GLOBAL PROCESSES—COLLISIONS AND ACCRETION


09:35–09:55 Crustal structure along the fossil margin of Baltica: what we learned from the PolandSPAN project?, M. Malinowski1, S. Mazur2, M. Mezyk1, 1Institute of Geophysics PAS, Warsaw, 2Institute of Geological Sciences PAS.


10:45–11:05 Collisional Orogeny In The Scandinavian Caledonides (COSC): Seismic Imaging Of A “Fossilized” Orogen, C. Juhlin1, H. Lorenz1, P. Hedin2, B. Almqvist1, 1Uppsala University, 2Geological Survey of Sweden.

11:05–11:25 High Seismic P-Wave-Speeds, Radial Anisotropy And Fossilised Superplumes, T. Stern1, S. Lamb1, J. Moore1,2, D. Okaya3, K. Hochmuth4, 1Victoria University of Wellington, 2Earth Observatory, 3University of Southern California.

NEAR SURFACE SEISMOLOGY – CASE HISTORIES

13:00–13:25 **Keynote address** – Jai Kinkela, HiSeis, Hard rock seismic from crustal to deposit scale: case studies from Australia, J. Kinkela1, J. Neild1, R. Smith2, B. Smith3, 1HiSeis, 2Roric Advisory, 3Bryan Smith Geosciences.


13:45–14:05 Advanced 2D And 3D Seismic Imaging Techniques For The Characterization And Deep-Targeting Of Mineral Deposits – A Case Study From Blötberget (Sweden), L. Bräunig1, S. Buske1, F. Hlousek1, H. Simon1, M. Markovic2, A. Malehmir2, E. Bäckström3, P. Marsden3, L. Sito4, 1TU Bergakademie Freiberg, 2Uppsala University, 3Nordic Iron Ore AB, 4Geopartner Ltd.

14:05–14:25 Reflection Seismic Imaging In The Zinkgruvan Minining Area, Central Sweden, A. Gill1, A. Malehmir1, S. Buske2, J. Alcalde3, L. Lindskog4, B. Spicer5, R. Carbonell3, D. Orlowsky6, M. Penney5, A. Hagerud4, 1Uppsala University, 2Technische Universität Bergakademie Freiberg, 3Institute of
Earth Sciences Jaume Almera, 4Zinkgruvan Mining AB, 5Lundin Mining Corporation, 6DMT GmbH & Co.

14:25–14:45 Imaging Crustal Structures In The West Bohemia Seismic Zone, Czech Republic And Germany, C. Alexandrakis1, L. Bräunig1, F. Hlousek1, P. Hrubcová2, J. Horálek2, S. Buske1, 1TU Bergakademie Freiberg, 2Academy of Sciences, Czech Republic.


INNOVATIVE SEISMIC ACQUISITION AND PROCESSING TECHNIQUES

15:30–15:55 Keynote address – Bojan Brodic, Uppsala University, Utilizing exploration tunnels for in-mine seismic imaging via novel GPS-time transmitter system and a broadband e-vibe, B. Brodic1, A. Malehmir1, N. Pecheco2, L. Dynesius1, J. van den Berg3, R. de Kunder4, J. Carvahlo5, G. Donoso1, T. Sjölund6, V. Araujo2, 1Uppsala University, 2Somincor Lundin Mining Corporation, 3Delft University of Technology, 4Seismic Mechatronics, 5Laboratório Nacional de Energia e Geologia.

15:55–16:15 Uncertainty Driven Geophysical Imaging Of Near Surface – Application And Challenges (presented by M. Malinowski), A. Marciniak1, B. Owoc1, S. Kowalczyk2, M. Majdanski1, 1Institute of Geophysics Warsaw, 2University of Warsaw.

16:15–16:35 Towards An Open Access Data Policy For Deep Seismic Sounding Data (Webex), I. DeFelipe¹, J. Alcalde¹, R. Carbonell¹, M. Ivandic², R. Roberts², 1Institute of Earth Sciences Jaume Almera, 2Uppsala University.


