

## DR PAULA KOELEMMEIJER – CURRICULUM VITAE

Address: Department of Earth Sciences, University of Oxford, South Parks Road, Oxford, OX3 1AN, UK  
Website: [www.earth.ox.ac.uk/~univ4152](http://www.earth.ox.ac.uk/~univ4152), <https://orcid.org/0000-0001-5153-3040> (ORCID)  
Contact: [paula.koelemeijer@earth.ox.ac.uk](mailto:paula.koelemeijer@earth.ox.ac.uk), +44 1865 272027 (work)

### Research Interests

I am interested in diverse aspects of seismology ranging from global tomography and long period data for constraining deep Earth structure to earthquake hazard and seismic noise for studying human and animal behaviour. I work across disciplines, linking seismology with geodynamics and mineral physics, as well as combining insights with biologists. Much of my research is hypothesis driven, often combining data, forward and inverse modelling, with a particular emphasis on data uncertainties and resolution.

### Academic employment

2022 – Present: **Tutorial Fellow in Earth Sciences**, Exeter College Oxford, UK  
2022 – Present: **Associate Professor & Royal Society University Research Fellow**, University of Oxford, UK<sup>1</sup>  
2019 – 2022: **Royal Society University Research Fellow & Proleptic lecturer**, Royal Holloway, UK<sup>2</sup>  
2018 – 2019: **Royal Society University Research Fellow**, University College London, UK  
2015 – 2018: **Junior Research Fellow**, University College, University of Oxford, UK  
2014 – 2015: **Postdoctoral Fellow**, ETH Zurich, Switzerland

### Education & further training

2019 – 2020: **Researchers Academy**, National Co-ordinating Centre for Public Engagement (NCCPE), UK  
One-year programme aimed at developing public engagement skills.  
2017 – 2018: **Enhancing Teaching Programme**, University of Oxford, UK  
National teaching qualification to develop skills for higher education teaching.  
2010 – 2014: **PhD in Seismology**, University of Cambridge, UK. Thesis: “Normal mode studies of long wavelength structures in Earth’s lowermost mantle”, supervised by Arwen Deuss.  
2008 – 2010: **Master in Geophysics**, Utrecht University, NL (*cum laude*)  
2005 – 2008: **Bachelor in Earth Sciences**, Utrecht University, NL (*cum laude*)

### Awards

2026: **Fowler Award** from the Royal Astronomical Society, for early-career achievement in geophysics  
2021: **Philip Leverhulme Prize** by the Leverhulme Trust, awarded to early career researchers whose work has had international impact and whose future research career is exceptionally promising  
2021: **Outstanding Reviewer** for Geophysical Research Letters  
2018: **Doornbos Memorial Prize** by the Committee for the Study of Earth’s Deep Interior (SEDI / IUGG) for outstanding work on the Earth’s deep interior by an early career scientist

### Selection of acquired funding (all as PI unless indicated otherwise)

2026: **NERC Pushing the Frontiers**: Multi-parameter inferences of mantle transition zone structure. £950k  
2026: **Co-I on STFC UK-Africa Award**: Geothermal monitoring and development (PI: Mike Kendall). £415k  
2025: **Co-I on UKRI Cross-Council**: Combined quantum-classical sensing (PI: Ulrich Schneider). £960k  
2025: **Co-I on Cost Action**: Testing fundamental physics with seismology (PI: Aneta Wojnar). £480k  
2024: **Co-I on NERC Capital Grant**: Seismic node equipment (PI: Prof. Nick Rawlinson). £646k  
2024: **Royal Society URF renewal**: Mid mantle mysteries, 3 year salary + PhD funding. £636k  
2023: **Royal Society ERE award**: Upper mantle anisotropy with full uncertainties, PDRA funding. £157k  
2021: **Royal Society ERE Award**: CMB topography using normal modes, PhD funding. £169k  
2021: **Philip Leverhulme Prize**: Seismicity and background noise in London, PhD funding. £100k

---

<sup>1</sup> Maternity leave taken from Dec 2022 to Sep 2023.

