



CV of Alireza Malehmir

Professor of applied geophysics (since 03/16) and **senior lecturer** (since 10/12).

[Website](#); [LinkedIn](#); [Researchgate](#); [Twitter](#)

University education:

BSc (2000) and MSc (2002); Polytechnic of Tehran in Mining Engineering-Exploration.

PhD (2007): Solid Earth Physics, Uppsala University, Sweden.

1. Postdoctoral experience:

Research Fellow (2008), Geological Survey of Canada (GSC), Ottawa-Canada.

2. Docent-rehabilitation and professorship:

Docent (2011) title by the Faculty of Science and Technology, Uppsala University-Sweden.

Promoted to professor (2016) of applied geophysics by vice-chancellor of Uppsala University-Sweden.

3. Former employment history:

10/08-10/12; **Assistant professor**, Uppsala University, Dept. of Earth Sciences; 02/08-10/08; **Research Fellow** at the Geological Survey of Canada, Ottawa-Canada.

4. Prizes, honours, awards:

TLE Geophysics Bright Spot mention for articles published in Geophysics (2009, 2012, 2013, 2018 and 2021); **Visiting Research Fellow Scholarship**, 2008: by the Geological Survey of Canada (GSC) and Natural Science and Engineering Research Council of Canada (NSERC); **Educational Award** for the academic year of 2007: by the Society of Exploration Geophysicists (SEG) Foundation, subject to maintenance of a scholastic record and courses of study satisfactory to the SEG Scholarship Committee; Main author of *one of the 30 top paper presentations of the SEG Annual Meeting 2013*, Houston, USA; *co-author of (see Krawczyk et al.) one of the four best papers of the Near Surface Geoscience 2013*, Bochum, Germany; *co-author of (see Lähivaara et al.) one of the four best papers of the Near Surface Geoscience 2017*, Malmö, Sweden; **SEG 2020 Distinguished Achievement Award** for **Smart Exploration** project; SEG 2019 and 2020 **most improved and best student chapter awards**, respectively (founded and acting as an adviser).

5. Doctoral supervision/co-supervision:

Supervised (principal):

Saeid Cheraghi, Seismic investigations in the Brunswick No. 6 mining area, Canada (March 2013); **Magnus Andersson**, 3D structure and emplacement of the Alnö alkaline and carbonatite complex, Sweden (May 2015). **Shunguo Wang**, Multiple geophysical methods (Sept. 2017); **Suman Mehta**, Boat-towed RMT modeling/inversion (Oct. 2017); **Bojan Brodic**, multicomponent seismics landstreamer (Feb. 2018); **Silvia Salas-Romero**, Geophysical and property measurements of quick clays (March 2019); **Georgiana Maries**, Near-surface and hardrock seismics (June 2020, awarded Bjurjons premium prize); **Sebastian Buntin**, Seismic structures of the Svecofennian lithosphere (Dec. 2021); **George Donoso**, Hardrock seismics (Sept. 2022); **Magdalena Markovic**, 2D/3D and deep-learning hardrock seismics (Nov. 2022, awarded Bjurjons premium prize); **Tatiana Pertuz**, Hardrock and ultrahigh resolution seismics (Feb. 2024).

Supervising (principal):

Samuel Zappalà, Fault system seismic imaging (plan 2025); **Lea Gyger**, DAS and broadband seismics (plan 2026); **Kristina Kučinskaitė**, Energy storage seismics (plan 2026); **Emmanouil Konstantinidis**, energy storage seismics (plan 2026); **Jolanta Putnaitė**, energy storage and hardrock seismics (plan 2027); **Arianna Koufopoulou**, lithospheric footprints of critical raw materials (plan 2028); **Viktor Stender**, direct targeting critical raw materials (plan 2028).

Co-supervising/supervised:

Sadeh Karimpouli (awarded Sept. 2013, Polytechnic of Tehran); **Emil Lundberg** (awarded Jan. 2014, UU), **Fatemeh Sharifi Brojerdi** (awarded June 2015, UU); **Omid Ahmadi** (awarded Sept. 2015, UU); **Peter Hedin** (awarded Oct. 2015, UU); **Harbe Muhamad** (awarded March 2017).