16:55–17:15 Imaging The Crustal Structure Of The Spanish Central System (Webex), J. Andrés1,3, P. Ayarza2, M. Schimmel1, D. Draganov3, I. Palomeras2, J. Alcalde1, M. Ruiz1, R. Carbonell1, 1Institut of Earth Science Jaume Almera, 2University of Salamanca, 3Delft University of Technology.
Day 2 – Tuesday 17th March 2020

UNUSUAL CASE HISTORIES

08:30–08:50 Integrated 3D Mineral Exploration In The Flin Flon Belt, Canada (WebEx), D. J. White, G. Bellefleur, E. Schetselaar, Geological Survey of Canada

ACTIVE CONTINENTAL MARGINS AND SUBDUCTION ZONES

08:50–09:10 Seismic Imaging The Slow-Slip Inter-Plate Boundary In The Northern Cascadia Subduction Zone (WebEx), A. J. Calvert1, G. Savard2, M. G. Bostock2, M. J. Unsworth3, 1Simon Fraser University, 2University of British Columbia, 3University of Alberta.

09:10–09:30 The Structural Architecture Of The Whararoa Valley And The Alpine Fault (New Zealand) From First-Arrival Seismic Tomography And Imaging Using An Extended 3D VSP Survey, V. Lay1, S. Buske1, S. Bodenburg1, J. Townend2, R. Kellett3, M. Savage2, D. R. Schmitt4, A. Constantinou5, J. Eccles6, D. Lawton7, M. Bertram7, K. Hall7, A. Gorman8, R. Kofman9 , 1TU Bergakademie Freiberg, 2Victoria University Wellington, 3GNS Science, 4University West Lafayette, 5Schlumberger Riboud Product Centre, 6University of Calgary, 7University of Otago, 9University of Alberta.

09:30–09:50 New Insights On Managing Hydrocarbon Prospectivity In The Subduction Zones And Their Linked Continental Basin Margin Areas, Shastri. L. Nimmagadda1, Anatoly Aseev2, Andrew Ochan3, and Torsten Reiners1, 1Curtin University, 2Stanford University, 3National Petroleum Company.

09:50–10:10 Orogenic Structure From Comparison Of Deep Reflection Profiles With Subsequent Receiver Function Observations (Webex), Larry D. Brown, Cornell University.

10:45–11:05 Active Seismic Surveys To Site The Drilling The Ivrea Zone (DIVE) Drill-Holes, Val Sesia And Val d’Ossola, Italy, A. Greenwood1,2, L. Baron1, G. Hetényi1, M. Pistone1,3, Y. Liu1, K. Holliger1, L. Ziberna4, A. Zanetti5, O. Müntener1, M. Urosevic6, S. Ziramov6, 1University of Lausanne, 2Montanuniversität Leoben, 3University of Georgia, 4Università degli studi di Trieste, 5IGG-CNR & Università degli studi di Pavia, 6Curtin University.

11:05–11:25 The Mid Crustal Reflector Detected By VSP Method And Seismicity In Iwaki Area, Northeastern Japan, T. Iidaka1, Y. Usuda1, E. Kurashimo1, S. Sakai1, T. Igarashi1, K. Obara1, A. Kato1, T. Takeda2, S. Nakagawa1, 1University of Tokyo, 2National Research Institute for Earth Science and Disaster Resilience.

11:25–11:45 Depth Varying Deformation Within The Nazca Slab From Seismic Anisotropy, S. Agrawal1, C. M. Eakin1, D. E. Porter2,3, E. E. Rodriguez2, S. L. Beck2, 1The Australian National University, 2University of Arizona, 3Carnegie Institution of Washington.
ACTIVE AND PASSIVE SEISMIC INTERFEROMETRY

13:10 – 13:35 **Keynote address** – Erdinc Saygin, CSIRO (WebEx), Imaging Earth Across Scales With Correlation Wavefield, E. Saygin, CSIRO

13:35–13:55 Towards Retrieval Of Reflections Using Ambient-Noise Recorded During Drilling Operations Iron Ore Formation Imaging In Pilbara, Western Australia, M.Chamarczuk1, M. Malinowski1, M. Asgharzadeh2, M. Urosevic2, A. Grant3, 1Institute of Geophysics, 2Curtin University 3BHP.


UNUSUAL CASE HISTORIES

14:35–15:00 **Keynote address** – Raymond Durrheim, University of the Witwatersrand, Seismic Imaging Of A Recent M5.5 Earthquake Rupture Beneath Moab Khotsong Gold Mine, South Africa, R. J. Durrheim, University of the Witwatersrand.

SEISMIC IMAGING AND INVERSION METHODS

15:30–15:50 Seismic Inversion By Newtonian Machine Learning (WebEx), Y. Chen1, E. Saygin1, G. Schuster2, 1CSIRO, 2King Abdullah University of Science and Technology.

15:50–16:10 Combining Arrival Classification And Velocity Model Inference (WebEx), C. Martinez, J. Gunning, J. Hause, CSIRO.

