

Publications

Frost, Daniel A.; Romanowicz, Barbara: On the orientation of the fast and slow directions of anisotropy, *Phys. Earth Planet. Int.*, *in press*

Frost, Daniel A.; Garnero, Edward J.; Rost, Sebastian, Dynamical links between small- and large-scale mantle heterogeneity: seismological evidence, *Earth Planet. Sci. Lett.*, 2018, 482, p. 135-146

Frost, Daniel A.; Romanowicz, Barbara, Constraints on Inner Core anisotropy using array observations of P'P', *Geophys. Res. Lett.*, 2017, 44, p. 10,878-10,886

Frost, Daniel A.; Rost, Sebastian; Garnero, Edward J.; Li, Mingming; Seismic evidence for Earths crusty deep mantle, *Earth Planet. Sci. Lett.*, 2017, 470, p. 54-63

Rader, Erika; Emry, Erica; Schmerr, Nicholas; **Frost, Daniel A.**; Cheng, Cheng; Menard, Julie; Yu, Chunquan; Geist, Dennis, Characterization and Petrological Constraints of the Midlithospheric Discontinuity, *G-Cubed*, 2015, p. 3484-3504

Rost, Sebastian; Earle, Paul S.; Shearer, Peter M.; **Frost, Daniel A.**; Selby, Neil D; Seismic Detections of small-scale heterogeneities in the deep Earth, Springer Monograph, 2015, in *The Earths Heterogeneous Mantle*, c. 12, p. 367-390

Frost, Daniel A.; Rost, Sebastian; The P-wave Boundary of the Large-Low Shear Velocity Province beneath the Pacific, *Earth Planet. Sci. Lett.*, 2014, 403, p. 380-392

Frost, Daniel A.; Rost, Sebastian; Selby, Neil D.; Stuart, Graham W., Detection of a tall ridge at the core-mantle boundary from scattered PKP energy, *Geophys. J. Int*, 2013, 195, p. 558-574

Publications - in preparation

Frost, Daniel A.; Romanowicz, Barbara; Lasbleis, Marine; Chandler, Brian: Inner core dynamics from patterns of seismic anisotropy

Frost, Daniel A.; Garnero, Edward J.: The influence of lower mantle structure on resolution of the Earths core

Frost, Daniel A.; Rost, Sebastian: Physical properties of scattering heterogeneities throughout the mantle

Non-peer reviewed work

Frost, Daniel A.; Romanowicz, Barbara: On the different flavours of seismic reference models, <https://escholarship.org/uc/item/7wb6377n>

Invited Presentations

2017 European Geophysical Association General Assembly Vienna

Frost, Daniel A.*; Rost, Sebastian; Garnero, Edward J.; Romanowicz, Barbara; The dynamic connection between small and large-scale mantle heterogeneity

2015 American Geophysical Union Fall Meeting San Francisco

Frost, Daniel A.*; Rost, Sebastian; Garnero, Edward J.; Seismic detection of oceanic crust in Earths lower mantle and its relation to large-scale mantle structure

2013 European Geophysical Association General Assembly Vienna

Frost, Daniel A.*; Rost, Sebastian; Selby, Neil D.; A global study of the lowermost mantle using scattered PKKP waves (PK●KP)

2012 Faculty of Environment Conference Leeds

Frost, Daniel A.*; Rost, Sebastian; Selby, Neil D.; Stewart, Graham W.; The Earth in detail: Seismology as a tool for studying the Earth's fine-scale structure

2012 Congres de Doctorants IPGP, Paris

Frost, Daniel A.*; Rost, Sebastian; Selby, Neil D.; Stuart; PKP Scattering: Detecting a Heterogeneous Ridge Above the Core-Mantle Boundary

Proposals - funded

2018 National Science Foundation Geophysics program

Value: \$152,142 *Resolving the influence of mantle heterogeneity on estimates of inner core anisotropy*

Co-authored with Barbara Romanowicz. Named researcher.