6. Post-doc/researcher adviser:

Joachim Place, hardrock seismics (2013-2016); **Emil Lundberg**, urban and near-surface seismics (2014-2016); **Mahdieh Dehghannejad**, urban and hardrock seismics (2014-2016); **Omid Ahmadi**, hardrock seismic modeling (2015-2016); **Magnus Andersson**, planning of a crustal seismic profile (2016-2017); **Hannes Mattsson**, petrological studies within StartGeoDelineation (2017-2018); **Peter Holmes**, project/innovation manager of Smart Exploration (2018-2019); **Alba Gil de la Iglesia**, hardrock seismics (2018-2021); **Bojan**

Brodic, seismic solutions (2018-2022); **Yinshuai Ding**, hardrock seismics (2020-2022); **Myrto Papadopolou**, near-surface seismic applications (2021-2024); **Michael Westgate**, Geological carbon storage (2022-2025); **Grzegorz Paletko**, Instrumentation (2022-2023); **Magdalena Markovic**, Hardrock seismics (2023-2025).

7. MSc-BSc project supervision:

J. Launer (2010); **S. Akhtar** (2011); **H. Shahrokhi** (2012); **M.U. Saleem** (2012); **P. Ahmadi** (2013); **F. Afsar** (2013); **S. Andersson** (2015); **V. Hobson** (2019); **P. Johansson** (2015); **J. Fridlund** (2016); **E.Y. Wondimu** (2017); **L. Fengyi** (2017); **A. Donczew** (2019); **M. Abbasian** (2020); **E.D. Alofe** (2021); **Zhaochen Mu** (2022); **Mussie H. Zeru** (2024); **Sayed M. Ahmed** (ongoing); **Haroon Khan** (ongoing).

8. National and international assignments:

Ph.D thesis examiner/committee member:

Curtin University, 02/09: by *C. Harrison* entitled “Feasibility of rock characterization for mineral exploration using seismic data”; **Curtin University, 05/11:** by *Y. Al Jabri* entitled “Land seismic repeatability predication from near surface investigations at Naylor Field, Otway”; **Uppsala University, 02/13:** by *F. Zhang* entitled “Quantifying the seismic response of underground structures via seismic full waveform inversion”; **The Wits. Uni., 06/13:** by *M. Manzi* entitled “Application of 3D seismic analysis techniques to evaluate ore resources on Kloof, South Deep and Driefontein gold mines, Witwatersrand Basin, South Africa”. **Curtin University, 03/14:** by *K. Tertyshnikov* entitled “Seismic imaging in hardrock environments”. **IG PAS–Poland, 08/17:** by *A. Gorszczyk* entitled “Application of discrete curvelet transform in enhanced seismic imaging and accurate velocity model building”. **TU Delft, 09/17:** by *B. Boullenger* entitled “Controlled-source seismic reflection interferometry”, *Examiner*. **Curtin University, 09/17:** by *D.T. Kieu* entitled “Inversion of multiple geophysical data using petrophysical constraints”; **Curtin University, 11/21:** by *A. Matos de Souza* entitled “Seismic Signature of Gold Mineralisation from Rock Physics, Petrology Characterisation and Seismic Modeling”; **University of Copenhagen, 08/22:** by *Mads Lorentzen* entitled “Applying supervised learning methods to geophysical data from the Lower Cretaceous succession in the Danish North Sea”.

Project evaluator, scientific activities, and journal editor/reviewer (selection):

Project panelist/evaluator/rapporteur of: Research Council of Norway (RCN); Independent Research Fund Denmark (DFF); Romanian National Research Council; South African National Research Foundation; Swiss National Science Foundation; MRIWA: Minerals Research Institute of Western Australia; **Academic positions:** TekNat, UU committee member (2021-present); Professor at the University of Texas-Austin (2021); **Editorial board member of:** Nature Scientific Reports (2014-present); Geophysical Prospecting (2014-present, **deputy editor** since 2022); **Guest editor of:** Geophysics (2012), and Interpretation (2014-2015), Near Surface Geophysics (2022); **Deputy editor of:** Geophysical Prospecting (2022-present); **Scientific advisor of:** MERC (Metal Earth), Canada; SEG-GWB landslide project in Serbia; **Reviewer of:** over 30 high-profile journals and conferences.

