Joseph Asplet

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Employment

2023 – 2026. Postdoctoral Researcher. Dept. Earth Sciences, University of Oxford.

2024 – 2025. Consultant Seismologist, contracted through Oxford University Innovation

2021 – 2023. Research Associate. School of Earth Sciences, University of Bristol.

August – October 2020. Data Scientist (intern). Geollect Ltd, Bristol.

Education

2017 – 2021. Ph.D. Geology. **University of Bristol.**
Thesis: "New techniques for the robust identification and quantification of seismic anisotropy in the lowermost mantle".
Advisors: James Wookey and J-Michael Kendall.

2013 – 2017. MSci Geophysics. University of Southampton. First class honours
Thesis: "A comparison of probabilistic methods for earthquake relocation in Maule, Chile".
Advisor: Nicolas Harmon

Publications

Asplet, J., Tveldt, E., Kettlety, T., and Kendall, J. M., 2026., Shear-wave splitting measured for Permanent Reservoir Monitoring Systems: an example from the Snorre field, *Geophysical Prospecting*.

Kettlety, T., **Asplet, J.** and Tarasewicz, J., 2025., June. Network Design for Passive Seismic Monitoring of Offshore CO2 Storage Projects. In *86th EAGE Annual Conference & Exhibition.* European Association of Geoscientists & Engineers.

Asplet, J., Wookey, J., Kendall, J.M., Chapman, M., and Das, R., 2024., Shear-wave attenuation anisotropy: a fluid detection tool, *Seismica*. Doi:10.31223/X5838Z

Asplet, J., Kettlety, T., Fellgett, M., Luckett, R., Kendall, J., & Kühn, D., 2024., Seismic Anisotropy as a Measure of in-Situ Stress for Safe CO2 Storage, In *85th EAGE Annual Conference & Exhibition (including the Workshop Programme),* EAGE Publications bv, doi:10.3997/2214-4609.2024101469

Hudson, T., **Asplet, J.**, and Walker, A., 2023., Automated shear-wave splitting analysis for single- and multi-layer anisotropic media. *Seismica*. Doi:10.31223/X5R67Z

Asplet, J., Wookey, J. & Kendall, M., 2022., Inversion of shear-wave waveforms reveals deformation in the lowermost mantle. *Geophysical Journal International*, **232**, 97–114. Doi:10.1093/gji/ggac328

Asplet, J., Wookey, J. & Kendall, M., 2020., A potential post-perovskite province in D'' beneath the Eastern Pacific: evidence from new analysis of discrepant SKS–SKKS shear-wave splitting. *Geophysical Journal International*, **221**, 2075–2090. Doi:10.1093/gji/ggaa114

Publications in preparation

Asplet, J., Fellgett, M., Kettlety, T., Kendall, J. M., *in prep*, New constrains on UK crustal stress from microseismic shear-wave splitting, Geol. Soc. Lon. Special Publication on "Tectonic Stress: from the lithosphere to the wellbore" (invited submission – in revision).

Kühn, D., Kettlety, T., Martuganova, E., Jerkins, A., Dichiarante, A. M., **Asplet, J.,** Baptie, B., Voss, P. H., Dahl-Jensen, T., Goertz-Allmann, T., Schweitzer, J., and Oye, V., Harmonising seismic bulletins around the North Sea: improving natural seismicity characterisation for CO2 storage preparedness, *in prep for Geoenergy.*

Asplet, J., Kettlety, T., and Tarasewicz, J., How low can you go? Assessing the earthquake detection capability of seismic arrays in the Southern North Sea, *in prep*.

Kettlety, T., **Asplet, J.,** Hudson, T., Walker, A., Kounoudis, R., Shams, S., Yemane, T., Butcher, A., and Kendall J. M., *in prep for Seismica*, NYMAR: North York Moors Array for background monitoring for Southern North Sea CO2 storage sites.