<sup>2</sup> Maternity leave taken from Jul 2020 to Apr 2021 with employment at 80 % FEC from Apr 2021 to May 2022.

- 2020: **Co-I on NERC Large Grant:** Constraining mantle circulation in 4D, PDRA + PhD funding (PI: Prof. Huw Davies). Total award £3.3m, with local component £164k
- 2018: **Royal Society URF (fellowship):** The landscape of the core-mantle boundary, 5 year salary. £564k
- 2015: **University College JRF (fellowship):** Multi-scale topography of the CMB, 3 year salary. £76k
- 2014: **ETH Zurich Postdoctoral Fellowship:** Imaging of the Earth across the scales, 2 year salary. £146k

### Supervising and mentoring

- Postdocs:
- Dr Franck Lattierie (2023 – 2025, Oxford): 3D finite-frequency surface wave tomography
  - Dr Joseph Asplet (2025, Oxford): Background seismicity and seismic noise in London
  - Dr Augustin Marignier (2025 – 2027, Oxford): Illuminating the Earth's inner core with AI
- PhD students: **Primary supervisor of 7 PhD students (5 ongoing, 1 completed) at Oxford and RHUL**
- Jasmina Rai (2025 – 2029, Oxford): Mid mantle structure and mineralogy
  - Manuel Mojica-Boada (2024 – 2028, Oxford): Subduction zone structure and seismicity
  - Sixtine Dromigny (2023 – 2027, Oxford): Ambient seismic noise for detecting fluids
  - Adrian Mag (2022 – 2026, Oxford): Backus-Gilbert inferences of CMB topography
  - Sam Scivier (2022 – 2026, Oxford): Probabilistic and multi-scale seismic hazard assessment
  - Miguel Pinto-Ward (2022 – 2024, Oxford): Background seismicity and noise in London
  - Dr Federica Restelli (2019 – 2023, RHUL): Normal mode BG tomography of Earth's mantle
- Co-supervisor of 10 PhD students (7 ongoing, 3 completed) at Oxford, LMU and Strasbourg**
- Orchis Zhang (2025 – 2029, Oxford): Machine learning for earthquake detection
  - Jamie Chow (2024 – 2028, Oxford): Joint geophysical inversions for geothermal energy
  - Lara Boudinot (2023 – 2027, Oxford): Anthropogenic seismic noise effect on large mammals
  - Kris Ad Astra (2023 – 2027, Oxford): Stress drop estimates in crustal earthquakes
  - Anna Schneider (2023 – 2027, LMU Munich): Absolute plate motions from normal modes
  - Fatme Ramadan (2022 – 2026, Oxford): Physics-based ground shaking using ML
  - Justin Leung (2022 – 2026, Oxford): Temperature and composition of the lower mantle
  - Dr Emile Serra (2023 – 2026, Strasbourg): Mantle transition zone structure using SOLA
  - Dr Viktoria Trautner (2021 – 2025, Oxford): Iron spin crossover in ferroperricite
  - Dr Harriet Godwin (2016 – 2020, Oxford): Multi-scale structure of the deep mantle
- MSc students: Supervisor of 8 undergraduate research project students (all completed) at Oxford and UCL