International conferences (selection):

Local organizing committee of: SGA 2013, Uppsala-Sweden; Near Surface Geoscience 2017, Malmö-Sweden; **Convener of:** “Active seismic investigations of the Earth’s crust” of EGU (since 2010); **Chairperson of:** “Rock Physics (2011), Near-surface Geophysics (2012) and Diffraction Modeling and Imaging (2014)” of EAGE, 3D/4D modeling (SGA2013), SEG-AGU Hydrogeophysics (SEG2013), Hard rock seismic imaging (EAGE2014, workshop organizer), ASEG hardrock seismics (2015), **organizer of** the SEG-GWB special session (SEG2015); Geophysics in Infrastructure Planning, Malmö-Sweden 2017; **member of technical program committee** SEG2015, New Orleans; DDG/EAGE 2016 mineral exploration workshop, Münster-Germany; EAGE-NSG 2016: Barcelona-Spain; 2017: Malmö-Sweden; 2018: Porto-Portugal; 2019: Delft-Netherlands; Seismix 2018, Kraków-Poland, EAGE-Latin America (2021, 2022).

Lectures and presentations (selection):

Over 100 oral presentations e.g., (Rio de Janeiro 2012, **keynote**), PDAC2013 (Toronto, **invited**), EGU2014 (Vienna, **solicited**), iMAGINE2014 (Tromsø, **keynote**), ASEG2015 (Perth, **keynote**), Grundläggningdagen 2015 (Stockholm, **invited**), Bergmekanikdagen 2015 (Stockholm, **speaker**), Landslides 2015 (Belgrade, **invited**), Deep mineral exploration 2016 (Münster, **invited**), Lunch seminar 2016 (NGI-Oslo, **invited**), Urban geophysics EAGE-NSG 2016 (Barcelona, **invited**), SGU-Christmas lunch 2016 (Uppsala, **invited**), Exploration17 (Toronto, **keynote and invited for the best of NSG-EAGE Barcelona 2016**), Geokolloquium 2018 (Freiberg, **invited**), Urban geophysics 2018 (Seoul-South Korea, **invited**), SAGA2019 (Durban, South Africa, **workshop & keynote**), EAGE Annual Meeting 2019 (London, **invited**), PDAC Cutting Edge Applications (2020, Toronto,

selected), EAGE HAGI (2020, Thailand, **keynote**). Wits GeoTalk online (2020, **invited**), SEG-EU webinar (2020, **invited**), EMinars (2021, **invited**), ENGEO-Russia (2021, **keynote**), BGS2021 (2021, **invited**), SAGA (2022, **keynote**), EAGE (2022, **invited**), Energy and Mines (Québec, 2023, **keynote**), SEG Webinar (2023, **Invited**), Future Mine and Mineral (2024, **invited**), PDAC-EU (2024, **invited**).

9. Outreach activities:

Outreach service and teaching:

Student chapter advisor since 2009; **advisor and fundraiser for the International Geoscience Student Conference (IGSC2019)-Uppsala**; over **100 oral public, scientific and popular-type presentations**; examples: Landslide prediction and prevention (Rio de Janeiro 2012, **keynote**); EGU2014 (Vienna, **solicited**); ASEG2015 (Perth, **keynote**); Landslides 2015 (Belgrade, **invited**); Urban geophysics EAGE-NSG 2016 (Barcelona, **invited**); Urban geophysics 2018 (Seoul-South Korea, **invited**); SAGA2019 (Durban, South Africa, **workshop & keynote**); Wits GeoTalk (2020, **invited**); SEG-EU webinar (2020, **invited**), organizer and mentor for several **Student Challenge Bowls, Geo-quiz and TGIF-Geochampionship, chair of the LinkedIn special interest community in mineral exploration geophysics**.

- **Seismic Soundoff**, In-depth conversations in applied geophysics. SEG podcast series. Episode 39 (click: [Preventing natural hazards](#)).
- **Geophysicists** and a world of challenging scales but also opportunities - (click: [how we can save you!](#)).

Outreach research:

- **Rio De Janeiro-Brazil** (2012) after the devastating sequences of landslides (December 2011) gave talks to the public, city planners, visited affected villages/regions and discussed with other experts nationally and internationally on possibilities how geophysics can help, technologies and preparedness.
- **Malehmir et al. (2016)**. Near-surface geophysical characterization of **areas prone to natural hazards**: A review of the current and perspective on the future. *Advances in Geophysics*, 57, 51–146.
- Three days workshop and courses with students, city council, public, and disaster management team in **Seoul-South Korea** (2017) on how geophysics and new development works could help mitigate earthquake risks and preparedness.

