

List of publications in 2021 due to GEF equipment loans

Journal Articles

1. Adler, A., Araya-Polo, M. and Poggio, T., **2021**, Deep Learning for Seismic Inverse Problems: Toward the Acceleration of Geophysical Analysis Workflows, *IEEE Signal Processing Magazine*, 38(2), p89-119, doi: 10.1109/MSP.2020.3037429, (GEF Loan)
2. Bagherpur Mojaver, O., Darbyshire, F. and Dave, R., **2021**, Lithospheric Structure and Flat-Slab Subduction in the Northern Appalachians: Evidence From Rayleigh Wave Tomography, *Journal of Geophysical Research: Solid Earth*, 126(4), doi: 10.1029/2020JB020924, (GEF Loans 986, 1111)
3. Bayrakci, G., Callow, B., Bull, J.M., Minshull, T.A., Provenzano, G., North, L.J., Macdonald, C., Robinson, A.H., Henstock, T. and Chapman, M., **2021**, Seismic Anisotropy Within an Active Fluid Flow Structure: Scanner Pockmark, North Sea, *Frontiers in Earth Science*, 9, doi: 10.3389/feart.2021.626416, (OBIF)
4. Benito, G., Thorndycraft, V.R., Medialdea, A., Machado, M.J., Sancho, C. and Dussailant, A., **2021**, Declining discharge of glacier outburst floods through the Holocene in central Patagonia, *Quaternary Science Reviews*, 256, p106810, doi: 10.1016/j.quascirev.2021.106810, (GEF Loans 942, 965)
5. Biggs, J., Ayele, A., Fischer, T.P., Fontijn, K., Hutchison, W., Kazimoto, E., Whaler, K. and Wright, T.J., **2021**, Volcanic activity and hazard in the East African Rift Zone, *Nature Communications*, 12(1), doi: 10.1038/s41467-021-27166-y, (GEF Loans 1011, 1036)
6. Boddupalli, B., Minshull, T.A., Morgan, J., Bayrakci, G. and Klaeschen, D., **2021**, Comparison of 2-D and 3-D full waveform inversion imaging using wide-angle seismic data from the Deep Galicia Margin, *Geophysical Journal International*, 227(1), p228-256, doi: 10.1093/gji/ggab164, (OBIF)
7. Boyce, A., Bastow, I.D., Cottaar, S., Kounoudis, R., De Courbeville, J.G., Caunt, E. and Desai, S., **2021**, AFRP20: New P-wavespeed Model for the African Mantle Reveals Two Whole-Mantle Plumes Below East Africa and Neoproterozoic Modification of the Tanzania Craton, *Geochemistry, Geophysics, Geosystems*, doi: 10.1029/2020GC009302, (GEF Loan 803)
8. Chambers, E.L., Harmon, N., Rychert, C.A. and Keir, D., **2021**, Variations in melt emplacement beneath the northern East African Rift from radial anisotropy, *Earth and Planetary Science Letters*, 573, p117150, doi: 10.1016/j.epsl.2021.117150, (GEF Loan 956)
9. Cianetti, S., Bruni, R., Gaviano, S., Keir, D., Piccinini, D., Saccorotti, G. and Giunchi, C., **2021**, Comparison of Deep Learning Techniques for the Investigation of a Seismic Sequence: An Application to the 2019, Mw 4.5 Mugello (Italy) Earthquake, *Journal of Geophysical Research: Solid Earth*, 126(12), doi: 10.1029/2021JB023405, (GEF Loan 1092)
10. Cornwell, D., Rost, S., Thompson, D.A., Houseman, G.A., Millar, L.A., Kendall, E., Lane, V., Teoman, U., Altuncu Poyraz, S., Kahraman, M., Turkelli, N., Gulen, L. and Utkucu, M., **2021**, Variations in lithospheric anisotropy across the North Anatolian Fault revealed by teleseismic shear wave splitting, *Earth and Space Science Open Archive*, doi: 10.1002/essoar.10505730.1, (GEF Loan 947)
11. Eshetu, A., Mammo, T. and Tilmann, F., **2021**, Imaging the Ethiopian Rift Region Using Transdimensional Hierarchical Seismic Noise Tomography, *Pure and Applied Geophysics*, 178(11), p4367-4388, doi: 10.1007/s00024-021-02880-2, (GEF Loan 885)
12. Funnell, M.J., Robinson, A.H., Hobbs, R.W. and Peirce, C., **2021**, Evolution and properties of young oceanic crust: constraints from Poisson's ratio, *Geophysical Journal International*, doi: 10.1093/gji/ggab062, (OBIF)
13. Hammond, J.O.S., Wu, J., Ri, K., Wei, W., Yu, J. and Oppenheimer, C., **2021**, Distribution of Partial Melt Beneath Changbaishan/Paektu Volcano, China/Democratic People's Republic of Korea, *Geochemistry, Geophysics, Geosystems*, 21(1), doi: 10.1029/2019GC008461, (GEF Loan 976)
14. Hudson, T.S., Baird, A.F., Kendall, J.M., Kufner, S.K., Brisbourne, A.M., Smith, A.M., Butcher, A., Chalari, A. and Clarke, A., **2021**, Distributed Acoustic Sensing (DAS) for Natural Microseismicity Studies: A Case Study From Antarctica, *Journal of Geophysical Research: Solid Earth*, 126(7), doi: 10.1029/2020JB021493, (GEF Loan 1111)
15. La Rosa, A., Keir, D., Doubre, C., Sani, F., Corti, G., Leroy, S., Ayele, A. and Pagli, C., **2021**, Lower Crustal Earthquakes in the March 2018 Sequence Along the Western Margin of Afar, *Geochemistry, Geophysics, Geosystems*, 22(4), doi: 10.1029/2020GC009614, (GEF Loan 1054)
16. La Rosa, A., Pagli, C., Wang, H., Doubre, C., Leroy, S., Sani, F., Corti, G., Ayele, A. and Keir, D., **2021**, Plate-Boundary Kinematics of the Afrera Linkage Zone (Afar) From InSAR and Seismicity, *Journal of Geophysical Research: Solid Earth*, 126(5), doi: 10.1029/2020JB021387, (GEF Loan 1054)