### Teaching

- Qualification: SEDA PDF Descriptor 2 Award: National qualification for Higher Education in the UK (2018)
- Lecturing:
- "Series analysis and linear algebra" (2<sup>nd</sup> year module, Oxford, since 2026).
  - "Structure & Dynamics of the Earth's mantle" (4<sup>th</sup> year option, Oxford, since 2024).
  - "Planet Earth: Seismology & Geophysics" (1<sup>st</sup> year module, Oxford, since 2023).
  - "Geophysics of the deep Earth" (3<sup>rd</sup> year option, Oxford, since 2023).
  - "Mathematics for Earth Sciences" (1<sup>st</sup> year module, Oxford, 2023-2026).
  - "Planetary Geology & Geophysics" (2<sup>nd</sup>/3<sup>rd</sup> year option, RHUL, 2022).
  - "Formation of the continental crust" (4<sup>th</sup> year option, RHUL, 2021).
  - "Geophysical methods" (2<sup>nd</sup> year module, Oxford, 2016).
  - "Great papers in seismology" (optional MSc / PhD module, ETH Zurich, 2015).
- Graduate: Sessions on deep Earth (NERC DTP, 2023-2025) and ML in seismology (NERC CDT, 2024-2025)
- Tutoring:
- Pastoral support for Earth Sciences students at Exeter College (since 2022)
  - Tutor for Earth Sciences, mathematics & geophysics (Oxford, 2015 – 2018, 2022 – present)
  - Personal tutor for 3<sup>rd</sup> year students (RHUL, 2021 – 2022)
  - Tutor for 1<sup>st</sup> year module in geology (Cambridge, 2010)
- Field teaching:
- 1<sup>st</sup> year Pembrokeshire field trip (RHUL, 2022, 6 days; Oxford, 4 days, 2016)
  - 3<sup>rd</sup> year Refraction seismic field class (ETH Zurich, 3 days, 2015)
  - 1<sup>st</sup> year Arran field trip (Cambridge, 8 days, 2010, 2011, 2014)
- Examining: Final year research projects (Oxford, since 2024), undergraduate exams, PhD committee of Dr Fred Dubois (Strasbourg, 2020), annual internal review of PhD students (since 2020)

### Selected media and outreach activities

|              |                                                                                                                                                                                                                                                                                            |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Training:    | NCCPE Researchers Academy (2019/2020), Royal Society Media Skills training (2020)                                                                                                                                                                                                          |
| Events:      | Developed hands-on activities and materials on resonance, seismic waves, the deep Earth and 3D printing, featured at Brooke's Bazaar (2025), Earth Day (Oxford, 2024), Royal Society Summer Exhibition Discovery Hub (2019), Royal Society Lates "Science Fiction" (2020)                  |
| Schools:     | Participated in "I'm a Scientist StayatHome" (2020), Lecture for "LearnWithUs" series (RHUL, 2020), prepared teaching materials for GeoBus (UCL, 2020), STEM career visits (since 2020)                                                                                                    |
| Open days:   | Taster lectures and stands during open days (Oxford / RHUL, since 2020), sessions for UNIQ and MPLS bridging programmes to facilitate transition to university (Oxford, since 2023)                                                                                                        |
| Media:       | Youtube videos on Greenland paper (2024) and Covid lockdown paper (2020), animation "Journey to the centre of the Earth" in collaboration with BBC Ideas (2023), Futurum Careers animation (2022), articles for <i>The Conversation</i> (2017 – 2020), <i>PintOfScience</i> podcast (2020) |
| Interviews:  | Regular commentaries and interviews with international radio and newspapers (e.g. BBC, NY Times, El Pais, Sunday Times, Temblor, BBC Radio 4, Wired). Featured in book <i>Mapmatics</i> .                                                                                                  |
| Materials:   | Seismology resources for secondary school in collaboration with Futurum Careers (2022)                                                                                                                                                                                                     |
| 3D printing: | Developed open-source methodology to 3D print globes for explaining geophysical concepts, detailed in an invited AGU presentation (2019) and article in <i>Frontiers in Earth Science</i> (2021)                                                                                           |