Outreach creativity and career:

- Organizer of **school visits and bootcamps** for over 5 high schools (+350 students, [watch an example](#)) in conjunction with [Smart Exploration activities](#). Organizer of several **rapid-fire and pitching student talks** and workshops.
- **Townhall meetings** with locals, retired miners and families in conjunction with field activities in the Ludvika mining area, **Sweden** (in person participation), **Kosovo** (coordinator) and **Finland** (in-person) promoting science and applied geophysics for societal challenges, improve life and jobs, social acceptance and environmental applications (see example [.pdf report](#)).
- **SciFest-Uppsala**, a booth member from Dept. of Earth Sciences, Uppsala University.
- **Documentary series in Neves-Corvo (Portugal)** for public-student outreach and science-tech promotion.
- **Geoscientists Without Borders** project on landslides including two fieldcamps (+50 young professionals from Germany, Poland, Norway and Sweden).
- Nation-wide **Trust-GeoInfra** project, developed two new instruments for urban geophysical applications that opened for possibilities to tackle societal challenges regarding water resources, raw materials, contaminated sites, tunnelling projects, fault imaging in over six European countries. Many popular science articles, newspaper reports on their outcome and why important for the society.

Service to society:

(vice)**Chair of EAGE Near-Surface Geoscience Division** (2017-2022); **EGU-seismology session chair** (2013-2015); **SEG-AGU collaboration committee** (2016-2018); **+40** sessions, workshops, conferences, and PhD school organizations. **Member of national investigation by SHK (2024)**: Quick-clay landslide in Stenungsund (Sweden).

10. Major research-industry projects (since 2010):

SHK-The Swedish Accident Investigation Authority (2024): Site investigation of the Stenungsund quick-clay landslide (Sweden). **SSF (Swedish Foundation for Strategic Research)** (2024-2029): Smart Exploration Research Centre; **GEUS** (2022-2025): Stenlille, Havnsø, Gassum, Rødby and Thorning seismic studies (pioneering and upscaling +700 km of high-resolution reflection data for CCS applications in Denmark); **ERA-MIN3 FUTURE** (2022-2024): DAS and UAV platform exploration techniques; **Swedish Geotechnical Institute**

(SGI) (2021-2022): Ultra-high-resolution imaging of quick clays; **South Korean partners** (2020-2022): Urban geophysics in megacities (Seoul); **H2020 Smart Exploration** (2017-2020): New sensitive exploration technologies; **EIT-KIC RM up-scaling SIT4ME** (2018-2020), Combined active and passive seismics; **Tyréns & Trafikverket** (2017): High-resolution seismic studies of a contaminated site, Varberg, Sweden; **Swedish Research Council (VR)** (2016-2019): Full crustal-scale seismic structures of central Sweden; **FQM** (2016), Kevitsa 3D seismic tomography for mine planning; **Skanska** (2015-2016): Geological site characterization for heat storage, Skåne. **NGI** (2015): High-resolution seismics in Oslo-underground infrastructure. **ERA-MIN 1: Vinnova, SGU, Tekes, NIO & Yara** (2015-2017): StartGeoDelineation-Sweden and Finland. **SKB** (2014): Geophysical studies of the Bollnäs prospective post-glacial fault-Sweden; **GTK & Uni. of Turku** (2014): 2D-3C seismic studies of deep aquifers and Esker structures-Finland; **Yara** (2014): Combined landstreamer and wireless seismic survey in the Siilinjärvi open-pit mine-Finland; **Tyréns** (2014): Refraction/reflection seismics for a planned underground tunnel, Varberg-Sweden; **Kristianstad municipality** (2014): Seismic studies of a contaminated site in Kristianstad-Sweden; **FQM** (2013): Kansanshi mine 2D seismics-Zambia; **Formas, BeFo, SBUF, Skanska, Boliden, FQM, Trafikverket & NGI** (2013-2016): Multicomponent seismic and EM methods, several projects/contributions (<http://trust-geoinfra.se>); **SIDA & Meeting Points Mining** (2012-2013): Petrophysics, South Africa-Sweden; **Society of Exploration Geophysicists (SEG-GWB)** (2011-2013): Quick-clay landslides, Sweden; **Swedish Research Council (VR)** 2010-2012: Alnö complex, Sweden; **SGU** (2010-2012): Dannemora mining area-Bergslagen, Sweden; **FQM** (2010-2011): 3D seismic imaging, Kevitsa deposit, Finland.