17. Lapins, S., Goitom, B., Kendall, J., Werner, M.J., Cashman, K.V. and Hammond, J.O.S., **2021**, A Little Data Goes a Long Way: Automating Seismic Phase Arrival Picking at Nabro Volcano With Transfer Learning, *Journal of Geophysical Research: Solid Earth*, 126(7), doi: 10.1029/2021JB021910, (GEF Loan 953)
18. Mauerberger, A., Maupin, V., Gudmundsson, O. and Tilmann, F., **2021**, Anomalous azimuthal variations with 360° periodicity of Rayleigh phase velocities observed in Scandinavia, *Geophysical Journal International*, 224(3), p1684-1704, doi: 10.1093/gji/ggaa553, (GEF Loan 959)
19. Mazzotti, G., Webster, C., Essery, R. and Jonas, T., **2021**, Increasing the Physical Representation of Forest-Snow Processes in Coarse-Resolution Models: Lessons Learned From Upscaling Hyper-Resolution Simulations, *Water Resources Research*, 57(5), doi: 10.1029/2020WR029064, (GEF Loan 1108)
20. McNicol, I.M., Mitchard, E.T.A., Aquino, C., Burt, A., Carstairs, H., Dassi, C., Modinga Dikongo, A. and Disney, M.I., **2021**, To What Extent Can UAV Photogrammetry Replicate UAV LiDAR to Determine Forest Structure? A Test in Two Contrasting Tropical Forests, *Journal of Geophysical Research: Biogeosciences*, 126(12), doi: 10.1029/2021JG006586, (GEF Loan 1109)
21. Ogden, C.S., Keir, D., Bastow, I.D., Ayele, A., Marcou, S., Ugo, F., Woodward, A., Kibret, B.A. and Gudbrandsson, S., **2021**, Seismicity and Crustal Structure of the Southern Main Ethiopian Rift: New Evidence From Lake Abaya, *Geochemistry, Geophysics, Geosystems*, 22(8), doi: 10.1029/2021GC009831, (GEF Loan 1112)
22. Parnell-Turner, R., Sohn, R., Peirce, C., Reston, T., MacLeod, C., Searle, R. and Simao, N., **2021**, Seismicity trends and detachment fault structure at 13°N, Mid-Atlantic Ridge, *Geology*, 49(3), p320-324, doi: 10.1130/G48420.1, (OBIF)
23. Possee, D., Rychert, C., Harmon, N. and Keir, D., **2021**, Seismic Discontinuities Across the North American Caribbean Plate Boundary From S-to-P Receiver Functions, *Geochemistry, Geophysics, Geosystems*, 22(7), doi: 10.1029/2021GC009723, (GEF Loan 987)
24. Reinwald, M., Moseley, B., Szenicer, A., Nissen-Meyer, T., Oduor, S., Vollrath, F., Markham, A. and Mortimer, B., **2021**, Seismic localization of elephant rumbles as a monitoring approach, *Journal of The Royal Society Interface*, 18(180), p20210264, doi: 10.1098/rsif.2021.0264, (GEF Loan 1106)
25. Robinson, A.H., Callow, B., Bottner, C., Yilo, N., Provenzano, G., Falcon-Suarez, I.H., Marin-Moreno, H., Lichtschlag, A., Bayrakci, G., Gehrmann, R., Parkes, L., Roche, B., Saleem, U., Schramm, B., Waage, M., Lavayssière, A., Li, J., Jedari-Eyvazi, F., Sahoo, S., Deusner, C., Kossel, E., Minshull, T.A., Berndt, C., Bull, J.M., Dean, M., James, R.H., Chapman, M., Best, A.I., Bünz, S., Chen, B., Connelly, D.P., Elger, J., Haeckel, M., Henstock, T.J., Karstens, J., Macdonald, C., Matter, J.M., North, L. and Reinardy, B., **2021**, Multiscale characterisation of chimneys/pipes: Fluid escape structures within sedimentary basins, *International Journal of Greenhouse Gas Control*, 106, p103245, doi: 10.1016/j.ijggc.2020.103245, (OBIF)
26. Rost, S., Houseman, G.A., Frederiksen, A.W., Cornwell, D.G., Kahraman, M., Altuncu Poyraz, S., Teoman, U.M., Thompson, D.A., Türkelli, N., Gülen, L., Utkucu, M. and Wright, T.J., **2021**, Structure of the northwestern North Anatolian Fault Zone imaged via teleseismic scattering tomography, *Geophysical Journal International*, 227(2), p922-940, doi: 10.1093/gji/ggab265, (GEF Loan 947)
27. Schramm, B., Berndt, C., Dannowski, A., Bottner, C., Karstens, J. and Elger, J., **2021**, Seismic imaging of an active fluid conduit below Scanner Pockmark, Central North Sea, *Marine and Petroleum Geology*, 133, p105302, doi: 10.1016/j.marpetgeo.2021.105302, (OBIF)
28. Smith, A.M., Anker, P.G.D., Nicholls, K.W., Makinson, K., Murray, T., Rios-Costas, S., Brisbane, A.M., Hodgson, D.A., Schlegel, R. and Anandakrishnan, S., **2021**, Ice stream subglacial access for ice-sheet history and fast ice flow: the BEAMISH Project on Rutford Ice Stream, West Antarctica and initial results on basal conditions, *Annals of Glaciology*, 62(85-86), p203-211, doi: 10.1017/aog.2020.82, (GEF Loan 1017)
29. Spallarossa, D., Cattaneo, M., Scafidi, D., Michele, M., Chiaraluce, L., Segou, M. and Main, I., **2021**, An automatically generated high-resolution earthquake catalogue for the 2016–2017 Central Italy seismic sequence, including P and S phase arrival times, *Geophysical Journal International*, 225(1), p555-571, doi: 10.1093/gji/ggaa604, (GEF Loans 1067, 1077)
30. Szanyi, G., Graczer, Z., Balazs, B. and Kovacs, I.J., **2021**, The transition zone between the Eastern Alps and the Pannonian basin imaged by ambient noise tomography, *Tectonophysics*, 805, p228770, doi: 10.1016/j.tecto.2021.228770, (GEF Loan 883)

