

## Jessica M. Warren - Associate Professor, University of Delaware

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### EDUCATION

- 2007 **Ph.D.** in Geochemistry and Geophysics, MIT/WHOI Joint Program  
*The Oceanic Upper Mantle: Rheological and Geochemical Constraints*  
Advisors: Greg Hirth, Nobumichi Shimizu, Henry J. B. Dick
- 2003 **M.A.** in Natural Sciences, University of Cambridge
- 2000 **M.Sci.** in Earth Sciences, University of Cambridge
- 1999 **B.A. First Class** in Natural Sciences, University of Cambridge

### APPOINTMENTS

- 2018-present **Associate Professor**, Department of Geological Sciences, University of Delaware
- 2015-2018 **Assistant Professor**, Department of Geological Sciences, University of Delaware
- 2014-present **Research Associate**, National Museum of Natural History, Smithsonian Institution
- 2014-2016 **Visiting Investigator**, Dept. of Terrestrial Magnetism, Carnegie Institution for Science
- 2015 **Sabbatical Visitor**, Dept. of Earth Sciences, University of Oxford
- 2010-2015 **Assistant Professor**, Dept. of Geological Sciences, Stanford University
- 2008-2014 **Guest Investigator**, Dept. of Geology & Geophysics, Woods Hole Oceanographic Inst.
- 2008-2010 **Postdoctoral Fellow**, Dept. of Terrestrial Magnetism, Carnegie Institution for Science
- 2007 **Postdoctoral Investigator**, Geology & Geophysics, Woods Hole Oceanographic Inst.
- 2005-2006 **COE-21 Collaborative Researcher**, Okayama University at Misasa
- 2001-2007 **Research Assistant**, Dept. of Geology & Geophysics, Woods Hole Oceanographic Inst.

### HONORS AND AWARDS

- 2013-2018 CAREER Award, National Science Foundation
- 2015 Stanford Presidential Research Grants for Junior Faculty
- 2013-2015 Frederick E. Terman Fellowship, Stanford University
- 2011 Stanford Presidential Research Grants for Junior Faculty
- 2008-2010 Carnegie Postdoctoral Fellow, Carnegie Institution of Washington
- 2002-2003 Stanley W. Watson Fellowship, MIT/WHOI Joint Program
- 2001-2002 Charles Davis Hollister Fellowship, MIT/WHOI Joint Program
- 1998-1999 Skerne Scholarship, University of Cambridge

### REFEREED PUBLICATIONS

(\*invited; † Warren lab member; ‡ student collaborating with lab)

D'Errico, M.E.<sup>†</sup>, M.A. Coble, and **J.M. Warren**. In situ measurements of lead and other trace elements in abyssal peridotite sulfides, *American Mineralogist*, in revision for the special issue on *Planetary Processes as Revealed by Sulfides and Chalcophile Elements*.

Nevitt, J.M., **J.M. Warren**, K.M. Kumamoto<sup>†</sup>, and D.D. Pollard, 2019. Using geologic structures to constrain constitutive laws not accessible in the laboratory, *Journal of Structural Geology* – 40<sup>th</sup> An-

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*niversary Issue*, accepted, doi:10.1016/j.jsg.2018.06.006.