16:10–16:30 Seismic Interferometry For Near Surface Imaging, M. Asgharzadeh, P. Ahmadi, M. Urosevic, Curtin University.

16:30–16:50 FWI Schemes On High-Resolution 3D Seismic Data, Using Born And Rytov Wave-Equation Tomography, S. Ziramov, S. Glubokovskikh, M. Urosevic, Curtin University.

16:50–17:10 The Mid-Crustal Seismic Discontinuity In The Iberian Massif (Webex), P. Ayarza1, A. Martinez2, J. Alcalde2, D. Marti2, J. Andrés1,2, I. Palomeras1, R. Carbonell2, J. R Martinez Catalán1, 1Salamanca University, 2Institute of Earth Science Jaume Almera.

Day 3 – Wednesday 18th March 2020

SEISMIC IMAGING AND INVERSION METHODS

09:10–09:30 Integrated Seismic Imaging Of Crystalline Crust In Canada’s Superior Archean Province: Progress With The Metal Earth Project (WebEx), M. Naghizadeh1, 1Laurentian University.

NEW DEVELOPMENTS AND ADVANCES IN DAS APPLICATIONS


09:50–10:10 P-Wave Anisotropy Estimation From 3D VSP Data Acquired With Geophones And DAS At Otway Site, S. Popik1,2, R. Pevzner1,2, A. Bona1,2, 1Curtin University, 2CO2CRC.

SEISMIC IMAGING AND INVERSION METHODS

10:10–10:30 Seismic Images Of The Upper Crust In Northern Finland, S. Buske1, S. Heinonen2, F. Hlousek1, T. Jusri1, E. Kozlovskaya3, 1TU Bergakademie Freiberg, 2Geological Survey of Finland, 3University of Oulu.

11:00–11:20 Shallow Active-Source Seismic Tomographic Modeling In 2-D And 3-D Of Old Faithful Geyser In The Upper Geyser Basin Of Yellowstone National Park, J. R. Caylor1, M. Karplus1, J. Farrell2, J. Chaput1, S. Veitch1, G. Kaip1, R. Smith2, 1The University of Texas at El Paso, 2University of Utah.

11:20–11:40 Seismic Depth Imaging Workflow For Imaging The Vicinity Of The COSC-1 Borehole, Central Sweden, H. Simon1, S. Buske1, P. Hedin2, C. Juhlin3, F. Krauß4, R. Giese4, 1TU Bergakademie Freiberg, 2Geological Survey of Sweden, 3Uppsala University, 4GFZ German Research Centre for Geosciences.

11:40–12:00 Can We Use Sparse 3D Seismics In Mineral Exploration? Takeaways From COGITO-MIN Project, B. Singh1, M. Malinowski1, F. Hloušek2, E. Koivisto3, S. Heinonen4, O. Hellwig2, S. Buske2, M. Chamarczuk1, S. Juurela5, 1Polish Academy of Sciences, 2TU Bergakademie Freiberg, 3University of Helsinki, 4Geological Survey of Finland, 5Boliden FinnEx.


COMPREHENSIVE GEOLOGICAL INTERPRETATION

13:40–14:00 Geophysical Characterisation Of Crustal Scale Mineral Systems: A Passive Seismic Experiment Across World-Class Orogenic Gold Deposits, Kalgoorlie Area, Western Australia, R. Tian1,2, M. Dentith2, R. Murdie3, H. Yuan2,3,4, K. Gessner3, 1Chengdu University of Technology, 2University of Western Australia, 3Geological Survey of Western Australia 4Macquarie University.
14:00–14:20 Imaging The Cratonisation Of Western Australia Using Passive Seismic Methods, R. Murdie1, H. Yuan1,2,3, S. Johnson1, K. Gessner1, M. Dentith2, X. Xu4, 1Geological Survey of Western Australia, 2University of Western Australia, 3Macquarie University, 4Chinese Academy of Sciences.


14:40–15:00 A Unique Wide-Angle Reflection/Refraction Survey Across The Central Fennoscandian Shield, Sweden, S. Buntin1, A. Malehmir1, M. Malinowski2, H. Thybo3, D. Wójcik2, T. Janik2, I. Artemieva4, K. Högdahl1, and S. Buske5, 1Uppsala University, 2Polish Academy of Sciences, 3Istanbul Technical University, 4Stanford University, 5Technical University Bergakademie Freiberg.


15:50–16:10 Subcrustal Reflectivity Beneath Central And South-West Iberia (WebEx), I. Palomeras1, P. Ayarza1, J. Diaz2, J. Andrés2, A. Alvarez-Valero1, J. Gomez-Barreiro1, R. Carbonell2, 1University of Salamanca, 2Institute of Earth Science Jaume Almera.