11. Patents, Prototypes and Methods

- Patent (pending, 2023), entitled “**A new seismic landstreamer design and method**”.
- Trademark (Swedish Intellectual Property Office, PRV, 2023, registration number: 625506): “**SeisMove**”.
- Patent (Swedish Intellectual Property Office, PRV, granted on 17-11-2020), SE 543 288 C2 entitled “**Mining and mineral exploration system and methods for performing time-accurate measurements in a mine**”.
- A state-of-the art **MEMS-based 3C seismic landstreamer** (2014) for urban underground infrastructure planning and high-resolution imaging projects (used +20 projects in Sweden, Portugal, Denmark, Finland, Norway, South Korea).
- **UAV-based magnetic** survey tests for mineral exploration (see SEG-TLE issue of July 2017).
- **Downhole** physical property logging, plotting and synthetic scripts.
- For **slimholes modular-based geophysical system** co-developed with BitSim (2019).
- Various **seismic synthetic** modeling scripts.
- **Nordic Geophysics** (a **spin-off** consulting from **Smart Exploration** founded in 2018). Example consultancy services to C&H, Geopartner, BHP, Anglo, De Beers and GEUS. Moving towards a start-up.

12. List of publications

See also:

<http://scholar.google.com/citations?user=lb1LIH4AAAAJ&hl=en>

<http://katalog.uu.se/emplInfo/?languageId=1&id=N3-1060>

<http://orcid.org/0000-0003-1241-2988>

Doctoral thesis:

3D geophysical and geological modelling in the Skellefte district: Implications for targeting ore deposits; awarded Sept. 2007. Supervisor: Ari Tryggvason.

Articles in peer-reviewed international journals:

[144] Zappalá, S., **Malehmir, A.**, Papadopoulou, M., Gregersen, U., Funck, T., Clausen, O.R., Nørmark, E., 2024. Combined onshore and offshore wide scale seismic data acquisition and imaging for CCS exploration in Havnsø, Denmark. *Geophysics*, **v**, xx–yy.

[143] Pertuz, T., and **Malehmir, A.**, 2023. Ultrahigh-resolution 9C seismic survey in a landslide prone area in southwest of Sweden. *Geophysical Journal International*, **235**, 2094–2106.

[142] **Malehmir, A.**, Verweedarre, A., and Benjumae Moreno, B., 2023. Foreword - Special Section on geophysics for infrastructure planning, monitoring and BIM. *Near Surface Geophysics*, **21**, 427–428.

