CATHERINE M. COOPER, PH.D.
Curriculum Vitae

220 West Alder Street, Palouse, Washington 99161
Phone: (713) 306-8335 E-Mail: drcatherinecooper@gmail.com

EDUCATION

Rice University, Department of Earth Science
Ph.D., Geophysics, May 2005

Texas A&M University, Department of Geology and Geophysics
Bachelor of Science in Geophysics, Minor in Mathematics, cum laude, 2000

EMPLOYMENT

Washington State University, School of the Environment
Associate Professor, 2014-present
Assistant Professor, 2008-2014

National Science Foundation, Directorate for Geosciences, Division of Earth Sciences
Assistant Program Director, EarthScope, 2007-2008

Carnegie Institution of Washington, Department of Terrestrial Magnetism
Research Scientist, 2007
Post-doctoral Fellowship, 2005-2007

RESEARCH INTERESTS

Thermal and tectonic evolution of the Earth, Europa and other planetary bodies. Structure and dynamics of continental lithosphere. Plate tectonics. Early Earth processes. Computational geodynamics. Large scale deformational events. Craton formation and evolution. Heat transfer. Fluid dynamics.

GRADUATE STUDENT MENTORING

Primary Advisor

Austin Green, Doctoral student, School of the Environment, Washington State University, 2015-present, Project: "Convection and deformation in icy satellites", Expected graduation: 2020.

William Snow, Master's student, School of the Environment, Washington State University, 2012-present, Project: "Comparison of 3D spherical and Cartesian simulation with application to continental insulation studies", Expected graduation: Spring 2016.

Rachel Wood, Master's student, School of the Environment, Washington State University, 2011-

2014, Project: "The decoupling and removal of dense material during lithospheric thickening as applied to craton formation", Graduated: Spring 2014, now at Idaho National Laboratory.

Thesis Committee Member

Thomas Morrow, Ph.D. candidate, University of Idaho, 2014-present.
Da Wang, Ph.D., 2015-present.
Ryan Anderson, Ph.D. candidate, 2015-present.
Ashley Vanhoose, Ph.D. candidate, 2011-present.
Chao Zhang, Ph.D., 2016-present.
McKensie Gelber, Ph.D. candidate, University of Houston, 2015-present.
Alex Patthoff, Ph.D., University of Idaho, 2013.
James Muirhead, Ph.D., University of Idaho, 2016.
Laura Pianowski, M.S., 2015-present.
Thomas Johnson, M.S., 2015-present.
Suzy Krahn, M.S., 2010-present.
Brian Spall, M.S., 2015.
Da Wang, M.S., 2015.
Rachel Hoover, M.S., 2014.
Diane Wilford, M.S., 2013.
Molly Ramsey, M.S., 2013.
Mindy Morgan, M.S., 2013.
Vince Isakson, M.S., 2012.
Sandra Willman, M.S., 2012.
Andrew Jensen, M.S., 2012.
Dale Lambert, M.S.,2012.
Rochelle Dietz, M.S., 2012.
Jane Barnes, M.S., 2011.
Kamillah Fellah, M.S., 2011.

UNDERGRADUATE STUDENT MENTORING

Peter Sinclair, Physics Department, Washington State University, Project: "Plate tectonics on Europa", 2015-2016, Now pursuing a master's degree at New Mexico State University.

Hannah Hiscox, School of the Environment, Washington State University, Project: "Investigation age versus thickness relationship in stable continental lithosphere", 2015-2016.

Justin Mays, School of the Environment, Washington State University, Project: "Estimating Lithospheric Effective Viscosity from Rigid Body Rotations of the Colorado Plateau and Tarim Basin", 2014-2015.

Drea Killingsworth, School of Earth & Environmental Science, Washington State University, Project: "Two-dimensional thermal modeling of heat transfer in the Yellowstone caldera region", 2010-2011, Now pursuing a doctoral degree at New Mexico Technical University.

PUBLICATIONS

Cooper, C.M., M.S. Miller, and L.-N. Moresi, "The structural evolution of deep continental lithosphere", invited review for *Tectonophysics*, 696, 100-121, http://dx.doi.org/10.1016/j.tecto.2016.12.004, 2017.

Cooper, C.M., "Puzzling the pieces", *Geology* 43.9, p. 847-848, 2015.