16:10–16:30 Revised Seismic Stratigraphy For The Mentelle Basin Based On The Results Of IODP Expedition 369 (WebEx), O. J. Oye, R. W. Hobbs, Durham University.

16:30 – 16:50 Multitechnique Regional Seismic Imaging – A Case Study From The Tokai Area, Japan (presented by M. Malinowski), A. Gorszczyk1,2, S. Operto3, S. Sambolian3, 1University Grenoble Alpes, 2Polish Academy of Sciences, 3University Nice Sophia-Antipolis.
Day 4 – Thursday 19th March 2020

ET RESOURCE POTENTIAL

17:00–17:25 Keynote address – Eleanor Sansom, Curtin University (WebEx), Insight At Mars – Seismicity And Meteorite Strikes, E. K. Sansom et.al, Curtin University.

MOHO IN 3D

17:25–17:45 Seismic full waveform inversion of wide-aperture Moho reflection (PmP) using a trans-dimensional Bayesian method (WebEx), P. Guo1, S. Singh2, V. Vaddineni2, G. Visser1, E. Saygin1, 1CSIRO, 2Institut de Physique du Globe de Paris, France.
POSTER PRESENTATIONS

Spectral Decomposition For Seismic Imaging, Sunjay Sunjay.


Imaging the roots of geothermal systems using seismic attenuation, ambient noise and body-wave inversion, and conductivity, Taupo Volcanic Zone, New Zealand, Stephen Bannister.

Ocean Bottom Seismic Survey in the Knipovich Ridge area, Wojciech Czuba.

TTZ-South seismic profile reveals the lithospheric structure along the SW border of the East European Craton in SE Poland and NW Ukraine, Tomasz Janik.

Assessing the coherence of fiber-optic strain data, Manfred Stiller.

Coherent diffraction imaging of faults and fractures, Manfred Stiller.

Multi-disciplinary data contribution to EPOS e-infrastructure, Ramon Carbonell.

Seismic imaging technologies for mineral exploration. The SIT4ME project, Juan Alcalde.

The Transition From An Intraoceanic Submarine Acretionary Prism To The Onland Fold-And-Thrust Belt In The Taiwan Arc-Continent Collision, Juan Alcalde.

Signal-theoretical study of wireline DAS-VSP coupling noise, Evgeniia Martuganova.

Mitigating the nonlinearity of crustal-scale full waveform inversion through the graph space optimal transport misfit function, Andrzej Górszczyk.


Geophysical Characterization of BSUIN Underground Laboratories: Geophysics at the Research and Education Mine Reiche Zeche in Freiberg, Germany, Vera Lay.

Plate bending and drops in P-wave speeds for the crust and upper mantle of the Hikurangi Oceanic Plateau as it subducts beneath southeastern North Island, New Zealand, Tim Stern.

A probabilistic crustal shear-wave velocity model of the east Albany-Fraser Orogen, West Australian Craton, Tingzi Li.

Unsupervised learning used in automatic detection and classification of ambient-noise recordings from large-N array, Michal Chamarczuk.

Towards an integrated depth imaging workflow for hardrock seismic data employing full-waveform inversion: case study from the Kylylahti massive sulfide deposit, Finland, Michal Malinowski.

Imaging the Hikurangi subduction megathrust using ambient noise and passive-source body waves, Raukumara, New Zealand, Stephen Bannister.

Ligurian Basin: Transition from continental to oceanic crust, Martin Thorwart.

Crustal structure underneath the Browse Basin (North-West Australia): a new look from vintage refraction and wide-angle seismic data, Martin Thorwart.

High-resolution seismic profiling of quaternary sediments affected by the plate-bounding alpine fault, Whataroa Valley, New Zealand, Andrew Gorman.

Nodal Acquisition Seismic Experiment in the highlands of Victoria/NSW, Australia, and challenges in processing of the data, Ross Costelloe.

Deep structure of North-East Eurasian margin on geotransect “Arctic Ocean – Pacific Ocean”, Ilia Vinokurov.

Constraints on Archean tectonic processes from deep seismic reflection surveys in the Yilgarn, Pilbara, and Superior cratons, Andrew J. Calvert.

Development of seismic S-wave sources for near-surface applications at the Leibniz Institute for Applied Geophysics (LIAG), Sonja Halina Wadas.

Improved seismic imaging of Quaternary overdeepened valleys in the European Alps, Sonja Halina Wadas.