### Service to scientific community

|              |                                                                                                                                                                                                                                                                                |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Societies:   | Executive Committee of the International Seismological Centre (since 2025)<br>Secretary for the British Geophysical Association (since 2024)                                                                                                                                   |
| Editing:     | Editor & Board member for <i>Geophysical Journal International</i> (since 2024)<br>Handling editor for diamond open-access journal <i>Seismica</i> (since 2022)<br>Guest editor for special issues in <i>EGU Solid Earth</i> and <i>Frontiers in Earth Science</i> (2020-2021) |
| Reviewing:   | Journal reviewer for e.g. <i>JGR</i> , <i>TSR</i> , <i>EPSL</i> , <i>GJI</i> , <i>GRL</i> , <i>G-cubed</i> , <i>Nature Comm.</i> (since 2016)<br>Proposal reviewer for NERC, German DFG, French ANR, Leverhulme Trust (since 2018)                                             |
| Conferences: | Sole organiser of MODES 2025 workshop (Oxford), organising committee of UK-SEDI 2019 (UCL) and BGA PGRiP 2013 (Cambridge) meetings. SEDI session organiser (2018 and 2022).                                                                                                    |
| Convening:   | Organised and convened > 10 sessions in seismology (3x AGU, 3x EGU), mantle structure and dynamics (2x AGU, 1x EGU) and 3D printing for education and outreach (1x AGU, 1x EGU)<br>Judge for Outstanding Student Awards at EGU and AGU (since 2016)                            |
| Memberships: | European Geosciences Union (since 2020), British Geophysical Association (since 2013), Royal Astronomical Society (since 2010), American Geophysical Union (since 2010)                                                                                                        |
| ECR support: | Sharing experiences with funding and fellowship applications in annual events (since 2018)                                                                                                                                                                                     |

### Invited research seminars and conference presentations

|               |                                                                                                                                                                                                                                                                                                                           |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Keynote:      | FuSe Corfu workshop (2026), Inge Lehmann Symposium (2025), ANU 50 year Symposium ( <i>unable to travel due to childcare</i> , 2023), Ada Lovelace workshop ( <i>unable to attend due to leave</i> , 2022), BGA PGRiP (2018)                                                                                               |
| Conferences:  | BSM (2022), UKSEDI (2021), SSA (2020), EGU (2020, 2018), AGU (2x 2019, 2018, 2016, 2014)                                                                                                                                                                                                                                  |
| Universities: | ETH Zurich (2026); RHUL (2025); Liverpool, Leeds, Yale, ETH Zurich (2022); Imperial, Cambridge (2020); Birmingham, LMU Munich, (2019); Oxford, Bristol (2018); Leeds, Princeton, Maryland (2017); EOST Strasbourg, Lyon (2016); Oslo (2015); UCL, Imperial, Michigan (2014); Scripps, LMU Munich, Utrecht, Geoazur (2013) |

### Track record of research dissemination

- Citations according to Google Scholar (8<sup>th</sup> September 2026): 1724, h-index of 17, i10 index of 21.
- 32 peer-reviewed publications in e.g., Science, Nature Comm., Sci. Reports, EPSL, PEPI, GRL, GJI
- 27 invited research seminars at universities and 16 invited conference presentations
- >30 regular oral presentations (>20 as 1<sup>st</sup> author) and >70 poster presentations (>30 as 1<sup>st</sup> author)

## DR PAULA KOELEMEIJER – LIST OF PUBLICATIONS

‡ = PDRA, \*\* = PhD student, \* = MSc student, under my (co-)supervision

### Under consideration

- Boudinot, L.A.\*\* , **P. Koelemeijer**, R.A. Montgomery & B. Mortimer. “Terrestrial animal behavioral responses to seismic frequencies and anthropogenic seismic noise”. *Under consideration at Communications Biology*
- Davies, J.H., J. Panton, (...), **P. Koelemeijer**, F. Latallerie‡, et al. “Use of disparate independent observations to constrain mantle circulation models”. *In revision for Proc. Roy. Soc. A.*
- Astra, I.D.G.M.K.A.\*\* , J. Hawthorne & **P. Koelemeijer**. “Estimating stress drops on crustal faults using inter-station phase coherence: comparison with the Ridgecrest stress drop validation study”. *In revision for Bul. Seismoc. Soc. America*
- Boudinot, L.A.\*\* , **P. Koelemeijer**, T. Lecocq, R.A. Montgomery, F. Almasri, O. Debeir & B. Mortimer. Chronic anthropogenic seismic noise predicts changes in large mammal space use and activity schedules. *In revision for Communications Earth & Environment*