Cooper, C.M., E. Mittlestaedt, J. Van Wijk, C. Currie, L. Kellogg , L. Hwang, and R. Arrowsmith, "Moving Lithospheric Modeling Forward: Attributes of a community computer code", *GSA Today*, vol. 25, 2015.

Cooper, C.M., and M. Miller, "Craton formation: Internal structure inherited from closing of the early oceans", *Lithosphere,* v. 6; p. 35-42, doi: 10.1130/L321.1, 2014.

Baldwin, K. and **C. M. Cooper**, "Online and on-campus historical geology - Prior knowledge, beliefs and understanding of global change", Journal of Geoscience Education, 2014.

Cooper, C.M., L.-N. Moresi and A. Lenardic, "The effects of continental distribution on mantle heat transfer properties", Geophysical Research Letters, v. 40(10), p. 2647-2651, doi: 10.1002/grl.50547, 2013.

Sharples, W., L. Moresi**, C.M. Cooper**, and P. Sunter, "Computational Psychology 101: The psychology behind high performance computing", Lecture Notes in Electrical Engineering, v. 2, 439-452, 2012.

Lenardic, A, **C. M. Cooper**, and L. Moresi, "A Note on Continents and the Earth's Urey Ratio", Physics of Earth and Planetary Interiors, v. 188, p. 127-130, doi: 10.1016/j.pepi.2011.06.008, 2011.

Lenardic, A., L. Moresi, M. Jellinek, C.J., O'Neill, **C. M. Cooper**, and C.-T. Lee, "Continents, Supercontinents, Mantle Thermal Mixing and Mantle Thermal Insolation I: Theory and Numerical Simulations", Geochemistry, Geophysics and Geosystems, v. 12(10), doi: 10.1029/2011GC003663, 2011.

Sandu, C., A. Lenardic, C. J. O'Neill and **C.M. Cooper**, "Earth's evolving stress state and the past, present and future stability of cratonic lithosphere", International Geology Review, v. 53(11-12), p. 1392-1402, 2011.

Cooper, C.M. and Clinton P. Conrad. "Does the mantle control the maximum thickness of cratons?", Lithosphere, v. 1(2), p. 67-62, doi:10.1130/L40.1,2009.

Cooper, C.M., A. Lenardic, and L. Moresi, "Effects of continental insulation and the partitioning of heat producing elements on the Earth's heat loss", Geophysical Research Letters, v. 33, doi:10.1029/2006GL026291, 2006.

Cooper, C.M., A. Lenardic, A. Levander, and L. Moresi, "Creation and Preservation of Cratonic Lithosphere: Seismic Constraints and Geodynamic Models", AGU Monograph Series: Archean Geodynamics and Environments, p. 75-88, 2006.

Lee, C.-T., A. Lenardic, **C.M. Cooper**, F. Niu and A. Levander, "The role of chemical boundary layers in regulating the thickness of continental and oceanic thermal boundary layers", Earth and Planetary Science Letters, v. 230, p. 379-395, 2005.

Cooper, C.M., A. Lenardic, and L. Moresi, "The thermal structure of stable continental lithosphere within a dynamic mantle", Earth and Planetary Science Letters, v. 222, p. 807-817, 2004.

Niu, F., A. Levander, **C.M. Cooper**, C.-T. Lee, A. Lenardic, and D.E. James, "Seismic Constraints on the Depth and Composition of the Mantle Keel beneath the Kaapvaal Craton", Earth and Planetary Science Letters, v. 224, p. 337-346, 2004.

O'Neill, C., L.-N. Moresi, A. Lenardic, and **C.M. Cooper**, "Inferences on Australia's heat flow and thermal structure from mantle convection modelling results", Australian Journal of Earth Science, Geological Society of Australia Special Publication, v. 22, p. 163–178, 2003.

PUBLICATIONS IN PREPARATION

Cooper, C.M., Farrington, R. and M. S. Miller, "Erosion of Craton Edges from Directed Mantle Flow", (in prep for *Lithosphere*).

Mittelstaedt, E. and **C.M Cooper**, "Theoretical constraints on maximum volcano size", (in prep for submitted to *Geophysical Research Letters*).

Pathoff, A., S. Kattenhorn, **C.M. Cooper**, "Implications of nonsynchronous rotation on the deformational history and ice-shell properties in the south polar terrain of Enceladus", (in prep for submittal to Icarus).