- [141] Papadopoulou, M., **Malehmir, A.**, Markovic, M., and Berglund, J., 2023. High-resolution P- and S-wavefield seismic investigations of a quick-clay site in southwest of Sweden. *Near Surface Geophysics*, **21**, 458–472.
- [140] **Malehmir, A.**, Cooper, G., Manzi, M., Swidinsky, A., and Bin Waheed, U., 2023. Introduction to the special issue on “mineral exploration and mining geophysics”. *Geophysical Prospecting*, **71**, 1073–1076.
- [139] Pertuz, T., Papadopoulou, M., and **Malehmir, A.**, 2023. Advances in seismic imaging of quick clays in Sweden. *First Break*, **41**, 73–77.
- [138] Papadopoulou, M., Zappalá, S., **Malehmir, A.**, Gregersen, U., Hjelm L., Nielsen, L., and Haspang, M.P., 2023. Innovative land seismic investigations for CO2 geologic storage in Denmark. *Geophysics*, **88**, B195–X7.
- [137] Markovic, M., Malehmir, R., and **Malehmir, A.**, 2023. Diffraction denoising using self-supervised learning. *Geophysical Prospecting*, **71**, 1215–1225.
- [136] Pertuz, T., and **Malehmir, A.**, 2023. Ultrahigh-resolution shear-wave reflection imaging of vertical-component data in a quick-clay prone to landslide area in southwestern Sweden. *Geophysics*, **88**, B121–B133.
- [135] Cheraghi, S., Hloušek, F., Buske, S., **Malehmir, A.**, Adetunji, A., Haugaard, R., Snyder, D., and Vayavur, R., 2023. Reflection seismic imaging across a greenstone belt, Abitibi (Ontario)-Canada. *Geophysical Prospecting*, **71**, 1096–1115.
- [134] Donoso, G., **Malehmir, A.**, Carvalho, J., and Araujo, V., 2023. 3D reflection seismic imaging of volcanogenic massive sulphides at Neves-Corvo, Portugal. *Geophysical Prospecting*, **71**, 1116–1131.
- [133] Gil, A., **Malehmir, A.**, Ayarza, P., Buske, S., Carbonell, R., Orlowsky, D., Carriedo, J., and Hagerud, A., 2023. 3D reflection seismic imaging of the Zinkgruvan mineral-bearing structures in the south-eastern Bergslagen mineral district (Sweden). *Geophysical Prospecting*, **71**, 1132–1151.
- [132] Zappalá, S., **Malehmir, A.**, Hong, T.-k., Juhlin, C., Lee, J., Papadopoulou, M., Brodic, B., Park, S., Chung, D., Kim, B., and Lee, J., 2022. Crustal-scale fault systems in the Korean Peninsula unraveled by reflection seismic data. *Earth and Space Science*, **9**, e2022EA00246.
- [131] Markovic, M., Malehmir, R., and **Malehmir, A.**, 2022. Diffraction pattern recognition using deep semantic segmentation. *Near Surface Geophysics*, **20**, 507–518.
- [130] **Malehmir, A.**, Hong, T.-k., Lee, J., Zappalá, S., Brodic, B., Chung, D., Kim, B., Park, S., Lee, J., and Kill, D., 2022. Fault intersections control short period intraplate start-stop seismicity in the Korean Peninsula. *Tectonophysics*, **834**, 229387.
- [129] Singh, B., Malinowski, M., Górszczyk, A., **Malehmir, A.**, Buske, S., Sito, Ł., and Marsden, P., 2022. 3D high-resolution seismic imaging of the iron oxide deposits in Ludvika (Sweden) using full-waveform inversion and reverse time migration. *Solid Earth*, **13**, 1065–1085.
- [128] Hloušek, F., Malinowski, M., Bräunig, L., Buske, S., **Malehmir, A.**, Markovic, M., Sito, L., Marsden, P., and Bäckström, E., 2022. Three-dimensional reflection seismic imaging of the iron-oxide deposits in the Ludvika mining area, Sweden, using Fresnel volume migration. *Solid Earth*, **13**, 917–934.
- [127] Cheraghi, S., **Malehmir, A.**, Vayavur, R., Shamsipour, P., Naghizadeh, M., Haugaard, R., Snyder, D., Ayer, J., 2022. Addressing geometrical attributes and seismic imaging capability of fault systems in a world-class metal endowed region: Abitibi Greenstone Belt, Canada. *Tectonophysics*, **833**, 229361.
- [126] Carvalho, J., Dias, P., Reveaux, C., Matos, J.X., Araújo, V., Inverno, C., Marques, F., Donoso, G.A., Pacheco, N., Morais, I., Albardeiro, L., Batista, M.J., **Malehmir, A.**, Spicer, B., and de Oliveira, D., 2022. A drill-hole, geological and geophysical data-based 3D model for target generation in Neves-Corvo mine region, Portugal. *International Journal of Earth Sciences*, **111**, 403–424.
- [125] Bastani, M., Wang, S., Mehta, S., and **Malehmir, A.**, 2022. Radio-magnetotelluric and controlled-source magnetotelluric surveys on a frozen lake: Opportunities for urban applications in Nordic countries. *Near Surface Geophysics*, **20**, 30–45.
- [124] Pertuz, T., **Malehmir, A.**, Bos, J., Brodic, B., Ding, Y., de Kunder, R., and Marsden, P., 2022. Broadband seismic source data acquisition and processing to delineate iron oxide deposits in the Blötberget mine-central Sweden. *Geophysical Prospecting*, **70**, 79–94.