31. Szenicer, A., Reinwald, M., Moseley, B., Nissen-Meyer, T., Mutinda Muteti, Z., Oduor, S., McDermott-Roberts, A., Baydin, A.G. and Mortimer, B., **2021**, Seismic savanna: machine learning for classifying wildlife and behaviours using ground-based vibration field recordings, *Remote Sensing in Ecology and Conservation*, doi: 10.1002/rse2.242, (GEF Loan 1106)
32. Tan, Y.J., Waldhauser, F., Ellsworth, W.L., Zhang, M., Zhu, W., Michele, M., Chiaraluce, L., Beroza, G.C. and Segou, M., **2021**, Machine-Learning-Based High-Resolution Earthquake Catalog Reveals How Complex Fault Structures Were Activated during the 2016–2017 Central Italy Sequence, *The Seismic Record*, 1(1), p11-19, doi: 10.1785/0320210001, (GEF Loans 1067, 1077)
33. Tary, J.B., Hobbs, R.W., Peirce, C., Lesmes Lesmes, C. and Funnell, M.J., **2021**, Local rift and intraplate seismicity reveal shallow crustal fluid-related activity and sub-crustal faulting, *Earth and Planetary Science Letters*, 562, p116857, doi: 10.1016/j.epsl.2021.116857, (OBIF)
34. Volk, O., White, R.S., Pilia, S., Green, R.G., Maclennan, J. and Rawlinson, N., **2021**, Oceanic crustal flow in Iceland observed using seismic anisotropy, *Nature Geoscience*, 14(3), p168-173, doi: 10.1038/s41561-021-00702-7, (GEF Loans 914, 968, 1071)