Wood, R. and **C.M. Cooper**, "Exploring the decoupling and removal of dense material during lithospheric thickening as applicable to craton formation" (in prep for submittal to *Earth and Planetary Science Letters*).

Baldwin, K., A. Cavagnetto, J. Morrison, **C.M. Cooper**, and O. Adesope, "Using Argument to Support Field Investigation with K-8 Teachers", (in prep for submittal to *Journal of Geoscience Education*).

ACTIVE/AWARDED PROJECTS

Pending Projects

Project Title: Can continental growth buffer the mantle's temperature against the decline in mantle heat production? An investigation of the non-equilibrium effect of insulating continents.

Funding Agency: National Science Foundation
Requested Amount/Duration/Role: ~$250,000 over three years, single PI with postdoctoral researcher support requested

Project Title: A field- and modeling-based test of Late Cretaceous delamination in the Nevadaplano
Funding Agency: National Science Foundation
Requested Amount/Duration/Role: $295,335 over three years, co-PI

External Awarded Projects

Project Title: Plate Tectonics on Europa
Funding Agency: NASA Aeronautics and Space Administration
Amount/Duration/Role: $62,138 over three years, co-PI

Project Title: The Formation and Stabilization of Thickened Lithosphere
Funding Agency: National Science Foundation
Amount/Duration/Role: $206,372 for three years, July 1, 2011-June 30, 2015, single PI.

Project Title: Enhancing Understanding of Scientific Concepts and Practices with the Science Writing Heuristic Approach, Concept Mapping and Instructional Design
Funding Agency: Office of Superintendent of Public Instruction Awards Math Science Partnership, Washington State
Amount/Duration/Role: $1.7 million (per year shared by six education organizations statewide), 2012-2015 (served as an Earth and Physical Science content advisor).

Project Title: A Continuation of 4D Continent Evolution – investigating the controls on large scale deformation, instabilities of the lithosphere & impacts on the thermal evolution of the Earth and other planetary bodies
Funding Agency: XSEDE Research Allocation
Amount/Duration/Role: 223,634 computational hours on supercomputer for one year, 2016, single PI.

Project Title: A Continuation of 4D Continent Evolution – investigating the controls on large scale deformation, instabilities of the lithosphere & impacts on the thermal evolution of the Earth
Funding Agency: XSEDE Research Allocation
Amount/Duration/Role: 602,697 computational hours supercomputer for one year, 2015, single PI.

Project Title: A Continuation of 4D Continent Evolution – investigating the controls on large scale deformation, instabilities of the lithosphere & impacts on the thermal evolution of the Earth
Funding Agency: XSEDE Research Allocation
Amount/Duration/Role: 500,000 computational hours on supercomputer for one year, 2014, single PI.

Project Title: A Continuation of 4D Continent Evolution – investigating the controls on large scale deformation, instabilities of the lithosphere & impacts on the thermal evolution of the Earth
Funding Agency: XSEDE Research Allocation
Amount/Duration/Role: 500,000 computational hours on supercomputer for one year, 2013, single PI.

Project Title: A Continuation of 4D Continent Evolution – investigating the controls on large scale deformation, instabilities of the lithosphere & impacts on the thermal evolution of the Earth
Funding Agency: XSEDE Research Allocation
Amount/Duration/Role: 500,000 computational hours on ~63,000 processor machine for one year, 2012, single PI.

Project Title: 4D Continent Evolution – investigating the controls on large scale deformation, instabilities of the lithosphere & impacts on the thermal evolution of the Earth
Funding Agency: TeraGrid Research Allocation
Amount/Duration/Role: 400,000 computational hours on ~63,000 processor machine for one year, 2010 (extended through September 2011), single PI.

Project Title: The Initiation and 3D Evolution of Instabilities in the Deep Continental Lithosphere
Funding Agency: Australian Research Council, with Louis Moresi, Tim Stern & Sergio Zlotnick,
Amount/Duration/Role: 2009-2012 (served as a foreign, unfunded investigator).

Project Title: 3D Large Scale Lithospheric Deformation
Funding Agency: TeraGrid Development Allocation
Amount/Duration/Role: 150,000 computational hours on ~63,000 processor machine for six months, 2009, single PI.

