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Will Eaton

EDUCATION

Princeton University, USA *(2021 - Present)*
Graduate Student in Theoretical and Computational Seismology
Advisor: Professor Jeroen Tromp
Current GPA: 4.0

University of Oxford, UK *(2016 - 2021)*
Integrated BA and MEarth Sci in Earth Sciences - First Class Honours
Advisor: Professor Tarje Nissen-Meyer

John Hampden Grammar School, High Wycombe, UK *(2009 - 2016)*
*A Levels (4 A*s), AS Level (1 A) and GCSE's (10 A*s, 2 As)*

RESEARCH EXPERIENCE AND PROJECTS

Graduate studies in Theoretical and Computational Seismology *(2021 - Present)*
Elasto-gravitational numerical modelling on realistic, 3D Earth models

- Development of quasi-static, spectral-infinite-element modelling software for applications in glacio-isostatic adjustment and sea-level change.
- Benchmarking of global-scale, elastic-wave-propagation simulations using normal-mode-summation codes.
- Investigation and simulation of transient, seismically-induced gravity signals for earthquake early-warning systems and tsunami monitoring, and synthetic spectra of Earth's free oscillations for arbitrarily-complex, 3D Earth models.
- Supervised by Professor Jeroen Tromp (Princeton University) in collaboration with Professor Hom Nath Gharti (Queen's University)

Master's Thesis *(2020 - 2021)*
Seismic scattering on Mars, Earth, its moon and supercomputers

- Investigating physical parameters facilitating a transition from ballistic to diffuse scattering behaviour of elastic waves.
- Numerical wave propagation through 3D heterogeneous media using AxiSEM3D.
- Development and application of novel analytical techniques such as (moving-window) multi-scale entropy to synthetic seismograms.
- Analysis of Lunar Apollo and Martian InSight seismic data using these novel techniques to compare scattering behaviour.
- Supervised by Professor Tarje Nissen-Meyer.

Batchelor's Extended Essay *(2020)*
Seismic heterogeneity and anisotropy in Earth's inner core and the implications for inner core dynamics

- Independent literature research project to produce 4000-word, review-paper-style extended essay.
- Skills gained in critical analysis of publications and synthesis/processing of publically-available data.

Undergraduate geological mapping project *(2019 - 2020)*
Geology and tectonic history of Saint-Chinian, Languedoc, France

- Independent 6-week fieldwork project studying bedrock and collecting samples over 21 km^2, followed by sample analysis culminating in 5000-word report.

REVIEWED ARTICLES

2023 — Gharti, H. N., **EATON, W. P.**, TROMP, J. Spectral-infinite-element simulations of seismic wave propagation in self-gravitating, rotating 3D Earth models., 2023. *Geophysical Journal International*

CONFERENCE PROCEEDINGS

2023 — **EATON, W. P.**, GHARTI, H. N., TROMP, J., Spectral-infinite-element modelling of GIA and sea-level change. In *POLENET 2023 GIA Training School* (Gävle, Sweden, July 2023)

2022 — **EATON, W. P.**, GHARTI, H. N., TROMP, J., Seismic wave propagation in self-gravitating Earth models with 3D heterogeneity. In *AGU Fall Meeting 2022* (Chicago, IL, December 2022)

EATON, W. P., HAINDL, C., NISSEN-MEYER, T., The transition from ballistic to diffuse wavefields on Earth, its Moon and Mars. In *AGU Fall Meeting 2022* (Chicago, IL, December 2022)

GHARTI, H. N., **EATON, W. P.**, TROMP, J., Spectral-infinite-element simulations of seismic wave propagation in self-gravitating, 3D Earth models. In *SSA Seismic Tomography: What comes next?* (Toronto, Canada, October 2022)

DEPARTMENTAL SEMINARS

2022 — *'Elasto-gravitational simulations on a realistic 3D Earth'*. UTIG Discussion Hour Seminar, University of Texas at Austin. Virtual, 28th November 2022. Click here to view.

AWARDS

2023 — **Myhrvold-Havranek Graduate Fellowship** - *Dept. of Geosciences, Princeton University*

2021 — **Shell Prize** - *Dept. of Earth Sciences, Oxford University*
Best overall performance in Earth Sciences Final Honours School.
Schlumberger Prize - *Dept. of Earth Sciences, Oxford University*
Best 4th Year performance in Geophysics.

2020 — **Gibbs Prize** - *Dept. of Earth Sciences, University of Oxford*
Best undergraduate independent research (geological mapping) project.
Burdett-Coutts Prize - *Dept. of Earth Sciences, University of Oxford*
Best overall 3rd Year performance in Earth Sciences Final Honours School.
University College Scholarship - *University College, University of Oxford*
Scholar status awarded in recognition of academic excellence.

2019 — **Keith Cox Prize** - *Dept. of Earth Sciences, University of Oxford*
Best 2nd year fieldwork during Assynt fieldtrip, Scotland.
University College Scholarship - *University College, University of Oxford*
Scholar status awarded in recognition of academic excellence.

2018 — **International Seismological Centre Prize** - *Dept. of Earth Sciences, University of Oxford*
Best 1st Year student in Mathematics and Geophysics.

2017 — **University College Exhibition** - *University College, University of Oxford*
Exhibitioner status awarded in recognition of academic excellence.

SKILLS

Programming: FORTRAN, Git, LaTeX, MATLAB, Python, UNIX
Software & Tools: ArcGIS PRO, Adobe Illustrator, Paraview, AxiSEM-3D, SPECFEM

PROFESSIONAL ASSOCIATIONS AND MEMBERSHIPS

American Geophysical Union *January 2021 - Present*
Seismological Society of America *February 2021 - Present*