- Birner, S.K.<sup>†</sup>, E. Cottrell, **J.M. Warren**, K.A. Kelley, and F.A. Davis, 2018. Peridotites and basalts reveal broad congruence between two independent records of mantle  $f_{O_2}$  despite local redox heterogeneity, *Earth and Planetary Science Letters*, 494, 172-189, doi:10.1016/j.epsl.2018.04.035.
- Birner, S.K.<sup>†</sup>, **J.M. Warren**, E. Cottrell, F.A. Davis, K.A. Kelley, and T.J. Falloon, 2017. Forearc peridotites from Tonga record heterogeneous oxidation of the mantle following subduction initiation, *Journal of Petrology*, 58, 1755-1780, doi:10.1093/petrology/egx072.
- Kumamoto, K.M.<sup>†</sup>, C.A. Thom<sup>‡</sup>, D. Wallis, L.N. Hansen, D.E.J. Armstrong, **J.M. Warren**, D. Goldsby, and A.J. Wilkinson, 2017b. Size effects resolve discrepancies in 40 years of work on low-temperature plasticity in olivine, *Science Advances*, 3, e1701338, doi:10.1126/sciadv.1701338.
- Nevitt, J.M.<sup>†</sup>, **J.M. Warren**, and D.D. Pollard, 2017b. Testing constitutive equations for brittle-ductile deformation associated with faulting in granitic rock, *Journal of Geophysical Research*, 122, 6269-6293, doi:10.1002/2017JB014000.
- Nevitt, J.M.<sup>†</sup>, **J.M. Warren**, S. Kidder, and D.D. Pollard, 2017a. Comparison of thermal modeling, microstructural analysis, and Ti-in-quartz thermobarometry to constrain the thermal history of a cooling pluton during deformation in the Mount Abbot Quadrangle, CA, *Geochemistry, Geophysics, Geosystems*, 18, 1270-1297, doi:10.1002/2016GC006655.
- Day, J.M.D., R.J. Walker, and **J.M. Warren**, 2017.  $^{186}\text{Os}$ - $^{187}\text{Os}$  and highly siderophile element abundance systematics of the mantle revealed by abyssal peridotites and Os-rich alloys, *Geochimica et Cosmochimica Acta*, 200, 232-254, doi:10.1016/j.gca.2016.12.013.
- Kumamoto, K.M.<sup>†</sup>, **J.M. Warren**, and E.H. Hauri, 2017a. New SIMS reference materials for measuring water in upper mantle minerals, *American Mineralogist*, 102, 537-547, doi:10.2138/am-2017-5863.
- Davis, F.A., E. Cottrell, S.K. Birner<sup>†</sup>, **J.M. Warren**, and O.G. Lopez, 2017. Revisiting the electron microprobe method of spinel-olivine-orthopyroxene oxybarometry applied to spinel peridotites, *American Mineralogist*, 102, 421-435, doi:10.2138/am-2017-5823.
- Hansen, L.N., C.P. Conrad, Y. Boneh, P.A. Skemer, **J.M. Warren**, and D.L. Kohlstedt, 2016c. Viscous anisotropy of textured olivine aggregates, Part 2: Micromechanical model, *Journal of Geophysical Research*, 121, 7137-7160, doi:10.1002/2016JB013240.
- Hansen, L.N., C. Qi, and **J.M. Warren**, 2016b. Olivine torsion experiments constrain the nature of the oceanic lithosphere-asthenosphere boundary, *Proceedings of the National Academy of Sciences*, 113, 10503-10506, doi:10.1073/pnas.1608269113.
- Birner, S.K.<sup>†</sup>, **J.M. Warren**, E. Cottrell, and F.A. Davis, 2016. Hydrothermal alteration of seafloor peridotites does not influence oxygen fugacity recorded by spinel oxybarometry, *Geology*, 44, 535-538, doi:10.1130/G38113.1.
- Hansen, L.N., **J.M. Warren**, M.E. Zimmerman, and D.L. Kohlstedt, 2016a. Viscous anisotropy of textured olivine aggregates, Part 1: Measurement of the magnitude and evolution of anisotropy, *Earth and Planetary Science Letters*, 445, 92-103, doi:10.1016/j.epsl.2016.04.008.
- \*Warren, J.M.**, 2016. Global Variations in Abyssal Peridotite Compositions, *Lithos*, 248-251, 193-219,