Internal Awarded Projects

Project Title: Samuel and Patricia Smith Teaching and Learning Grant
Funding Agency: Washington State University
Amount/Duration/Role: $3000 for one year, 2011, co-PI.

Project Title: External Mentor Grant,
Funding Agency: ADVANCE, Washington State University
Amount/Duration/Role: $3000 for one year, 2011, single PI.

Project Title: 4D Continent Evolution Modeling
Funding Agency: Washington State University Seed Grant
Amount/Duration/Role: $4500 for 1.5 years, 2010, single PI.

INVITED PRESENTATIONS

Cooper, C.M., "Geodynamic Insights into Cratonic Lithosphere", February 2016, Southern Methodist University, Dallas, Texas, 2016.

Cooper, C.M., "Insights into the Hadean from Cratons", March 2014, Toyko, Japan.

Cooper, C.M., "The Effects of Size, Configuration and Distribution of Continents on the Efficiency of Heat Transport", April 2014, Oslo, Norway.

Cooper, C.M., "The Effects of Size, Configuration and Distribution of Continents on the Efficiency of

Heat Transport", Boise State University, Boise, ID, Spring 2013.

Cooper, C.M., "The Effects of Size, Configuration and Distribution of Continents on the Efficiency of Heat Transport", Joint Washington State University/University of Idaho Earth Science Seminar Series, Pullman, Washington, Spring 2012.

Cooper, C.M., "A Journey into Computational Geodynamics: How Fluid Dynamics + Numerical Simulations + Math = Geology", University of Idaho Math Department Colloquium, Moscow, ID, Spring 2012.

Cooper, C.M., "Geodynamic Constraints on Craton Formation, Quiescence and Destruction", Arizona State University, May 2011,Tempe, Arizona.

Cooper, C.M., "Geodynamic Constraints on Craton Formation", Quiescence and Destruction, Gordon Research Conference, Summer 2011, Mount Holyoke, Massachusetts.

Cooper, C.M., "What are cratons made of?", Goldschmidt Conference, Summer 2010, Knoxville, TN.

Cooper, C.M., "What are cratons made of (the unabridged version)?", Central Washington University Seminar Series, Spring 2010, Ellensburg, WA.

Cooper, C.M., "Effects of continental insulation and the partitioning of heat producing elements on Earth's heat loss", Washington State University Physics Department, Fall 2010, Pullman, WA.

Cooper, C.M., "The dynamic limits of craton thickness", Washington State University at Vancouver, Spring 2009, Vancouver, WA.

Cooper, C.M., "The dynamic limits of craton thickness", University of British Columbia, Fall 2008, Vancouver, BC, Canada.

Cooper, C.M., "The dynamic limits of craton thickness", Joint seminar between Monash University and University of Melbourne, Spring 2008, Melbourne, Australia.

Cooper, C.M., "Cratons and the 410-km Seismic Discontinuity", Japan Agency for Marine-Earth Science and Technology, Fall 2007, Yokohama, Japan.

Cooper, C.M., "A tale of two peaks: Effects of continental insulation and the partitioning of heat producing elements on the Earth's heat loss", Goldschmidt Conference, Summer 2007, Cologne, Germany.

Cooper, C.M., "Stable continental lithosphere: creation, preservation and thermal implications", Massachusetts Institute of Technology, Summer 2007, Boston MA.

Cooper, C.M., "Stable continental lithosphere: creation, preservation and thermal implications", University of North Carolina at Chapel Hill, Spring 2007, Chapel Hill, NC.

Cooper, C.M., "Effects of continental insulation and the partitioning of heat producing elements on Earth's heat loss or a A Tale of Two Peaks", University of North Carolina at Chapel Hill, Spring 2007, Chapel Hill, NC.

Cooper, C.M., "Effects of continental insulation and the partitioning of heat producing elements on Earth's heat loss", University of Chicago, Seminar Series, Spring 2007, Chicago, IL.

Cooper, C.M., "Cratons and the 410-km Seismic Discontinuity", Geological Society of Washington, Spring 2007, Washington, DC.

Cooper, C.M., A. Lenardic and L. Moresi, "Effects of continental insulation and the partitioning of heat producing elements on Earth's heat loss", American Geophysical Union, Fall Meeting, Fall 2006, San Francisco, CA.

