloem (Norwegian Institute of Bioeconomy Research)

13:00	**Characteristic Pressure Spectrum Produced with a New Multi-Exponential Model Describing Quality Factor-Pressure Relationship** - J. Somogyine Molnar[1,2], A. Abordan[1,2]*, T.E. Dobroka[2,3], T. Ormos[1], M. Dobroka[1,2] [1]University of Miskolc; [2]MTA-ME Geoengineering Research Group; [3]Research Institute of Applied Earth Science
	Full-Wave Modeling of Early Times in TDEM: Estimation of All Potential Coupling with Numerical FDTD Simulationsw - C. Finco[1]*, C. Schamper[1], F. Rejiba[2], L.H. Cavalcante Fraga[3] [1]Sorbonne Université - UMR 7619 Metis; [2]Université de Rouen Normandie - UMR CNRS 6143 M2C; [3]Envisol
	Romania CCS Demo Project-Monitoring Technologies for CO2 Injection and Storage - S. Anghel[1]*, C.S. Sava[1], A. Dudu[1] [1]National Institute for Research and Development on Marine Geology and Geo-ecology – GeoEcoMar
	The Mapping of Submerged (Flooding) Lands by Geophysical Methods (Best of 'Monitoring 2019') - S. Vyzhva[1], V. Onyshchuk[1]*, I. Onyshchuk[1], N. Reva[1], O. Shabatura[1] [1]Taras Shevchenko National University of Kyiv
	The Deep Learning Approach for Pan Sharpening Aster SWIR Data (Best of Monitoring 2019) - I. Tishaiev[1], R. Okhrimchuk[1]*, I. Tishaiev[1] [1]Taras Shevchenko National University of Kyiv
	The Structural Mapping of the Pletmos Basin through the Mesozoic and Cenozoic - A. Davids[1]*, J. Salomo[1], C. Van Bloemenstein[1], L. Esterhuizen[1], R. Tshikovhi[1], S. Davids[1], T. Buthelezi[1] [1]Petroleum Agency SA

TRACK 2

Posters: Environmental and Engineering Geophysics 2
Session Chair: G. Apostolopoulos (National Technical University of Athens)

13:00	**Levee Characterization by Means of Geophysical and Geotechnical Data Fusion: Improvements in Methodology** - T. Dezert[1]*, S. Palma Lopes[1], Y. Fargier[2] [1]Gustave Eiffel University; [2]Gustave Eiffel University
	Defect Detection in Embankment Dams Using Artificial Neural Networks, Electrical Resistivity Tomography and Seepage Numerical Model - R. Norooz[1]*, R. Ghiassi [1]University Of Tehran & Sweco AB
	Integrated Methodologies for Seismic Risk Mitigation in Gjirokastër (Albania) - K. Skrame[2]*, R. Muçi[2], M. Simionato[1], M.S. Benigni[1], I. Gaudiosi[1], M. Giuffè[1], M. Mancini[1], M. Moscatelli[1] [1]Institute Of Environmental Geology And Geoengineering Of The Italian National Research Council (cnr-igag), Roma, Italy.; [2]Polytechnic University of Tirana, Department of Applied Geology Environment and Geoinformatics, Faculty of Geology and Mining
	Multichannel Analysis of Surface Waves (MASW) to Characterize of Fault Zone in Alhama de Murcia Fault - H. Handoyo[1,2]*, J. Alcalde[1], D. Martí3[3], J.J. Martínez-Díaz[4], T. Teixidó[5], R. Carbonell[1] [1]Institute of Earth Sciences Jaume Almera (ICTJA – CSIC), Department of Earth's Structure and Dynamics, C/Lluís Solé i Sabarís s/n, 08028; [2]Teknik Geofisika, Institut Teknologi Sumatera, Jalan Terusan Ryacudu Kecamatan Jati Agung, 35365; [3]Lithica SCCL, Santa Coloma de Farners 17430; [4]Universidad Complutense de Madrid, Avda. de Séneca, 2 Ciudad Universitaria 28040; [5]Universidad de Granada, Calle La Paz 18, 52005
	Education for the Students through Extracurricular Activities Related to Petroleum Engineering and Geophysics - M. Vukić[1], M. Đuričić[2], S. Komatina[2], Đ. Surla[2]* [1]AGES Serbia; [2]Technical Faculty "Mihajlo Pupin"
	ERT Investigation for Assessment of Sealing Faults at Homorod Mud Volcano Area - F. Chitea[1,2]*, H. Mitrofan[2], M. Constantin[3], A. Tudorache[3], I. Fikos[4] [1]University of Bucharest; [2]Institute of Geodynamics "Sabba S. Stefanescu" of Romanian Academy; [3]"Emil Racoviță" Institute of Speleology, Romanian Academy; [4]Exploration Geophysics Laboratory, Aristotle University of Thessaloniki