- doi:10.1016/j.lithos.2015.12.023. *Invited review paper.*
- D'Errico, M.E.<sup>†</sup>, **J.M. Warren**, and M. Godard, 2016. Evidence for chemically heterogeneous Arctic mantle beneath the Gakkel Ridge, *Geochimica et Cosmochimica Acta*, 174, 291-312, doi:10.1016/j.gca.2015.11.017.
- Harvey, J., **J.M. Warren**, and S.B. Shirey, 2016. Mantle sulfides and their role in Re-Os-Pb isotope geochronology, *Reviews in Mineralogy and Geochemistry*, 81, 579-649, doi:10.2138/rmg.2016.81.10.
- Hansen, L.N.<sup>†</sup> and **J.M. Warren**, 2015. Quantifying the effect of pyroxene on deformation of peridotite in a natural shear zone, *Journal of Geophysical Research*, 120, 2717-2738, doi:10.1002/2014JB011584.
- Sleep, N.H. and **J.M. Warren**, 2014. Effect of latent heat of freezing on crustal generation at ultraslow spreading rates, *Geochemistry, Geophysics, Geosystems*, 15, 3161-3174, doi:10.1002/2014GC005423.
- Garber, J.M.<sup>‡</sup>, S.M. Roeske, **J.M. Warren**, S.R. Mulcahy, W.C. McClelland, L.J. Austin, P.R. Renne, and G.I. Vujovich, 2014. Crustal Shortening, Exhumation, and Strain Localization in a Collisional Orogen: The Bajo Pequeño Shear Zone, Sierra de Pie de Palo, Argentina, *Tectonics*, 33, 1277-1303, doi:10.1002/2013TC003477.
- Warren, J.M.** and E.H. Hauri, 2014. Pyroxenes as tracers of mantle water variations, *Journal of Geophysical Research*, 119, 1851-1881, doi:10.1002/2013JB010328.
- Nevitt, J.M.<sup>†</sup>, D.D. Pollard, and **J.M. Warren**, 2014. Evaluation of transtension and transpression within contractional fault steps: Comparing kinematic and mechanical models to field data, *Journal of Structural Geology*, 60, 55-69, doi:10.1016/j.jsg.2013.12.011.
- Blusztajn, J., N. Shimizu, **J.M. Warren**, and H.J.B. Dick, 2014. In-situ Pb isotopic analysis of sulfides in abyssal peridotites from ultraslow spreading ridges: New insights into heterogeneity and evolution of the oceanic upper mantle, *Geology*, 42, 159-162, doi:10.1130/G34966.1.
- Skemer, P.A., **J.M. Warren**, L.N. Hansen<sup>†</sup>, G. Hirth, and P.B. Kelemen, 2013. The influence of water and LPO on the initiation and evolution of mantle shear zones, *Earth and Planetary Science Letters*, 375, 222-233, doi:10.1016/j.epsl.2013.05.034.
- Craddock, P.R., **J.M. Warren**, and N. Dauphas, 2013. The Chondritic Fe Isotopic Composition of the Earth, *Earth and Planetary Science Letters*, 365, 63-76, doi:10.1016/j.epsl.2013.01.011. Featured in *Nature News & Views: Halliday, A.N.*, 2013. Small differences in sameness, *Nature*, 497, 43-45.
- Warren, J.M.** and S.B. Shirey, 2012. Pb and Os isotopic constraints on the oceanic mantle from single abyssal peridotite sulfides, *Earth and Planetary Science Letters*, 359-360, 279-293, doi:10.1016/j.epsl.2012.09.055.
- Recanati A.<sup>‡</sup>, M.D. Kurz, **J.M. Warren**, and J. Curtice, 2012. Helium distribution in a mantle shear zone from the Josephine Peridotite, *Earth and Planetary Science Letters*, 359-360, 161-172, doi:10.1016/j.epsl.2012.09.046.
- Skemer, P.A., **J.M. Warren**, and G. Hirth, 2012. The influence of deformation history on the interpretation of seismic anisotropy, *Geochemistry, Geophysics, Geosystems*, 13, Q03006, doi:10.1029/2011GC003988.
- Warren, J.M.** and N. Shimizu, 2010. Cryptic Variations in Abyssal Peridotite Composition: Evidence

