Ross Maguire

Personal Information

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www.github.com/romaguir

Education

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

BS, Geological Sciences
Michigan State University, May 2011

Work Experience

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

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

Teaching Experience

University of Maryland (Guest Lecturer / Field Assistant)

- 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 Jan. 15, 2019 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., Bray, V.J., Manga, M., Kattenhorn, S.A., 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 traveltime 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., Bonnin, 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), Sepran (general finite element package), ANSYS (CFD package), Cubit/Trelis (meshing sofware), 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)
Vedran Lekic (ved@umd.edu)
Peter van Keken (pvankeken@carnegiescience.edu)