### Peer-reviewed book chapters

- B1. **Koelemeijer, P.** (2021). “Towards consistent seismological models of the core-mantle boundary landscape”. In: “*Mantle upwellings and surface expressions*”, AGU Monograph edited by Marquardt, Ballmer, Cottaar & Konter, Chapter 9, pp. 229-255, [doi:10.1002/9781119528609.ch9](https://doi.org/10.1002/9781119528609.ch9)

### Peer-reviewed extended abstracts

- A1. Scivier, S.\*\* , T. Nissen-Meyer, **P. Koelemeijer** & A.G. Baydin (2024). “Gaussian processes for probabilistic estimates of earthquake ground shaking: a 1-D proof-of-concept”. *Peer-reviewed conference paper for ML4PS workshop at NeurIPS 2024*, available via [arXiv](https://arxiv.org/abs/2412.03299), [doi:10.48550/arXiv.2412.03299](https://doi.org/10.48550/arXiv.2412.03299)

### Peer-reviewed articles

30. Boudinot, L.A.\*\* , A. Markham, A. Rouviere, K. Jovan, **P. Koelemeijer**, R.A. Montgomery & B. Mortimer (2026). “Activity overlap and sharing of den sites of spotted hyenas, warthogs and armadillos”. *African Journal of Ecology*, 64, no. 5, e70204, [doi: 10.1111/aje.70204](https://doi.org/10.1111/aje.70204)
29. Dromigny, S.\*\* , X. Zhao, T. Reu, **P. Koelemeijer** & A. Curtis (2026). “Approximation bias during marginalization over nuisance parameters in likelihood-based Variational Inference, and its impact on Bayesian solutions”. *Geophys. J. Int.*, Vol. 246(1), ggag180, [doi:10.1093/gji/ggag180](https://doi.org/10.1093/gji/ggag180)
28. Latallerie, F.‡, **P. Koelemeijer**, A.M. Walker, A. Maggi, S. Lambotte & C. Zaroli (2026). “New insights into the cooling of the oceanic lithosphere from surface-wave tomographic inferences”. *Geophys. Res. Lett.*, Vol. 53(4), e2025GL119309, [doi:10.1029/2025GL119309](https://doi.org/10.1029/2025GL119309)
27. Ramadan, F.\*\* , B. Fry, **P. Koelemeijer** & T. Nissen-Meyer (2026). “PGVnet: a machine-learning framework for the generation of rapid, physics-consistent PGV maps”. *Geophys. J. Int.*, Vol. 244(3), ggag008, [doi:10.1093/gji/ggag008](https://doi.org/10.1093/gji/ggag008)
26. Serra, E.\*\* , C. Zaroli, S. Lambotte & **P. Koelemeijer** (2025). “Inference of the S- to P-wave velocity ratio and its uncertainty with an application to South-East Asia”. *Geophys. J. Int.*, Vol. 244 (1), ggaf468, [doi:10.1093/gji/ggaf468](https://doi.org/10.1093/gji/ggaf468)
25. Leung, J.\*\* , A.M. Walker, **P. Koelemeijer**, F. Restelli\*\* & D.R. Davies (2025). “Quantitative assessment of tomographic proxies for lowermost mantle composition and mineralogy”. *PEPI (SEDI special issue)*, vol. 368, 107423, [doi:10.1016/j.pepi.2025.107423](https://doi.org/10.1016/j.pepi.2025.107423)
24. Latallerie, F.‡, C. Zaroli, S. Lambotte, A. Maggi, A. Walker & **P. Koelemeijer** (2025). “Finite-frequency 3D surface-wave SOLA tomography: a synthetic study”. *Seismica*, Vol. 4(2), [doi:10.26443/seismica.v4i2.1407](https://doi.org/10.26443/seismica.v4i2.1407)
23. Davies, J.H., J. Panton, (...), **P. Koelemeijer**, F. Latallerie‡, et al. (2025). “How to assess similarities and differences between mantle circulation models and Earth using disparate independent observations”. *In press, Proc. Roy. Soc. A.*, [doi:10.1098/rspa.2024.0827](https://doi.org/10.1098/rspa.2024.0827)
22. Mag, A.M.\*\* , C. Zaroli & **P. Koelemeijer** (2025). “Bridging the gap between SOLA and Deterministic Linear Inferences in the context of seismic tomography”. *Geophys. J. Int.*, vol. 242(1), ggaf131,