- for Recent Melt-Rock Reaction at the Ridge, *Journal of Petrology*, 51(1-2), 395-423, doi:10.1093/petrology/egp096.
- Dick, H.J.B., C.J. Lissenberg, and **J.M. Warren**, 2010. Mantle Melting, Melt Transport, and Delivery Beneath a Slow-Spreading Ridge: The Paleo-MAR from 23°15'N to 23°45'N, *Journal of Petrology*, 51(1-2), 425-467, doi:10.1093/petrology/egp088.
- Skemer, P.A., **J.M. Warren**, P.B. Kelemen, and G. Hirth, 2010. Microstructural and rheological evolution of a mantle shear zone, *Journal of Petrology*, 51(1-2), 55-80, doi:10.1093/petrology/egp057.
- Warren, J.M.**, N. Shimizu, C. Sakaguchi, H.J.B. Dick, and E. Nakamura, 2009. An assessment of mantle heterogeneity based on abyssal peridotite isotopic compositions, *Journal of Geophysical Research*, 114, B12203, doi:10.1029/2008JB006186.
- Kurz, M.D., **J.M. Warren**, and J. Curtice, 2009. Mantle deformation and noble gases: helium and neon in oceanic mylonites, *Chemical Geology* 266, 10-18, doi:10.1016/j.chemgeo.2008.12.018.
- Warren, J.M.**, G. Hirth, and P.B. Kelemen, 2008. Evolution of olivine lattice preferred orientation during simple shear in the mantle, *Earth and Planetary Science Letters*, 272, 501-512, doi:10.1016/j.epsl.2008.03.063.
- Courtier, A.M., M.G. Jackson, J.F. Lawrence, Z. Wang, C.-T.A. Lee, R. Halama, **J.M. Warren**, R. Workman, W. Xu, M.M. Hirschmann, A.M. Larson, S.R. Hart, C. Lithgow-Bertelloni, L. Stixrude, W.-P. Chen, 2007. Correlation of seismic and petrologic thermometers suggests deep thermal anomalies beneath hotspots, *Earth and Planetary Science Letters* 264, 308-316, doi:10.1016/j.epsl.2007.10.003.
- Dantas, C., G. Ceuleneer, M. Gregoire, M. Python, R. Freyrier, **J.M. Warren**, and H.J.B. Dick, 2007. Pyroxenites from the Southwest Indian Ridge, 9-16°E: Cumulates from Incremental Melt Fractions Produced at the Top of a Cold Melting Regime, *Journal of Petrology*, 48(4), 647-660, doi:10.1093/petrology/egl076.
- Warren, J.M.** and G. Hirth, 2006. Grain Size Sensitive Deformation Mechanisms in Naturally Deformed Peridotites, *Earth and Planetary Science Letters* 248, 423-435, doi:10.1016/j.epsl.2006.06.006.

## GRANTS

- Recommended** NSF Geology and Geophysics: *Collaborative Research: Capturing 4D Variations in Stress, Slip, and Fault-Zone Material Properties: The 2019-2021 Gofar Transform Fault Earthquake Prediction Experiment*, PI: J.M. Warren; \$233,808; collaboration with M. Boettcher (UNH), E. Roland (UW), and J.J. McGuire, M.D. Behn, J.A. Collins, W. Fan, C. German (WHOI); \$1,286,106 total.
- 2015-2018** International Continental Scientific Drilling Program: *Oman Drilling Project*, PI: P.B. Kelemen (Columbia Univ.), co-PIs: J.M. Warren and 36 others; funding for drilling-related operations only.
- 2015** Stanford Nano Shared Facilities Seed Grant: *NanoSIMS technique development of volatile analyses in nominally anhydrous minerals*, PI: J.M. Warren; \$15,120.
- 2014-2017** NSF Marine Geology and Geophysics, OCE-1620276: *Collaborative Research: Upper mantle oxygen fugacity from source to surface*, PI: J.M. Warren; \$189,068; collaboration with E. Cottrell and F.A. Davis (Smithsonian Institution) and K.A. Kelley (University of Rhode Island); \$336,848 total.
- 2014-2017** NSF Tectonics, EAR-1619880: *Collaborative Research: Deformation-induced hydration of*

*peridotite mylonites in nature and experiments*, PI: J.M. Warren; \$243,709; collaboration with C. Teyssier and M. Zimmerman (University of Minnesota); \$385,414 total.