Cooper, C.M., "Effects of continental insulation and the partitioning of heat producing elements on Earth's heat loss", Princeton University, Fall 2006, Princeton, NJ.

Cooper, C.M., "Stable continental lithosphere: creation, preservation and thermal implications", University of Maryland, Fall 2006, College Park, MD.

OTHER PRESENTATIONS

Cooper, C.M., Panel Moderator, Code Benchmarking in the Earth Sciences, Computational Infrastructure for Geodynamics, All Hands Meeting, Summer 2016, Davis, CA.

Collins, Cutler, B.B., Coto, J. P. B., Prockter, L., Pattenson, G.W., Rhoden, A. R., and **C.M. Cooper**, "Plate Motions on Europa from Castalia Macula to Falga Regio", Lunar and Planetary Science Conference, Spring 2016, Houston, Texas.

Cutler, B.B., Collins, G., Prockter, L., Pattenson, G.W., Rhoden, A. R., and **C.M. Cooper**, "Reconstructing Plate Motions on Europa with GPlates", American Geophysical Union, Fall 2015, San Francisco, CA.

Cooper, C.M. and M.S. Miller, "MLDs, LAB and Moho's, Oh My!", American Geophysical Union, Fall 2014, San Francisco, CA.

Baldwin, K., **C.M. Cooper**, A. Cavagnetto, J. Morrison and O. Adesope, "Big Outcrops and Big Ideas in K-8 Professional Development", American Geophysical Union, Fall 2014, San Francisco, CA.

Menard, J. and **C.M. Cooper**, "Parameterized thermal history model of the Earth including continental growth", American Geophysical Union, Fall 2014, San Francisco, CA.

Cooper, C.M. and M.S. Miller, "Craton Formation: What happens after oceans close", American Geophysical Union, Fall 2013, San Francisco, CA.

Menard, J. and **C.M. Cooper**, **"**Parameterized thermal history model of the Earth including

continental growth", American Geophysical Union, Fall 2013, San Francisco, CA.

Wood, R.J., and **C.M. Cooper**, "Exploring the decoupling and removal of dense material during lithospheric thickening as applicable to craton formation", American Geophysical Union, Fall 2013, San Francisco, CA.

Wood, R.J., and C.M. Cooper, "Exploring the decoupling and removal of dense material during lithospheric thickening as applicable to craton formation", American Geophysical Union, Fall 2012, San Francisco, CA.

Cooper, C.M., L.-N. Moresi and A. Lenardic, "The Effects of Continental Block Configuration on the Earth's Heat Loss", American Geophysical Union, Fall 2012, San Francisco, CA.

Cooper, C.M., L.-N. Moresi and A. Lenardic, "The Effects of Size, Configuration and Distribution of Continents on the Efficiency of Heat Transport", Washington State University, Academic Showcase, 2012, Pullman WA.

Cooper, C.M., and K. Baldwin, "Incorporating global climate change exercises into historical geology courses", Washington State University, Academic Showcase, 2012, Pullman, WA.

Patthoff, D.A., S.A. Kattenhorn and C.M. Cooper, "Effects of Nonsynchronous Rotation Stresses on the South Polar Terrain of Enceladus", Lunar and Planetary Science Conference, 2012, Houston, TX.

Cooper, C.M., L.-N. Moresi and A. Lenardic, "The Effects of Size, Configuration and Distribution of Continents on the Efficiency of Heat Transport", American Geophysical Union, Fall 2011, San Francisco, CA.

Cooper, C.M., and K. Baldwin, "Incorporating global climate change exercises into historical geology courses", American Geophysical Union, Fall 2011, San Francisco, CA.

Cooper, C.M., "Cratons and the Lithosphere-Asthenosphere Boundary", EarthScope Workshop, Fall 2011, Portland, OR.

Cooper, C.M., A. Lenardic, L.-N. Moresi and C.P. Conrad, "Cratons: Past, Present and Future", Washington State University, Academic Showcase, 2011, Pullman, WA.

Cooper, C.M., A. Lenardic, L.-N. Moresi and C.P. Conrad, "Cratons: Past, Present and Future", American Geophysical Union, Fall Meeting, Fall 2010, San Francisco, CA.