[doi:10.1093/gji/ggaf131](https://doi.org/10.1093/gji/ggaf131)

21. Panton, J., J.H. Davies, **P. Koelemeijer**, J. Ritsema & R. Myhill (2025). "Unique composition and evolutionary histories of large low velocity provinces". *Scientific Reports*, vol. 15, 4466, [doi:10.1038/s41598-025-88931-3](https://doi.org/10.1038/s41598-025-88931-3)
20. Svennevig, K., S.P. Hicks, (...), **P. Koelemeijer**, C. Ebeling, A. Cannata, W.D. Harcourt et al. (2024). "A rockslide-generated tsunami in a Greenland fjord rang Earth for 9 days". *Science*, vol. 385, is. 6714, pp. 1196-1205, [doi:10.1126/science.adm9247](https://doi.org/10.1126/science.adm9247)
19. Restelli, F.\*\*, C. Zaroli & **P. Koelemeijer** (2023). "Robust estimates of the ratio between S- and P-wave velocity anomalies in the Earth's mantle using normal modes". *Phys. Earth. Planet. Int.*, vol. 347, 107135, [doi:10.1016/j.pepi.2023.107135](https://doi.org/10.1016/j.pepi.2023.107135)
18. Trautner\*\*, V.E., S. Stackhouse, A. Turner\*, **P. Koelemeijer**, D.R. Davies, A.S.J. Mendez, N. Satta, A. Kurnosov, H.-P. Liermann & H. Marquardt (2023). "Compressibility of ferropericlase at high-temperature: evidence for the iron spin crossover in seismic tomography". *Earth Planet. Sci. Lett.*, vol. 618, 119296, [doi:10.1016/j.epsl.2023.118296](https://doi.org/10.1016/j.epsl.2023.118296)
17. Richards, F.D., M.J. Hoggard, S. Ghelichkhan, **P. Koelemeijer** and H.C.P. Lau (2023). "Geodynamic, geodetic and seismic constraints favour deflated and dense-cored LLVPs". *Earth Planet. Sci. Lett.*, vol. 602, 117964, [doi: 10.1016/j.epsl/2022/117964](https://doi.org/10.1016/j.epsl/2022/117964)
16. Restelli, F.\*\*, **P. Koelemeijer** & A. Ferreira (2022). "Normal mode observability of radial anisotropy in the Earth's mantle". *Geophys. J. Int.*, vol. 233, is. 1, 663-679, [doi:10.1093/gji/ggac474](https://doi.org/10.1093/gji/ggac474)
15. Ringler, A.T., R.E. Anthony, (...), **P. Koelemeijer**, H.C.P. Lau, V. Lekic, et al. (2022). Achievements and Prospects of Global Broadband Seismographic Networks after 30 Years of Continuous Geophysical Observations. *Reviews of Geophysics*, [doi:10.1029/2021RG000749](https://doi.org/10.1029/2021RG000749)
14. Robson, A.J.S., H.C.P. Lau, **P. Koelemeijer** & B. Romanowicz (2022). An analysis of core-mantle boundary Stoneley mode sensitivity and sources of uncertainty. *Geophys. J. Int.*, Vol. 228(3), 1962-1974, [doi:10.1093/gji/ggab448](https://doi.org/10.1093/gji/ggab448)
13. **Koelemeijer, P.** and J. Winterbourne (2021). "3D printing the world: developing geophysical teaching materials and outreach packages". *Front. Earth Sci.*, Vol. 9, p 297, [doi:10.3389/feart.2021.669095](https://doi.org/10.3389/feart.2021.669095)
