

Dr Augustin Marignier CV

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Publications

- **A. Marignier**, C. M. Eakin, B. Hejrani, S. Agrawal, R. Hassan (2024). Sediment thickness across Australia from passive seismic methods. *GJI*
- W. Sturgeon, A. M. G. Ferreira, L. Schardong, **A. Marignier** (2023). Crustal structure of the Western U.S. from Rayleigh and Love wave amplification data. *JGR: Solid Earth*
- **A. Marignier** (2023). PxMCMC: A Python package for proximal Markov Chain Monte Carlo. *JOSS*
- **A. Marignier**, T. D. Kitching, J. D. McEwen, A. M. G. Ferreira (2023). Sparse Bayesian mass-mapping using trans-dimensional MCMC. *OJA*
- **A. Marignier** (2023). From Dark Matter to the Earth's Deep Interior: There and Back Again. *Doctoral Thesis (Ph.D)*, UCL
- **A. Marignier**, J. D. McEwen, A. M. G. Ferreira, T. D. Kitching (2023). Posterior sampling for inverse imaging problems on the sphere in seismology and cosmology. *RASTI*
- O. J. Cobb, C. G. R. Wallis, A. N. Mavor-Parker, **A. Marignier**, M. A. Price, M. d'Avezac, J. D. McEwen (2021). Efficient Generalized Spherical CNNs. *ICLR*
- **A. Marignier**, A. M. G. Ferreira, T. D. Kitching (2020). The Probability of Mantle Plumes in Global Tomographic Models. *G3*
- A. M. G. Ferreira, **A. Marignier**, J. Attanyake, M. Frietsch, A. Berbellini (2020). Crustal structure of the Azores Archipelago from Rayleigh wave ellipticity data. *GJI*

Professional History

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| Jan 23 - Dec 23 | PDRA Seismology, Research School of Earth Sciences, ANU |
| Sep 22 - Dec 22 | PDRA Seismology, Department of Earth Sciences, UCL |
| Jun 22 | Scientist, Land seismometer deployment, Azores |
| Jun 21 - Aug 21 | Scientist, UPFLOW Ocean-bottom Seismometer deployment, Atlantic Ocean |
| Oct 19 - May 20 | Machine Learning Intern, KageNova Ltd. |
| Oct 18 - Sep 22 | PhD Student, Centre for Doctoral Training in Data Intensive Science, UCL |

Talks

- Proximal Markov chain Monte Carlo: Towards building a sparse Earth model
SSA Virtual Tomography Sessions. 02/02/21
- Proximal Markov Chain Monte Carlo: Towards Building a Sparse Earth Model
AGU Fall Meeting 2021 - Winner of the AGU Seismology Section Outstanding Student Presentation Award**. 13/12/21
- Cosmological mass-mapping with trans-dimensional trees
3rd IMA Conference on Inverse Problems from Theory to Application. 04/05/22
- Probabilistic inverse imaging methods in seismology and cosmology
ANU RSES Seminar. 20/07/23
- Characterising the cover of the Australian continent with passive seismic methods
Geoscience Australia - Exploring for the Future Seminar. 24/10/23
- Sedimentary Thickness Across Australia from Passive Seismic Methods
AGU Fall Meeting 2023. 20/12/23

Teaching

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| 2021 - 2022 | Machine Learning with Big Data, UCL |
| 2019 - 2021 | Seismology II, UCL |
| 2019 - 2021 | Field Geophysics, UCL |
| 2017 - 2021 | MATLAB, UCL |

Journal Peer Reviews

- Geophysical Journal International
- Journal of Geophysical Research - Solid Earth
- Physics of the Earth and Planetary Interiors

Education

2022 PhD Data Intensive Science, University College London
From Dark Matter to the Earth's Deep Interior: There and Back Again
Supervised by Prof Ana Ferreira and Prof Thomas Kitching
Submitted 30/9/22, Defended 6/12/22, Awarded 28/1/23

2018 MSci Geophysics, University College London
First Class Honours
Rayleigh wave ellipticity inversion for crustal velocity structure
Supervised by Prof Ana Ferreira