2014 National Science Foundation Cooperative Studies Of The Earth's Deep Interior program

Value: \$550,121 *Deep Mantle Cycling of Oceanic Crust*

This proposal was authored by PIs at ASU, but the seismological investigations (one third of the proposed activities) were built around my skill base, to specifically fund my involvement in the multidisciplinary research

2014 Preparatory Commission for the Comprehensive Nuclear Test-ban Treaty Organization (CTBTO)
Young Scientist Research Award

Value: 9 months *Characterisation of small-scale heterogeneities beneath IMS arrays for improved source location and magnitude estimation*

Authored proposal and the project was awarded, but I turned this down to accept a postdoctoral position at Arizona State University

Proposals - in preparation

2018 National Science Foundation Geophysics program

Combining global tomographic inversions with geodynamical growth models to constrain the origins of Earth's inner core features

Co-authored with PIs at New Mexico State University and Wayne State University. Named researcher supporting seismic analysis.

Campus Presentations

2018 Seismological Laboratory Seminar California Institute of Technology
Frost, Daniel A.*; Seismological evidence of the dynamical links between small- and large-scale mantle structure

2018 Department of Physics Colloquium New Mexico State University
Frost, Daniel A.*; The dynamical links between small- and large-scale mantle structures: seismological evidence

2016 Deep Thoughts Earth and Life Science Institute, Tokyo
Frost, Daniel A.*; Seismically mapping kilometre-scale structures throughout the mantle

2016 Berkeley Seismological Lab Seminar University of California, Berkeley
Frost, Daniel A.*; Seismically mapping kilometre-scale structures throughout the mantle

Presentations

- 2018 Study of Earths Deep Interior Edmonton
Frost, Daniel A.*; Romanowicz, Barbara; Axially dependent Inner Core anisotropy from low order inner core convection
- 2018 Dynamics and evolution of Earths coupled core-mantle system Royal Astronomical Society
Frost, Daniel A.*; Romanowicz, Barbara; Axially dependent Inner Core anisotropy from low order inner core convection
- 2017 American Geophysical Union Fall Meeting San Francisco
Frost, Daniel A.*; Romanowicz, Barbara; Investigating the source of anomalous PKP travel times on South-Sandwich to Alaska paths
- 2017 Gordon Research Conference: Interior of the Earth Mount Holyoke
Frost, Daniel A.*; Romanowicz, Barbara; Constraints on Inner Core structure from P'P' array-based observations
- 2017 Gordon Research Seminar: Interior of the Earth Mount Holyoke
Frost, Daniel A.*; Romanowicz, Barbara; Constraints on Inner Core structure from P'P' array-based observations
- 2017 European Geophysical Association General Assembly Vienna
Frost, Daniel A.*; Romanowicz, Barbara; Constraints on Inner Core structure from P'P' array-based observations
- 2016 American Geophysical Union Fall Meeting San Francisco
Frost, Daniel A.*; Romanowicz, Barbara; Constraints on Inner Core structure from P'P' array-based observations
- 2016 American Geophysical Union Fall Meeting San Francisco
Ko, Byeongkwan; Holt, Adam; Gao, Chao; **Frost, Daniel A.***; Karaoglu, Haydar; Lai, Hongyu; Yuan, Kaiqing; Li, Mingming; Campbell, Siobhan M.; Shim, Sang-Heon; Irving, Jessica C. E.; Kellogg, Louise H.; Miller, Samantha M.; Probing the lower mantle composition and thermal structure: Insights from D''
- 2016 Study of Earths Deep Interior Nantes
Frost, Daniel A.*; Garnero, Edward J.; Rost, Sebastian; Connection across scales of seismic heterogeneity throughout the mantle
- 2015 American Geophysical Union Fall Meeting San Francisco
Frost, Daniel A.*; Garnero, Edward J.; TA sub-array measurements of SmKS ray parameters to determine lower mantle influence
- 2014 American Geophysical Union Fall Meeting San Francisco
Frost, Daniel A.*; Rost, Sebastian; Garnero, Edward J.; A dynamical context for small-scale heterogeneity throughout the mantle beneath subduction
- 2014 Study of Earth's Deep Interior Kanagawa, Japan
Frost, Daniel A.*; Rost, Sebastian; Selby, Neil D.; A global study of the lowermost mantle using short and long period scattered PKKP waves (PK●KP)
- 2013 American Geophysical Union Fall Meeting San Francisco
Frost, Daniel A.*; Rost, Sebastian; Selby, Neil D.; A global study of the lowermost mantle using short and long period scattered PKKP waves (PK●KP)
- 2013 American Geophysical Union Fall Meeting San Francisco