**2013-2018** NSF Petrology and Geochemistry, Tectonics, and Geophysics (3 programs), EAR-1255620: *CAREER: Investigating the relationship between mantle shear localization, melt flow and water content*; PI: J.M. Warren; \$550,069.

**2011-2012** NSF Major Research Instrumentation, EAR-1125782: *MRI: Acquisition of an electron microprobe for research in Earth sciences, materials science, and applied physics*, PI: J. Stebbins, co-PIs: M. Grove, I. Fisher, J.M. Warren, R. Sinclair; \$761,133.

**2011-2012** France-Stanford Center Seed Fund Grant: *France-Stanford Collaboration in mantle geochemistry and petrology*, PI: J.M. Warren, co-PIs: B. Ildefonse, M. Godard (Université de Montpellier); \$12,100.

**2010-2012** NSF Petrology and Geochemistry, EAR-0948609: *Noble gas behavior during upper mantle deformation*, PI: M.D. Kurz (Woods Hole Oceanographic Institution); \$370,541 total, with subcontract for \$61,402 to J.M. Warren.

#### PRESENTATIONS

##### **Invited seminars:**

2018 Solid Earth Brown Bag, Princeton University, NJ:

*Using the rock record to understand oceanic transform fault seismicity*

2017 Geophysical Laboratory, Carnegie Institution of Washington, DC:

*Oceanic upper mantle composition and the evidence for an ultra-refractory reservoir*

2017, Department of Earth and Space Science, West Chester University, PA:

*Interpreting transform fault earthquakes from seafloor rock samples*

2017, COG<sup>3</sup> Seminar, Massachusetts Institute of Technology, MA:

*Linking fault-zone geology, fluid flow and seismicity at oceanic transform faults.*

2016, Department of Earth and Planetary Sciences, Washington University in St. Louis, MO:

*The role of fluid flow in ductile processes at oceanic transform faults.*

2015, Institute of Geophysics and Tectonics, University of Leeds, UK:

*Exploring ridge processes using global abyssal peridotites.*

2015, Department of Earth Sciences, University of Oxford, UK:

*The role of the mantle in oceanic transform fault deformation.*

2015 Department of Earth Sciences, Cambridge University, UK:

*The interplay between brittle and ductile processes at oceanic transform faults.*

2015, Department of Geological Sciences, University of Delaware, DE:

*Exploring mantle processes using peridotites.*

2015, Department of Geophysics, Stanford University, CA:

*Formation and Evolution of Ductile Mantle Shear Zones.*

2014, Department of Geological Sciences, University of Texas at Austin, TX:

*Evolution of Ductile Mantle Shear Zones.*

2014, Department of Mineral Sciences, National Museum of Natural History, DC:

*The Mantle Beneath Global Seafloor Volcanism.*

2012, Department of Earth Sciences, University of Southern California, CA:

*Microstructural controls on plate tectonics: Analysis of deformed mantle peridotites*

2012, Department of Earth & Planetary Sciences, Harvard University, MA:

*Water in the Oceanic Upper Mantle.*

2012, Volcano Science Center Seminar, US Geological Survey, Menlo Park, CA:

*Water in the Oceanic Upper Mantle.*

- 2012, Geoclub Seminar, California Institute of Technology, CA:  
*Water in the Oceanic Upper Mantle.*
- 2011, Whole Earth Seminar, University of California Santa Cruz, CA:  
*How depleted is the upper mantle?*
- 2011, Earth and Planetary Science, University of California Berkeley, CA:  
*How Depleted is the Upper Mantle?*
- 2011, Department of Geological Sciences, San Jose State University, CA:  
*How Heterogeneous is the Upper Mantle?*
- 2011, Department of Geology, University of California Davis, CA:  
*Microstructural controls on plate tectonics: Observations of deformed peridotites.*
- 2010, Department of Geology and Geophysics, University of Minnesota, MN:  
*Measurement of water in Abyssal peridotite nominally anhydrous minerals.*  
*Microstructural controls on plate tectonics: Observations of deformed peridotites.*
- 2010, Department of Earth Science, Rice University, TX:  
*How Heterogeneous is the Upper Mantle?*
- 2010, Department of Geological Sciences, San Francisco State University, CA:  
*Constraining large-scale mantle processes from small-scale observations: EBSD applied to peridotites.*

#### **Invited talks at meetings:**

- Keynote, 2018 Goldschmidt Conference, Boston, MA:  
*Source versus process: Peridotite constraints on magma genesis.*
- Invited Talk, 2017 Goldschmidt Conference, Paris, France:  
*Constraints on mantle Pb, Se, and Te behavior from in situ analyses of peridotite sulfides.*
- Lecture, 2017 Summer Program, Cooperative Institute for Dynamic Earth Research, Berkeley, CA:  
*Relating seismic anisotropy to natural mantle samples*
- Keynote, 2017 Deformation Mechanisms, Rheology and Tectonics Conference, Inverness, UK:  
*The role of fluids in the brittle-ductile transition at oceanic transform faults.*
- Keynote, 2016 Goldschmidt Conference, Yokohama, Japan:  
*Reconciling the compositions of ridge basalts and peridotites.*
- Invited Talk, 2016 CIDER Community Workshop, Point Reyes, CA:  
*Using olivine rheology to constrain plate boundaries.*
- Keynote, 2015 COMPRES Annual Meeting, Colorado Springs, CO:  
*Exploring mantle properties using abyssal peridotites.*
- Invited Talk, 2014 Gordon Research Conference on Rock Deformation, Andover, NH:  
*Initiation and Evolution of Ductile Mantle Shear Zones.*
- Keynote, 2013 Goldschmidt Conference, Florence, Italy:  
*Global Abyssal Peridotite Constraints on the Upper Mantle.*
- Invited Talk, 2011 Goldschmidt Conference, Prague, Czech Republic:  
*Mantle heterogeneity constraints from abyssal peridotite sulfide Pb and Os isotopic compositions.*
- Invited Talk, 2011 EarthScope Institute on the Lithosphere-Asthenosphere Boundary, Portland, OR:  
*Global abyssal peridotite constraints on oceanic LAB formation.*

#### TEACHING

##### **University of Delaware:**

- GEOL467 (UG): *Igneous and Metamorphic Petrology*, Spring 2017.  
 GEOL601 (G): *Geological Sciences at Delaware*, Fall 2017.

##### **Stanford University:**

- GES 104 (UG): *Introduction to Petrology*, 2011, 2012, 2013, 2015.  
 GES 190 (UG/G): *Advanced Field Methods: Ultramafics in the Field*, 2012, 2014.  
 GES 209 (UG/G): *Microstructures*, w/ Miller, 2011.

GES 263 (UG/G): *Introduction to Isotope Geochemistry*, Guest lecturer, 2011, 2014.  
 GES 290 (G): *Department Seminar in Geological and Environmental Sciences*, 2012, 2013, 2015.  
 GES 315 (G): *Literature of Structural Geology*, w/ Pollard, 2012, 2013, 2014, 2015.  
 GES 340 (G): *Seminar on the Earth's Interior*, w/ Mao, 2011, 2013.  
 GES 382 (G): *Mantle Geochemistry*, 2012.