Presentations | Tuesday 8 December

3RD CONFERENCE ON GEOPHYSICS FOR MINERAL EXPLORATION AND MINING

TRACK 3		TRACK 4	
Airborne Surveys Session Chair: N. Phillips (Computational Geosciences Inc)		**New Developments in 3D Modelling & Best of SAGA** Session Chair: M.S. Malovichko (Skolkovo Institute of Science and Technology)	
10:30	**Optimizing the SkyTEM Airborne System to 6.25 Hz Base Frequency Operation for Increased Depth of Penetration** - P.G. Gisselø[1]*, N.S. Nyboe[1], E. Bäckström[2], P. Marsden[2] [1]SkyTEM Surveys ApS; [2]Nordic Iron Ore AB	10:30	**Application of Gramian and Focusing Structural Constraints to Joint Inversion of Gravity and Magnetic Data** - M. Jorgensen[1,2]*, M. Zhdanov[1,2] [1]Consortium for Electromagnetic Modeling and Inversion, University of Utah; [2]TechnoImaging
10:40	**Case Study of the Helitem2 System at 6.25 Hz from the Iberian Pyrite Belt** - A. Smiarowski[1]* [1]CGG	10:40	**Three-Dimensional Transient Electromagnetic Modelling and Inversion Using the Octree-Based Vector Finite Element Method** - L. Xiao[1]*, B. Zhang[1], G. Fiandaca[2], E. Auken[1] [1]Aarhus University; [2]The university of Milan
10:50	**Investigation of UAV Noise Reduction for Electromagnetic Induction Surveying** - T. Bjerg[1]*, E. Lima Simões da Silva[1], A. Døssing[1] [1]Dtu Space	10:50	**Near Surface Mapping of Parts of the Far Western Limb of the Bushveld Complex Using Geophysics** - T. Nadan[1]*, M. Manzi[1], S. Scheiber-Enslin[1] [1]University of the Witwatersrand
11:00	**A Multidisciplinary UAV- and Ground-Geophysical Mapping of Complex Mineralisations in an Inter-Tidal Coastal Zone, Brittany (France)Rev** - A. Døssing[1]*, G. Martelet[2], T. Mack Rasmussen[3], E. Gloaguen[2], E. Lima Simões da Silva[1], J. Linde[1] [1]DTU Space, Technical University of Denmark; [2]French Geological Survey (BRGM); [3]Luleå Technical University	11:00	**Reappraisal of Legacy Reflection Seismic Data for the Prospection of Iron Mineralisation** - M. Westgate[1]*, M. Manzi[1], I. James[2], W. Harrison[1] [1]University of the Witwatersrand; [2]HiSeis Pty Ltd
IP and Other Geophysical Surveys Session Chair: A. Smiarowski (CGG)		**Seismic Methods in Mineral Exploration II** Session Chair: T.J. Hupe (Ruhr University of Bochum)	