Frost, Daniel A.*; Rost, Sebastian; Constraining lower mantle anomalies using USArray

2013 American Geophysical Union Fall Meeting San Francisco
Rost, Sebastian; **Frost, Daniel A.***; The distribution of small-scale heterogeneity at the core-mantle boundary

2013 BGA Postgraduate Research in Progress Meeting Cambridge
Frost, Daniel A.*; Rost, Sebastian; Selby, Neil D.; A global study of the lowermost mantle using scattered PKKP waves (PK●KP)

2013 Gordon Research Conference: Interior of the Earth Mount Holyoke
Frost, Daniel A.*; Rost, Sebastian; Selby, Neil D.; A global study of the lowermost mantle using scattered PKKP waves (PK●KP)

2013 Gordon Research Seminar: Interior of the Earth Mount Holyoke
Frost, Daniel A.*; Rost, Sebastian; Selby, Neil D.; Stewart, Graham W.; PKP Scattering: Detecting a Heterogeneous Ridge Above the Core-Mantle Boundary

2012 Structure and Dynamics of Earth's Deep Mantle College de France
Frost, Daniel A.*; Rost, Sebastian; Selby, Neil D.; PKKP Scattering: A tool for the global study of the Core-Mantle Boundary

2012 BGA Postgraduate Research in Progress Meeting Leeds
Frost, Daniel A.*; Rost, Sebastian; Selby, Neil D.; PKKP Scattering: A tool for the global study of the Core-Mantle Boundary

2012 Study of Earth's Deep Interior Leeds
Frost, Daniel A.*; Rost, Sebastian; Selby, Neil D.; PKKP Scattering: Towards a global study of the Core-Mantle boundary

2011 American Geophysical Union Fall Meeting San Francisco
Frost, Daniel A.*; Rost, Sebastian; Selby, Neil D.; Stuart, Graham W., PKP Scattering: Detecting a heterogeneous ridge about the Core-Mantle boundary

2011 BGA Postgraduate Research in Progress Meeting Oxford
Frost, Daniel A.*; Rost, Sebastian; Selby, Neil D.; Stuart, Graham W., PKP Scattering: Detecting a heterogeneous ridge about the Core-Mantle boundary

Teaching Experience

University of California, Berkeley

Guest lectures: Physics of the Earth's Interior EPS122 (2017)

Arizona State University

Undergraduate student pitching workshop (2015)

The University of Leeds

Teaching assistant: Global Seismology (2011, 2012, 2013)

Guest lecture on graduate research: Global Seismology (2013)

Teaching assistant: Computing (2011, 2012, 2013)

Teaching assistant: Geological fieldwork courses (2011, 2012, 2013)

Teaching assistant: Petrology (2013)

Teaching assistant: Inverse theory (2012)

Teaching assistant: Geological map skills (2012)

Organised lab-wide discussion meetings on recent seismicity and professional development
Postdoc representative on UC Berkeley Seismological Lab web design committee
Co-organised Berkeley Seismological Lab seminar series in winter 2016
Organised research group-wide social meetings at Arizona State University
Postgraduate student representative at both the research institute and school level at University of Leeds

Outreach

Engaged with the public at a question and answer session as part of The Bay Area Science Festival 2018
Presented on behalf of UC Berkeley Seismological Lab at the City of Berkeley ShakeOut
Presented at UC Berkeley Compass to advertise geophysics research to the broader science community
Presented at UC Berkeley CalDay on Earth's core
Supported Berkeley Seismological Laboratory at UC Berkeley CalDay
Taught statistical analysis to students for science fair projects in a Bay Area middle school
STEM mentor for Be A Scientist program in a Bay Area middle school
Taught seismology to 6th grade students with Bay Area Science in Schools (BASIS)
Presented on behalf of UC Berkeley Seismological Lab at the Bay Area Science Festival 2017

Professional Development

University of California, Berkeley Postdoctoral Development Courses, 2016
Attended classes on management and Python programming
Arizona State University Postdoctoral Development Courses, 2015
Attended classes on pitching and job application writing
IRIS Webinar Series, 2015
Attended webinars on programming skills and career development