- [123] Buntin, S., Artemieva, I.A., **Malehmir, A.**, Thybo, H., Malinowski, M., Högdahl, K., Janik, T., and Buske, S., 2021. Long-lived Paleoproterozoic eclogitic lower crust. *Nature Communications*, **12**, 6553.
- [122] Ding, Y., Hu, H., Malallah, A., Fehler, M.C., Huang, L., **Malehmir, A.**, and Zheng, Y., 2021. Mapping subsurface karsts and voids using directional elastic wave packets. *Geophysics*, **86**, S405–416.
- [121] Salas-Romero, S., **Malehmir, A.**, Snowball, I., and Brodic, B., 2021. Geotechnical site characterization using multichannel analysis of surface waves: A case study of an area prone to quick-clay landslides in southwest Sweden. *Near Surface Geophysics*, **19**, 699–715.
- [120] Ding, Y., and **Malehmir, A.**, 2021. Reverse time migration (RTM) imaging of iron-oxide deposits in the Ludvika mining area, Sweden. *Solid Earth*, **12**, 1707–1718.
- [119] Beckel, R., Juhlin, C., **Malehmir, A.**, and Ahmadi, O., 2021. Imaging and characterization of glacially induced faults using applied geophysics. *Book chapter (7)*, 118–132. Cambridge Press, ISBN: 9781108779906.
- [118] Cheraghi, S., **Malehmir, A.**, Naghizadeh, M., Snyder, D., Mathieu, L., and Bedeaux, P., 2021. Seismic imaging across fault systems in the Abitibi greenstone belt – an analysis of pre- and post-stack migration approaches in the Chibougamau area, Quebec, Canada. *Solid Earth*, **12**, 1143–1164.
- [117] Gil, A., **Malehmir, A.**, Buske, S., Alcalde, J., Ayarza, P., Martínez, Y., Lindskog, L., Spicer, B., Carbonell, R., Orlowsky, D., Carriedo, J., and Hagerud, A., 2021. Reflection seismic imaging to unravel subsurface geological structures of the Zinkgruvan mining area, central Sweden. *Ore Geology Reviews*, **137**, 104306.
- [116] Westgate, M., Manzi, M., **Malehmir, A.**, Gibson, R., Andreoli, M., and Bumby, A., 2021. A reappraisal of legacy reflection seismic data from the western margin of the Kaapvaal craton, South Africa, with implications for Mesozoic-Cenozoic regional tectonics. *Tectonophysics*, **813**, 228934.
- [115] **Malehmir, A.**, Markovic, M., Marsden, P., Gil, A., Buske, S., Sito, L., Bäckström, E., Sadeghi, M., and Luth, S., 2021. Sparse 3D reflection seismic survey for deep-targeting iron oxide deposits and their host rocks, Ludvika Mines, Sweden. *Solid Earth*, **12**, 483–502.
- [114] Dias, P., Thunehed, H., Represas, P., Carvalho, J.G., Inverno, C., Spicer, B., Ramalho, E., Donoso, G.A., Araújo, V., Marques, F., Morais, I., **Malehmir, A.**, and Pacheco, N., 2021. Geophysical investigation of the down-dip extension of the Lombador massive sulphide deposit, Neves-Corvo, Portugal. *International Journal of Earth Sciences*, **110**, 911–922.
- [113] Brodic, B., Ras, P., de Kunder, R., Guy, D., and **Malehmir, A.**, 2021. Reply to comments on “Seismic imaging using an e-vib — A case study analyzing the signal properties of a seismic vibrator driven by electric linear synchronous motors” (Bojan Brodic, Paul Ras, Richard de Kunder, Guy Drijkoningen, and Alireza Malehmir, 2021, *Geophysics*, 86, no. 3, B165–B179). *Geophysics*, **86**, X3–X4.
- [112] Donoso, G., **Malehmir, A.**, Brodic, B., Pecheco, N., Carvalho, J., and Araujo, V., 2021. Innovative seismic imaging of VMS deposits, Neves-Corvo, Portugal — Part II: Surface array. *Geophysics*, **86**, B181–B191.
- [111] Brodic, B., **Malehmir, A.**, Pecheco, N., Juhlin, C., Carvalho, J., Dynesius, L., van den Berg, J., de Kunder, R., Donoso, G., Sjölund, T., and Araujo, V., 2021. Innovative seismic imaging of VMS deposits, Neves-Corvo, Portugal — Part I: In-mine array. *Geophysics*, **86**, B165–B179.
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Peer-reviewed conference publications:

Numerous (> 125) presented at international conferences (see my Google Scholar).

Contributions to scientific conferences:

Numerous (> 125 oral presentations) presented at international conferences.

Popular-scientific articles/presentations:

- [19] In cooperation with EAGE, [EAGE to partner in EU project for sustainable mineral exploration](#), December issue of First Break, p. 3–4.
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