11:30	**Comparing Ground 3D DCIP and Airborne Inductive IP over the Hickey's Pond High Sulphidation Epithermal Target** - B. Lo[4], D. Clark[3], J. Rudd[2], J. Legault[1]*, K. Kwan[1] [1]Geotech Ltd.; [2]Dias Geophysical; [3]Bonavista Resources Corp.; [4]Consultant	11:30	**Reflection Seismic Imaging in the Zinkgruvan Mining Area, Central Sweden** - A. Gil[1]*, A. Malehmir[1], S. Buske[2], J. Alcalde[3], P. Ayarza[4], L. Lindskog[5], B. Spicer[6], R. Carbonell[3], D. Orlowsky[7], J. Carriedo[6], A. Hagerud[5] [1]Uppsala University; [2]Technische Universität Bergakademie Freiberg; [3]Institute of Earth Sciences Jaume Almera (CSIC); [4]University of Salamanca; [5]Zinkgruvan Mining AB; [6]Lundin Mining Corporation; [7]DMT GmbH Co
11:40	**Three-Dimensional Inversion of Distributed Array Spectral IP Data and Comparison with AEM-Derived Conductivity Model, Saudi Arabia** - F. Alfouzan[2], A. Alotaibi[2], L. Cox[1]*, M. Zhdanov[1,3] [1]TechnoImaging LLC; [2]King Abdulaziz City for Science and Technology; [3]University of Utah	11:40	**3D Prestack Depth Imaging of the Iron-Oxide Deposit in the Ludvika Mining Area (Central Sweden)** - F. Hlousek[1]*, M. Malinowski[2], L. Bräunig[1], R. Kramer[1], S. Buske[1], A. Malehmir[3], L. Sito[4], E. Bäckström[5], M. Schön[5], P. Marsden[5] [1]TU Bergakademie Freiberg; [2]Institute of Geophysics, Polish Academy of Sciences; [3]Uppsala University; [4]Geopartner; [5]Nordic Iron Ore AB
11:50	**Evolution of BHIP** - N. Veillette[1]*, P. Coles[1], N. Younge[1] [1]Abitibi Geophysics	11:50	**Increasing the effectiveness of 3D modeling visco-acoustic wave propagation with a solver based on contraction operator** - E. Avdotin[2], N. Yavich[1,2]*, N. Khoohlov[2], M. Zhdanov[2,3] [1]Skoltech; [2]MIPT; [3]University of Utah
12:00	**Robust Scanning of AEM Data for IP Effects** - F. Dauti[1]* [1]Pisa University	12:00	**3D Velocity Model Building in Hardrock Environment Using FWI: A Case Study from Blötberget Mine, Sweden** - B. Singh[1]*, A. Górszczyk[1,2], A. Malehmir[3], F. Hlousek[4], S. Buske[4], Ł. Sito[5], P. Marsden[6] [1]Institute of Geophysics, Polish Academy of Sciences Warsaw; [2]ISTerre, University Greoble Alpes; [3]Uppsala University; [4]TU Bergakademie Freiberg; [5]Geopartner; [6]Nordic Iron Ore AB
12:10	**Evaluation of Plant Roots Ability to Remove Lead and Zink Mining Drainage Contamination by Geoelectric Surveys** - H. Sarkheil[1,2]*, Y. Azimi[2] [1]Kharazmi University; [2]College of Environment	12:10	**Ambient Noise Rayleigh and Love Wave Tomography beneath the Sally Palladium Copper Deposit (Ontario, Canada)** - A. Lavoué[1]*, N. Arndt[1], J. McBride[2], A. Mordret[1], F. Brenguier[3], P. Boué[3], R. Courbis[1], S. Beauprêtre[1], C. Beard[1], D. Hollis[1], R. Lynch[1] [1]Sisprobe; [2]Generation Mining; [3]ISTerre
12:30	**Lunch break**	12:30	**Lunch break**

