

# ROSS MAGUIRE

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PERSONAL           rmaguire@umd.edu

INFORMATION       +1-734-277-5484

🐙 [www.github.com/romaguire](https://www.github.com/romaguire)

EDUCATION           PhD, Earth and Environmental Sciences  
University of Michigan, September 2012 – April 2018

BS, Geological Sciences  
Michigan State University, May 2011

WORK               Post Doctoral Research Associate  
EXPERIENCE       University of Maryland, May 2018 – present

Petrology Lab Manager  
Michigan State University, September 2010 - July 2012

TEACHING           University of Maryland (Guest Lecturer / Field Assistant)  
EXPERIENCE

- GEOL 447 : Observational Geophysics
- GEOL 460 : Field Geophysics
- GEOL 789E : Active Tectonics

University of Michigan (Graduate Student Instructor)

- EARTH 118/119 : Introduction to Geology (x4)
- EARTH 440 : Geology Field Course, Camp Davis Wyoming (x2)

PEER REVIEWED  
PUBLICATIONS

Ritsema, J., **Maguire, R.**, Cobden, L., Goes, S., Seismic Analyses of Plume Conduits in the Deep Mantle. (*To be submitted Nov. 30, 2018 as an invited paper to the AGU Monograph, "Mantle Convection and Surface Expressions"*)

Hurford, T., Henning, W.G., **Maguire, R.**, Lekic, V., Schmerr, N., Panning, M., Manga, M., Kattenhorn, S.A., Nimmo, F., Quick, L.C., Rhoden, A.R. (*Submitted to Icarus*) Seismicity on Tidally Active Solid-Surface Worlds

**Maguire, R.**, Ritsema, J., Goes, S. (2018). Evidence of subduction related thermal and compositional heterogeneity below the United States from transition-zone receiver functions *Geophysical Research Letters*

**Maguire, R.**, Ritsema, J., van Keken, P.E., Bonnin, M., Goes, S. (2018). Evaluating the resolution of deep mantle plumes in teleseismic traveltimes tomography. *Journal of Geophysical Research : Solid Earth*

**Maguire, R.**, Ritsema, J., Goes, S. (2017) Signals of 660-km topography and harzburgite enrichment in seismic images of upwellings. *Geophysical Research Letters*

**Maguire, R.**, Ritsema, J., van Keken, P. E., Fichtner, A., Goes, S. (2016). P and S wave delays caused by thermal plumes. *Geophysical Journal International*

CONFERENCE  
PRESENTATIONS

American Geophysical Union Fall Meeting, December 2018

**Maguire, R.**, Schmerr, N., Lekic, V., Hurford, T.A. *Performance of a broadband seismometer on Europa and implications for the detection of liquid water below its icy surface*

Moulik, P., Havlin, C., **Maguire, R.**, Lekic, V. *Real-time interactive analyses and visualization of massive and diverse seismological observations (Invited)*

American Geophysical Union Fall Meeting, December 2017

**Maguire, R.**, Ritsema, J. *Seismic observation of a sharp post-garnet phase transition within the Farallon crust*

Gordon Research Conference : Interior of the Earth, June 2017

**Maguire, R.**, Ritsema, J., Goes, S. *Tomographic evidence for basalt segregation in the uppermost lower mantle*

**Maguire, R.**, Ritsema, J., Goes, S. *Seismic evidence for a subducted oceanic plateau beneath the southeastern USA*

Michigan Geophysical Union research symposium, April 2017

**Maguire, R.**, Ritsema, J. *Imaging the mantle transition zone with the USArray*

American Geophysical Union Fall Meeting, December 2016

**Maguire, R.**, Ritsema, J., Bonnín, M., van Keken, P.E., Fichtner, A., Goes, S. *Resolving plume tails in the lower mantle with finite frequency tomography : Insight from synthetic experiments*

Study of Earth's Deep Interior Symposium, July 2016

**Maguire, R.**, Ritsema, J. *Modelling the basalt fraction in the transition zone using P-to-S conversions*

American Geophysical Union Fall Meeting, December 2014

**Maguire, R.**, Ritsema, J., van Keken, P.E., Fichtner, A., Goes, S. *Investigating the effects of mantle plumes on 3D seismic waveforms*

C.I.G. Mantle Convection & Lithosphere Dynamics Workshop, May 2014

**Maguire, R.**, van Keken, P.E., Dibble, M., Davaille, A. *Modelling laboratory plumes with numerical techniques : validation, verification, and determination of fluid properties*

AWARDS

December, 2018 – American Geophysical Union Study of the Earth's Deep Interior Graduate Research Award

March, 2018 – NSF-EAR postdoctoral fellowship (To begin July, 2019)

April, 2017 – Michigan Geophysical Union Best student presentation award

June, 2016 – XSEDE Resource Allocation (\$26,718 worth of computing resources)

May, 2016 – Scott Turner Research Grant (\$1,700)

March, 2015 – XSEDE Resource Allocation (\$26,718 worth of computing resources)

May, 2014 – Scott Turner Research Grant (\$1,500)

COMPUTER  
SKILLS

Programming Languages

Python, Fortran, Matlab, Linux Shell

Seismic Modelling

SPECFEM3D, SPECFEM2D, SES3D, AxiSEM, Mineos, Instaseis

Other Software

ASPECT (mantle convection software), Septran (general finite element package), ANSYS (CFD package), Cubit/Trelis (meshing software), ArcGIS

Plotting and Visualization

GMT, Paraview, Matplotlib, Mayavi

RELEVANT  
COURSEWORK

Graduate

Seismology, Tectonics, Tectonophysics, Linux Computing, Geophysical Fluid Dynamics, Fluid Mechanics II

Undergraduate

Mineralogy, Petrology, Structural Geology, Applied Geophysics, Principles of Modern Geophysics, Geology Field Camp

CONTACTS

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Nick Schmerr, University of Maryland (nschmerr@umd.edu)

Peter van Keken, Carnegie Institution for Science (pvankeken@carnegiescience.edu)

Saskia Goes, University College, London (s.goes@imperial.ac.uk)