Grants, Awards and Recognition

2026. Oxford MPLS Postdoctoral representative grant (£500)

2025. Oxford Mathematics, Physics and Life Sciences (MPLS) Lockey Fund award (£500)

2025. Solicited Speaker at EGU 2025. Session GD7.2 Anisotropy from crust to core: Observations, models and implications. Talk title: Shear-wave attenuation anisotropy: a new constraint on mantle melt near the Main Ethiopian Rift

2025. Oxford MPLS Research Culture award (£500)

2025. Oxford MPLS Postdoctoral representative grant (£500)

2021. Runner-up, Best Talk. British Geophysical Association Postgraduate Research in Progress

2020. British Geophysical Association PhD paper of the month (November 2020) for Asplet *et al.*, 2020.

2017. States of Jersey Postgraduate Bursary (£15,000)

2015. Consolidated Minerals Student Bursary (£3000)

Professional Service and Community Roles

2023 – 2027: Secretary to the International Union of Geodesy and Geophysics (IUGG) UK National Committee (2023-2027).

2024 – present. Postdoc research representative in Department of Earth Sciences.

2020 – present. Reviewer for Physics of the Earth and Planetary Interiors, Seismica, Geophysical Journal International, Journal of Volcanology and Geothermal Research, and Geochemistry, Geophysics, Geosystems.

2020 – 2023. Organised University of Bristol geophysics research group's seminars.

2020. Solid Earth theme representative on the 2020 Wessex Doctoral Training Network (DTN) conference organising committee (a joint meeting between the GW4+, Spitfire and Oxford NERC doctoral training programmes).

2019. Primary convener of the British Geophysical Association Postgraduate Research in Progress conference, Bristol.

2019. Organised the University of Bristol School of Earth Sciences' PhD seminar series.

Outreach Activities

2025. Tutorial Leader for University of Oxford's UNIQ Summer School. UNIQ is Oxford's access programme for UK state school students in their first year of further education.

2025. Ran activities for the Department of Earth Sciences' stand at the Oxford Brookes Science Bazaar.

2025. Working with Paula Koelemeijer (Oxford) on a project to install a network of Raspberry Shake seismometers (citizen science instruments) across London.

2024. Co-convened a stakeholder engagement workshop “What do we need to know to safely store CO2 in our UK continental shelf seas?” held in the Oxford Martin School.

Other publications and extended abstracts

Asplet, J., Kettlety, T., Felgett, M. and Kendall., J. M., 2024, SHARP Storage Deliverable 2.3: Stress-induced anisotropy, reservoir properties and caprock integrity assessment.

Sutton, M., Rufas, A., **Asplet, J.,** Moneron, J., Kallingal, M., Albini, D., Kettlety, T., Muslemani, H., Köppen, M., Cartwright, J., Bouman, H. A., Rickaby, R., Jackson, M., Smith, S. M., Allen, M., and Kendall, J. M., 2024., Filling in evidence gaps for the safe deployment of offshore Geological Carbon Storage. The Agile Initiative, University of Oxford, UK. doi: 10.5287/ora-e9o5oxve8

Asplet, J., Kettlety, T., Felgett, M., Luckett, R., Kendall, J. and Kühn, D., 2024, June. Seismic Anisotropy as a Measure of in-Situ Stress for Safe CO2 Storage. In *85th EAGE Annual Conference & Exhibition (including the Workshop Programme).* European Association of Geoscientists & Engineers.

Kettlety, T., **Asplet, J.,** Hudson, T. and Kendall, J.M., 2024, June. Using Array Methods for Cost-Effective Onshore Passive Seismic Monitoring for Offshore CO2 Storage Projects. In *85th EAGE Annual Conference & Exhibition (including the Workshop Programme).* European Association of Geoscientists & Engineers.

Sutton, M., Rufas, A., **Asplet, J**., Kallingal, M., Moneron, J., Cartwright, J., Kettlety, T., Kendall, M., Bouman, H., Rickaby, R., Allen, M., & Smith, S., 2024, What do we need to know to safely store CO2 beneath our shelf seas? Stakeholder workshop report. The Agile Initiative.

Asplet, J., 2021
New techniques for the robust identification and quantification of seismic anisotropy in the lowermost mantle. *University of Bristol,* url:https://hdl.handle.net/1983/06dcb896-db47-4052-a40c-77b86fa5eaf7