3RD CONFERENCE ON GEOPHYSICS FOR MINERAL EXPLORATION AND MINING

TRACK 3

Posters: Geophysics for Mineral Exploration and Mining 1
Session Chair: L. Cox (TechnoImaging LLC)

13:00

The Effectiveness of Pseudo-Gravity Transformation in Mineral Exploration: an Example from a Placer Magnetite Deposit - S.R. Mashhadi[1]*, M. Safari[2]
[1]Amirkabir University Of Technology; [2]Sahand University of Technology

A Bayesian Approach to the Gravity Interpretation Problem - D. Sampietro[1]*, M. Capponi[1]
[1]Geomatics Research & Development s.r.l.

Noise Analysis of a Portable Aeromagnetic Surveying System Using a Hybrid UAV - J. Jirigalatu[1]*, A. Døssing Andreasen[1], E. Lima Simões da Silva[1]
[1]Technical University of Denmark

Illumination Diagnosis for Retrieval of Reflections from Ambient-Noise Seismic Data in the Siilinjärvi Mining Site, Finland - M. Papadopoulou[1]*, D. Draganov[2], E. Koivisto[3], M. Savolainen[4], Ł. Sito[5], V. Socco[1]
[1]Politecnico di Torino; [2]TU Delft; [3]University of Helsinki; [4]Yara Suomi Oy; [5]Geopartner s.p. z.o.o

Geophysical Prospecting at Dalli Porphyry Gold-Copper Deposit Via Magnetic and IP/RS Data Inversion - M. Hajheidari[1]*, K. Moshtaghian[1], S.M. Abtahi Forooshani[1], H. Asadi Harooni[1,2]
[1]Isfahan University Of Technology; [2]University of Western Australia

A New 3D Geological Model for the Neves-Corvo Mine Region, Iberian Pyrite Belt, Portugal - J. Carvalho[1], P. Dias[1], C. Reveaux[2], C. Inverno[1], N. Pacheco[3], J. Matos[1], A. Malehmir[4]*, F. Marques[1], V. Araújo[3], M.J. Batista[1], B. Spicer[5], G.A. Donoso[4], L. Albardeiro[1], I. Morais[1], E. Ramalho[1], A. Filipe[1], D. Oliveira[1]
[1]Laboratório Nacional de Energia e Geologia; [2]Emerson; [3]Somincor (Lundin Mining); [4]Uppsala University; [5]Lundin Mining Corp.

Constrained 3D Inversion of Airborne Magnetic Data Using Geological and Reflection Seismic Data- Example in Sweden - M. Bastani[1,2]*, S. Luth[1], A. Malehmir[2], M. Sadeghi[1], P. Marsden[3]
[1]Geological Survey of Sweden; [2]Dept. of Earth Sciences, Uppsala University; [3]Nordic Iron Ore AB

TRACK 4

Posters: Geophysics for Mineral Exploration and Mining 2
Session Chairs: A. Gil de la Iglesia (Uppsala University), S. Buske (TU Bergakademie Freiberg)

13:00

A New 2D Seismic Survey and 3D Forward Modelling over the Lombador VMS Deposit, Portugal - G.A. Donoso[1]*, A. Malehmir[1], B. Brodic[1], N. Pacheco[2], J. Carvalho[3], V. Araujo[2]
[1]Uppsala University; [2]Somincor (Lundin Mining); [3]LNEG

Cooperative Inversion of Seismic and Gravity Data Using Weighted Structure-Based Constraints - M. Rashidifard[1,3]*, J. Giraud[1,3], V. Ogarko[1,2], M. Jessell[1,3], M. Lindsay[1,3]
[1]Centre of Exploration Targeting (School of Earth Sciences), University of Western Australia; [2]International Centre for Radio Astronomy Research (ICRAR), University of Western Australia; [3]Mineral Exploration Cooperative Research Centre, School of Earth Sciences, University of Western Australia