#### ADVISING

##### **Graduate Students:**

Melinda Bahruth, MS candidate, 2018-present, University of Delaware  
 Kuan-Yu Lin, PhD candidate, 2018-present, University of Delaware  
 Suzanne Birner, Ph.D. 2018, Stanford  
 Kathryn Kumamoto, Ph.D. 2018, Stanford  
 Megan D'Errico, Ph.D. 2016, Stanford  
 Nikolaus Deems, M.S. 2016, Stanford  
 Johanna Nevitt, Ph.D. 2015, Stanford, co-advised with D. Pollard

##### **Postdocs:**

Kendra Lynn, 2017-present, University of Delaware  
 Cécile Prigent, 2017-present, University of Delaware  
 Lars Hansen, 2012-2013, now Lecturer & Fellow at University of Oxford

**Stanford Ph.D. Thesis Committees:** Sarah Barrett (2015), Pablo García Del Real (2016), Arjun Kohli (2015; chair), Yingxia Shi (2016), Mary Reagan (2018).

**Stanford Qualifying Exam Committees:** Sarah Barrett (2012), Pablo García Del Real (2011), Ryan McCarty (2013), Mary Reagan (2014), Yingxia Shi (2012), Meredith Townsend (2013).

**M.S. Committees:** Kate Kaminski (U. Idaho, 2016); Abe Torchinsky (Stanford, 2012); David Sheu (Stanford, 2012).

**Faculty Resource Advisor:** Meredith Townsend, DARE Program 2014-2016 (Ph.D., Stanford, 2017).

**Undergraduate Major Advisor:** E. Smith (B.S., Stanford, 2013).

**Undergraduate Research Program:** S.N. Patterson, University of Delaware Summer Fellow, 2018;  
 E.A.E. Autry, Stanford University Summer Fellow, 2015.

**REU Co-Advisor:** O. Lopez (Northwestern U.), Smithsonian Institution REU, 2012.

#### PROFESSIONAL SERVICE

##### **Committees**

2017-present **Steering & Oversight Committee**, GeoPRISMS  
 2017 **Organizing Committee**, Summer Program, Coop. Inst. for Dynamic Earth Research  
 2011-2016 **Steering Committee**, Physical Properties of Earth Materials (AGU Focus Group)  
 2009 **Council Member**, Geological Society of Washington.

##### **Journal editorial position:**

2017-present **Editorial Board**, Lithos

##### **Conference session convener/chair:**

2018	Japan Geoscience Union	<i>The lithosphere and the asthenosphere</i>
2017	AGU Fall Meeting	<i>PPEM: Transient and Steady State Rock Deformation</i>
2016	AGU Fall Meeting	<i>Transform Plate Boundary Behavior</i>
2016	AGU Fall Meeting	<i>PPEM: Rock Deformation Over Various Time &amp; Spatial Scales</i>
2015	AGU Fall Meeting	<i>Rheology and dynamics of the lithosphere and asthenosphere</i>
2015	AGU Fall Meeting	<i>Peridotite records of mantle dynamics</i>
2015	AGU Fall Meeting	<i>Volatile distribution and cycling in the mantle</i>
2015	AGU Fall Meeting	<i>PPEM: Deformation mechanisms from crystals to plates</i>
2014	AGU Fall Meeting	<i>PPEM: Evolving Rock Structure</i>
2014	Goldschmidt Conference	<i>Oxidation State of the Planets</i>
2013	AGU Fall Meeting	<i>Linking Ductile Deformation with Geochemistry</i>
2012	Gordon Research Conf.	<i>Failure At High Confining Pressure II</i> (Discussion Leader)
2011	AGU Fall Meeting	<i>Volatiles in the Earth's Mantle</i>
2011	AGU Fall Meeting	<i>Integrated Study of Oceanic Spreading Centers</i>
2009	AGU Fall Meeting	<i>Advances From 30 Years of Ion Microprobe</i>
2007	AGU Fall Meeting	<i>Origin and Evolution of Continents: Mantle Perspectives</i>

**Manuscript reviewer:** Contributions to Mineralogy and Petrology; Earth and Planetary Science Letters; Geology; International Geology Review; Journal of Geophysical Research; Journal of Petrology; Lithos; Nature; Nature Communications; Nature Geoscience; Reviews in Mineralogy and Geochemistry; Tectonophysics.

**Proposal reviewer:** National Science Foundation; Department of Energy; European Research Council; FONDECYT Chile; InterRidge.

