

IAN ROSE

Data scientist/geologist

PERSONAL INFORMATION

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EDUCATION AND WORK

<i>Postdoctoral Fellow</i>	2016-2017	The University of California, Berkeley Berkeley Institute for Data Science Core developer for Project Jupyter, developing the next-generation frontend for Jupyter notebooks: JupyterLab
	2009-2016	The University of California, Berkeley Earth and Planetary Science Thesis: <i>True polar wander on convecting planets</i> Advisor: Professor Bruce Buffett
<i>Ph.D.</i>		
<i>B.S.</i>	2005-2009	Yale University Geology and Physics Thesis: <i>Paleomagnetism of Mafic Dikes in the Northern Pilbara Craton, Western Australia</i> Advisor: Professor Dave Evans Thesis: <i>Mantle rheology and the scaling of bending dissipation in plate tectonics</i> Advisor: Professor Jun Korenaga

PUBLICATIONS

Swanson-Hysell, N., Ramezani, J., Fairchild, L., and Rose, I.. *Failed rifting and fast drifting: Midcontinent Rift development, Laurentia's rapid motion and the driver of Grenvillian orogenesis*. Submitted to the Geological Society of America Bulletin

Rose, I. and Buffett, B.. *Scaling for rates of true polar wander in convecting planets and moons*. Physics of the Earth and Planetary Interiors, Volume 273. 2017.

Rose, I., Buffett, B., and Heister, T. *Stability and accuracy of free surface time integration in viscous flows*. Physics of Earth and Planetary Interiors, volume 262. 2017

Cottaar, S., Heister, T., Rose, I., and Unterborn, C.. *BurnMan: A lower mantle mineral physics toolkit*. Geochemistry, Geophysics, Geosystems, 2014.

COMPUTING

<i>Languages</i>	C, C++, Javascript, Typescript, Python, MATLAB/Octave, bash, awk, HTML
<i>Software</i>	L ^A T _E X, vim, git, node, Jupyter notebooks, standard *nix tools
<i>Operating systems</i>	Linux, Mac OS X, Windows

SOFTWARE PROJECTS

<i>ASPECT</i>	Finite element software for mantle and lithospheric dynamics simulation. (frequent contributor)
<i>BurnMan</i>	Python library for generating thermodynamic and thermoelastic models of planetary materials. (co-author)
<i>Interactive Earth</i>	Educational software for teaching about the physics of planetary interiors, including thermal and thermochemical convection and seismic tomography. (author)
<i>JupyterLab</i>	Next generation front-end for Jupyter. (core developer)
<i>buckinghampy</i>	Small educational Python module for performing dimensional analysis. (author)

TEACHING

EPS 50: Planet Earth. TA: Fall 2011, Fall 2012

EPS 109: Computer Simulations in Earth and Planetary Science. TA: Fall 2013

EPS 108: History and Evolution of Planet Earth. TA: Spring 2014

TALKS AND CONFERENCE PROCEEDINGS

Colbert, C., Granger, B., and Rose, I. *JupyterLab, the next-generation Jupyter frontend*, JupyterCon, 2017

Colbert, C., Granger, B., and Rose, I. *JupyterLab + Realtime Collaboration*, PyData Seattle, 2017

Rose, I. *Interactive investigations into planetary interiors*. Talk, AGU Fall Meeting 2015

Rose, I., Buffett, B., and Heister, T. *Stable time integration of a free surface in geodynamics simulations*. Poster, AGU Fall Meeting 2015

Rose, I. *True polar wander in convecting planets*. Computational Math seminar, Clemson University, April 2014

Cottaar, S., Heister, T., Rose, I., and Unterborn, C., *An introduction to BurnMan*. Computational Infrastructure for Geodynamics Webinar, October 2015

Rose, I. and Buffett, B.. *Continents and Earth's rotational stability*. Poster, AGU Fall Meeting 2014

Rose, I. and Buffett, B.. *Rates of true polar wander in convecting planets*. Poster, SEDI meeting 2014

Rose, I. and Buffett, B.. Poster, AGU Fall Meeting 2012

Rose, I. and Buffett, B.. Poster, AGU Fall Meeting 2011

Rose, I. and Manga, M.. Poster, AGU Fall Meeting 2010

October 30, 2017