12. Chaves, C.A.M., **P. Koelemeijer** and J. Ritsema (2021). "Comparing ray-theoretical and finite-frequency teleseismic traveltimes: implications for constraining the ratio of S-wave to P-wave velocity variations in the lower mantle". *Geophys. J. Int.*, Vol. 224(3), 1540-1552, [doi:10.1093/gji/ggaa534](https://doi.org/10.1093/gji/ggaa534)
11. Lecocq, T., S.P. Hicks, K. Van Noten, K. van Wijk, **P. Koelemeijer**, R.S.M. De Plaen, F. Massin, G. Hillers et al. (2020). "Global quieting of high-frequency seismic noise due to COVID-19 pandemic lockdown measures". *Science*, Vol. 369(6509), 1338-1343, [doi:10.1126/science.abd2438](https://doi.org/10.1126/science.abd2438)
10. Jones, T., R. Maguire, P. van Keken, J. Ritsema and **P. Koelemeijer** (2020). "Subducted oceanic crust as the origin of seismically slow lower mantle structures". *Progress in Earth and Planetary Science*, **7**(17), [doi:10.1186/s40645-020-00327-1](https://doi.org/10.1186/s40645-020-00327-1)
9. **Koelemeijer, P.**, B.S.A. Schuberth, D.R. Davies, A. Deuss and J. Ritsema (2018). "Constraints on the presence of post-perovskite in Earth's lowermost mantle from tomographic-geodynamic model comparisons", *Earth Planet. Sci. Lett.*, **494**, 226-238, [doi:10.1016/j.epsl.2018.04.056](https://doi.org/10.1016/j.epsl.2018.04.056)
8. Mortimer, B., W.L. Rees \*, **P. Koelemeijer** and T. Nissen-Meyer (2018). "Classifying elephant behaviour through seismic vibrations", *Current Biology*, **28**, R547-R548, [doi:10.1016/j.cub.2018.03.062](https://doi.org/10.1016/j.cub.2018.03.062)
7. Zaroli, C., **P. Koelemeijer** and S. Lambotte (2017). "Toward seeing the Earth's interior through unbiased tomographic glasses", *Geophys. Res. Lett.*, **44**, [doi:10.1002/2017GL074996](https://doi.org/10.1002/2017GL074996)
6. **Koelemeijer, P.**, A. Deuss, and J. Ritsema (2017). "Density structure of Earth's lowermost mantle from Stoneley mode splitting observations", *Nature Comm.*, **8**, 15241, [doi:10.1038/ncomms15241](https://doi.org/10.1038/ncomms15241)
5. **Koelemeijer, P.**, J. Ritsema, A. Deuss and H.-J. van Heijst (2016). "SP12RTS: a degree-12 model of shear- and compressional-wave velocity for the Earth's mantle", *Geophys. J. Int.*, **204** (2), 1024-1039, [doi:10.1093/gji/ggv481](https://doi.org/10.1093/gji/ggv481)
4. **Koelemeijer, P.**, A. Deuss, and J. Ritsema (2013). "Observations of core-mantle boundary Stoneley modes", *Geophys. Res. Lett.*, **40** (11), 2557-2561, [doi:10.1002/grl.50514](https://doi.org/10.1002/grl.50514)
3. Soldati, G., **P. Koelemeijer**, L. Boschi and A. Deuss (2013). "Constraints on core-mantle boundary topography from normal mode splitting", *G-cubed*, **14**(5), 1333-1342, [doi:10.1002/ggge.20115](https://doi.org/10.1002/ggge.20115)