Conference Papers / Proceedings

1. Butcher, A., Hudson, T., Kendall, J., Kufner, S., Brisbourne, A. and Stork, A., **2021**, Radon transform-based detection of microseismicity on DAS networks: A case study from Antarctica, *EAGE GeoTech 2021 Second EAGE Workshop on Distributed Fibre Optic Sensing*, EAGE, 2021, doi: 10.3997/2214-4609.202131039, (GEF Loan 1111)
2. Butcher, A., Hudson, T., Kendall, J., Kufner, S., Brisbourne, A. and Stork, A., **2021**, Radon transform-based detection of microseismicity on DAS networks: A case study from Antarctica, *GeoTech 2021 Second EAGE Workshop on Distributed Fibre Optic Sensing*, EAGE, doi: 10.3997/2214-4609.202131039, (GEF Loan 1111)
3. Hudson, T., Baird, A., Kendall, J., Kufner, S., Brisbourne, A., Smith, A., Butcher, A., Chalari, A. and Clarke, A., **2021**, Distributed Acoustic Sensing in Antarctica: What we can learn for studying microseismicity elsewhere, *EAGE GeoTech 2021 Second EAGE Workshop on Distributed Fibre Optic Sensing*, EAGE, 2021, doi: 10.3997/2214-4609.202131037, (GEF Loan 1111)
4. Kulesa, B., Thompson, S., Cook, S., Jones, G., Watson, C., Schoof, C. and Lane, V., **2021**, Airborne and ground-based geophysical evaluation of the surface and englacial hydrological system of the Sørsdal Glacier, East Antarctica, and implications for ice-shelf stability, *EGU, Vienna, EGU General Assembly*, EGU21-14890, doi: 10.5194/egusphere-egu21-14890, (GEF Loan 1083)
5. Linang, H.T., Gilligan, A., Jenkins, J., Greenfield, T., Tongkul, F., Widiyantoro, S. and Rawlinson, N., **2021**, Seismic Structure and Tectonic Evolution of Borneo and Sulawesi, *EGU, Vienna, EGU General Assembly*, EGU21-16456, doi: 10.5194/egusphere-egu21-16456, (GEF Loan 1038)
6. Wehner, D., Blom, N., Rawlinson, N., Miller, M., Widiyantoro, S. and Daryono, M., **2021**, Towards 3D Multiscale Adjoint Waveform Tomography of the Lithosphere and Underlying Mantle beneath Southeast Asia, *EGU, Vienna, EGU General Assembly*, EGU21-1586, doi: 10.5194/egusphere-egu21-1586, (GEF Loan 1038)
7. Winder, T. and White, R.S., **2021**, Slowly migrating tectonic microearthquake swarms in the Icelandic Rift Zone: driven by pore-pressure or aseismic slip transients?, *EGU, Vienna, EGU General Assembly*, EGU21-15544, doi: 10.5194/egusphere-egu21-15544, (GEF Loans 822, 842, 857, 914, 968, 980, 1022, 1071)

PhD Theses

1. Bacon, C., **2021**, Seismic anisotropy and microseismicity: from crustal formation to subduction termination, *University of Cambridge*, (GEF Loans 980, 1022, 1038, 1071)
2. Bentley, L., **2021**, Evaluating the ecosystem services and disservices provided by Mediterranean woodlands, *University of Cambridge*, doi: 10.17863/CAM.76730, (GEF Loan 1085)
3. Forsmoo, J., **2021**, Remote monitoring of grassland function and services : exploring the prospect of structure from motion photogrammetry for characterising habitat quality indicators, *University of Exeter*, (GEF Loan 1101)
4. Khoury, S., **2021**, Mediterranean forest resilience to drought and climate change, *University of Cambridge*, doi: 10.17863/CAM.77979, (GEF Loan 1085)

5. La Rosa, A., **2021**, Strain partitioning between border faults and axial magmatic segments in the Afar Rift, *University of Florence*, (GEF Loan 1054)
6. Sanchez de la Muela Garzon, A., **2021**, Seismotectonics of the Andean Southern Volcanic Zone : insights from crustal seismicity , *Birkbeck, University of London*, (GEF Loan 1073)
7. Winder, T., **2021**, Tectonic earthquake swarms in the Northern Volcanic Zone, Iceland, *University of Cambridge*, doi: 10.17863/CAM.82505, (GEF Loans 822, 842, 857, 914, 968, 980, 1022, 1071)