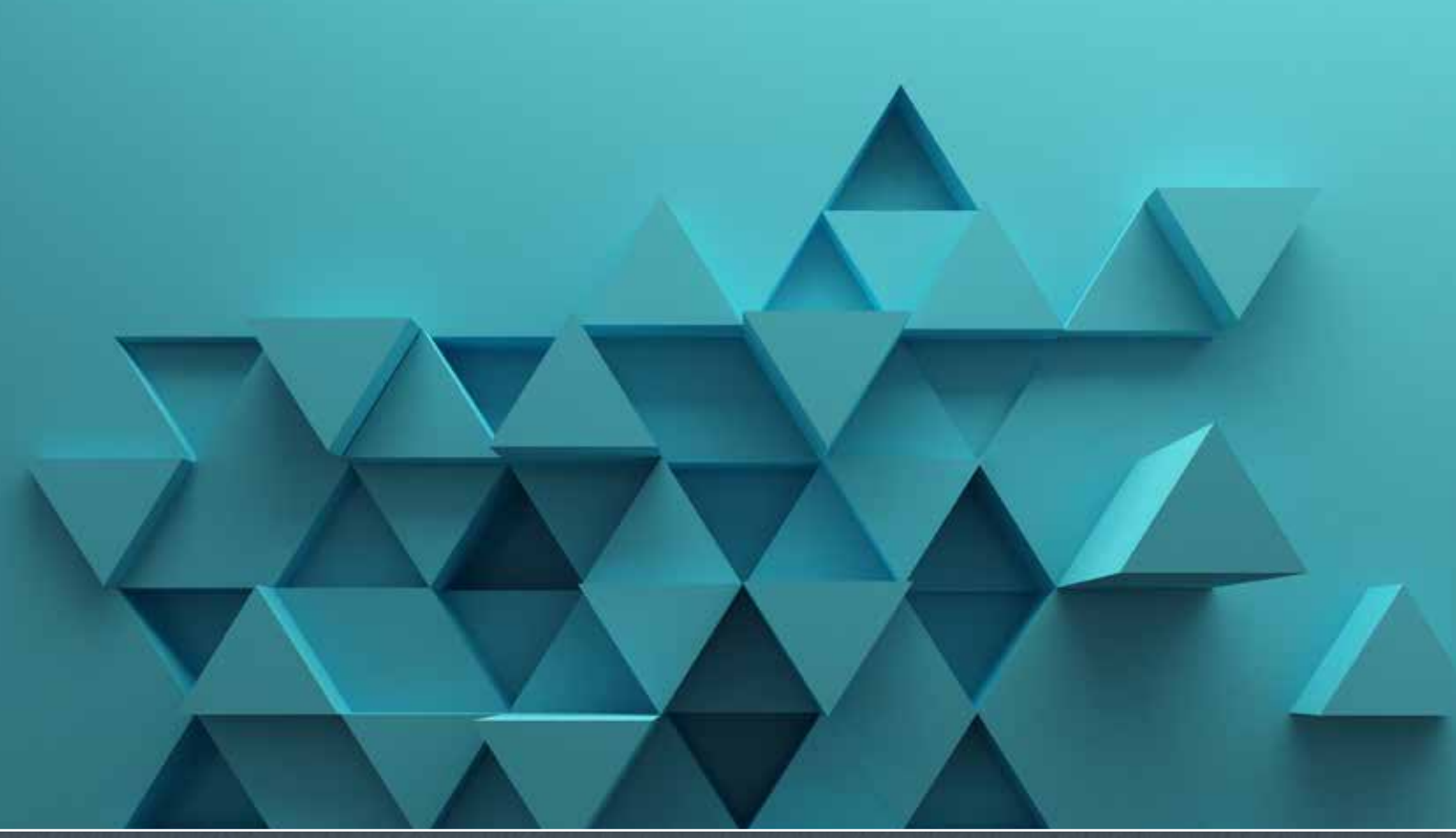
Seismic-Signal Distortion Analysis in Marine Profiling Data - N. Goreyavchev[1]*, G. Mitrofanov[1], M. Tokarev[2]
[1]Institute of Petroleum Geology and Geophysics; [2]Moscow State University

Magnetic and IP/RS Data Inversion for Gold Prospecting at Koh-e Lakht Epithermal Deposit, Central Iran - G. Janghorban[1], S.M. Abtahi Forooshani[1], H. Asadi Haroni[1,2], H. Sadeghisorkhani[1], K. Moshtaghian[1]*
[1]Isfahan University of Technology; [2]University of Western Australia

Reflection Seismic Imaging for Mineral Exploration in the Sotiel-Coronada Area, Southwest Spain - Y. Martínez[1,2]*, J. Alcalde[1], D. Martí[7], P. Ayarza[2], M. Ruiz[1], I. Mazán[1], F. Tornos[3], A. Malehmir[4], A. Gil[4], S. Buske[5], D. Orlowsky[6], R. Carbonell[1]
[1]Institute of Earth Sciences Jaume Almera (ICTJA-CSIC); [2]Salamanca University; [3]Institute of Geosciences, CSIC-UCM; [4]Uppsala University; [5]Technische Universität Bergakademie Freiberg; [6]DMT GmbH & Co; [7]Lithica SCCL

Complex Geophysical Investigation in Search of Chromite Deposits at Ljuboten Greenfield Site - E. Hornicka[1]*, P. Targosz[1], M. Loska[2], M. Wojdyła[1]
[1]Geopartner Ltd.; [2]Proxis Ltd.

Application of the Advanced Cross-Hole Seismic Tomography for Kimberlite Pipe Detection in Yakutsk Diamondiferous Province - S. Vakulenko[1], E. Goncharov[2], V. Ignatiev[1], A. Oshkin[3], A. Shuvalov[1]*
[1]Geodevice; [2]ALROSA; [3]NEOGEN



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