2. **Koelemeijer, P.J.**, A. Deuss and J. Trampert (2012). "Normal mode sensitivity to Earth's D'' layer and topography on the core-mantle boundary: What we can and cannot see", *Geophys. J. Int.*, **190** (1), 553–568, [doi:10.1111/j.1365-246X.2012.05499.x](https://doi.org/10.1111/j.1365-246X.2012.05499.x)
1. **Koelemeijer, P.J.**, C.J. Peach and C.J. Spiers (2012). "Surface diffusivity of cleaved NaCl crystals as a function of humidity: Impedance spectroscopy measurements and implications for crack healing in rocksalt", *J. Geophys. Res.*, **117**, B01205, 15 pp. [doi:10.1029/2011JB008627](https://doi.org/10.1029/2011JB008627)

#### Non-peer reviewed publications

3. Curtis, A., K. Lythgoe, S.P. Hicks, L. Bie, (...), **P. Koelemeijer**, et al. (2026). "The UK and Ireland Geophysical Array – Concept and Design". *Astronomy & Geophysics*, Vol. 67(3), p. 3.31-3.37, [doi:10.1093/astrogeo/atag017](https://doi.org/10.1093/astrogeo/atag017)
2. Cottaar, S. and **P. Koelemeijer** (2021). "The interior of Mars revealed" (Perspective), *Science*, Vol. 373(6553), 388-389, [doi:10.1126/science.abj8914](https://doi.org/10.1126/science.abj8914)
1. Kyriakopoulos, C., N. Barth, **P. Koelemeijer**, J. Winterbourne and R. Toussaint (2021). "3D Printing in Geology and Geophysics: Overview and Thoughts on Current Applications" (editorial), *Front. Earth. Sci.*, Vol. 9, p 610, [doi:10.3389/feart.2021.734291](https://doi.org/10.3389/feart.2021.734291)

#### Outreach and other written work

6. **Koelemeijer, P.** and S.P. Hicks (2020). "Coronavirus lockdown reduced seismic activity around the world", *The Conversation*. <https://bit.ly/3rjxAT4>
5. **Koelemeijer, P.** (2018). "Curious Kids: what would happen if the Earth's core went cold?", *The Conversation*, <https://bit.ly/3v4yftV>
4. **Koelemeijer, P.** (2017). "Challenging core beliefs", *The Martlet, University College Oxford*
3. **Koelemeijer, P.** (2017). "A giant lava lamp inside the Earth might be flipping the planet's magnetic field", *The Conversation*, <https://bit.ly/3v1Xq0a>
2. **Koelemeijer, P.J.** (2013). "Robert Stoneley and core-mantle boundary Stoneley modes", *Pembroke College Cambridge Society, Annual Gazette, September 2013*
1. Gregorian, P. and **P.J. Koelemeijer** (2008). "Travertine", in: The Aliaga fieldwork special projects, June 2006: *Transactions of the Utrecht University Geological Survey*

#### Theses / portfolios

4. **Koelemeijer, P.** (2018). "Balancing different perspectives in teaching within the Earth Sciences", *Portfolio (11,843 words) compiled for the Enhancing Teaching Programme in the Sciences, University of Oxford*
3. **Koelemeijer, P.J.** (2014). "Normal mode studies of the long wavelength structures in Earth's lowermost mantle", *PhD Thesis, 58,557 words, University of Cambridge*
2. **Koelemeijer, P.J.** (2010). "Normal mode study of the D'' region and core-mantle boundary topography", *MSc Thesis, 51,582 words, Utrecht University*
1. **Koelemeijer, P.J.** (2008). "Determination of the surface diffusivity of cleaved NaCl crystals in humid environments by impedance spectroscopy", *BSc Thesis, 15,145 words, Utrecht University*