#### UNIVERSITY SERVICE

##### Service at University of Delaware:

2017-present	Graduate Program Committee
2016-present	Upgrades to petrology teaching laboratory
2018	Search committee for CEOE Communications Specialist
2018	Postdoctoral search committee for Wallace Group
2017	Geological Sciences Strategic Planning Committee (Chair)

##### Service at Stanford University:

2014-2015	SEEEES Field Coordinator Search Committee
2013-2015	Electron Microprobe Steering Committee
2011-2015	Department Seminar Coordinator
2010-2015	Undergraduate Field Program Committee (Chair 2014-2015)
2011-2012	Geochronology Steering Committee
2010-2012	ICP-MS Executive Board

#### OUTREACH

2018	<i>Ocean Rocks!</i> outreach event, Smithsonian National Museum of Natural History
2018	Terrestrial Laser Scanning Field Module for Geol306
2018	Guest professor, Geoscience Theater 3000
2014	Class blog for Stanford GES190 Field Class <i>Ultramafics in the Field</i>
2014	Panelist, Advisor/advisee relationships for new graduate students (Stanford)
2014	Guest lecturer, Current Research in Earth Sciences (Stanford EarthSci 1)
2012	Class blog for Stanford GES190 Field Class <i>Research in the Field</i>
2012	Panelist, Recruitment Retreat, Stanford Diversity Outreach for Doctoral Education
2011	Panelist, <i>What does it mean to be a scientist?</i> , Geoscape Workshop for K-12 teachers
2010	Guest lecturer, Current Research in Earth Sciences (Stanford EarthSci 1)



## LAND AND SEA FIELD WORK

- 2015 Josephine Peridotite, Oregon: Sampling of shear zones A and B.  
 2014 Trinity Ophiolite, California: TLS survey of Kangaroo Lake section.  
 2013 Josephine Peridotite, Oregon: Sampling of Fresno Bench shear zones.  
 2012 Trinity Ophiolite and Josephine Peridotite: Peridotite structural and geochemical sampling.  
 2011 Oman Ophiolite: Sampling of deformed peridotites for noble gas project.  
 2010 Josephine Peridotite, Oregon: Sampling of deformed peridotites for mantle noble gas project.  
 2004 R/V Knorr, with ROV Jason-2 and AUV ABE: *Magnetic and Structural Studies of a Lower Crustal Exposure of Ocean Lithosphere: Kane Megamullion, Mid-Atlantic Ridge 23° 30'N*.  
 2003 Josephine Peridotite, Oregon, and Trinity Ophiolite, California: Peridotite sampling.  
 2003 R/V Melville: *Investigation of the Oblique and Orthogonal Supersegments of the SWIR*.  
 2001 R/V Yokosuka, with DSV Shinkai-6500: *Investigation of Atlantis Bank and the SW Indian Ridge from 56° E to 58° E*.  
 1999 Ardnamurchan, Scotland: Sampling of a contact metamorphic aureole.  
 1998 Apache National Forest, Arizona: Geologic field mapping.

## CONFERENCE REPORTS &amp; WHITE PAPERS

- Warren, J.M.**, J.J. McGuire, C.R. German, and J.A. Collins, 2014. White Paper: Hydrothermal circulation search on the Garrett transform fault, East Pacific Rise, *Workshop on Exploration of the Eastern Pacific Ocean*, Ocean Exploration Trust.
- McGuire, J.J., J.A. Collins, and C.R. German, **J.M. Warren**, 2014. White Paper: Searching for hydrothermal circulation on the Gofar transform fault, East Pacific Rise, *Workshop on Exploration of the Eastern Pacific Ocean*, Ocean Exploration Trust.
- Kelley, K.A., **J.M. Warren**, E. Cottrell, and D. Cardace, 2014. White Paper: Forearc to Arc Transition in the Northern Tonga Trench, *Workshop on Exploration of the Eastern Pacific Ocean*, Ocean Exploration Trust.
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