Moresi, L.-N., C.M. Cooper, A. Lenardic, "Heat flow partitioning between continents and oceans – from 2D to 3D", American Geophysical Union, Fall Meeting, Fall 2010, San Francisco, CA.

Orr, C. and C.M. Coope**r**, "Earth Science 201: Shaping the Earth's Surface (or tricking students into learning complex systems and non-linear behavior)", American Geophysical Union, Fall Meeting, Fall 2010, San Francisco, CA.

Lenardic, A., L.-N. Moresi, M. Jellinek, C.J. O'Neill, C.M. Cooper, and C.-T. Lee, "Continents, Supercontinents, Mantle Thermal Mixing and Mantle Thermal Isolation", American Geophysical Union, Fall Meeting, Fall 2010, San Francisco, CA.

Cooper, C.M., "Unlocking the Earth's Deformation Secrets", Washington State University, Academic Showcase, 2010, Pullman, WA.

Cooper, C.M. L. Moresi, "Scaling Underworld - building up from personal clusters to high performance centers", American Geophysical Union, Fall Meeting, Fall 2009, San Francisco, CA.

Cooper, C.M. L. Moresi, "Working on Opposite Sides of the World", American Geophysical Union, Fall Meeting, Fall 2009, San Francisco, CA.

Moresi.,L., Cooper, C.M, and John Mansour, "Size and Scaling of small-scale instabilities beneath continental lithosphere", American Geophysical Union, Fall Meeting, Fall 2009, San Francisco, CA.

Cooper, C.M., and Clint Conrad, "Cratons, the Mantle and Time", American Geophysical Union, Fall Meeting, Fall 2008, San Francisco, CA.

Cooper, C.M., and Clint Conrad, "Does the mantle control the maximum thickness of cratons?", American Geophysical Union, Fall Meeting, Fall 2007, San Francisco, CA.

Cooper, C.M., "A Tale of Two Effects", Meeting of Young Researchers in Earth Sciences, Summer 2006, Verbania, Italy.

Cooper, C.M., and D. R. Stegman, "Bathroom Buddies: Countering your Clockwise Rotation" (Education Session), American Geophysical Union, Fall Meeting, Fall 2006, San Francisco, CA.

Cooper, C.M., A. Lenardic, A. Levander, and L. Moresi, "Craton Formation Via Thrust Stacking: Constraints on Proto-Cratonic Lithosphere from Geodynamics, Seismology and Geochemistry", American Geophysical Union, Fall Meeting, Fall 2005, San Francisco, CA.

TEACHING EXPERIENCE

Geodynamics, a joint taught senior undergraduate and graduate level geology course, University of Idaho, (co-taught with Eric Mittlestaedt), Fall 2014, 2015.

Geophysics, GEOL 405/505 - senior undergraduate and graduate level geology course, School of the Environment, Washington State University, Spring 2009, 2010, 2011, 2012, 2014, Fall 2015.

Earth's History and Evolution, GEOL 210 - sophomore undergraduate level geology course, School of the Environment, Washington State University, Fall 2009-2014, Spring 2017, Summer 2010.

Introduction to Geology, GEOL 101 - undergraduate level geology course, School of the

Environment, Washington State University, Summer 2011.

Introduction to Geology, GEOL 102 - undergraduate level geology course for engineering and honors students and science majors only, School of the Environment, Washington State University, Spring 2013, 2015, 2016.

Current Topics in Geosciences Reading Seminar, GEOL 597 - graduate level seminar geology course, School of the Environment, Washington State University, Fall 2012-2013, Spring 2013-2014.

The Classic Papers of Plate Tectonics, GEOL 597 - senior undergraduate and graduate level seminar geology course, School of the Environment, Washington State University, Fall 2011.

SERVICE TO PROFESSION

Workshop Organizer: Geodynamic modeling of lithosphere deformation: Advances and challenge, Computational Infrastructure for Geodynamics, 2013, All Hands Meeting, Computational Infrastructure for Geodynamics, 2016.

Program Committee Member: American Geophysical Union, Study of Earth's Deep Interior Focus Group, 2012-2014.

Long Term Tectonics Working Group Member & Chair: Computational Infrastructure for Geodynamics, 2012-present (group member), 2014-2016 (chair).

Science Steering Committee Member: Computational Infrastructure for Geodynamics, 2015-present.

Reviewer:

Science.
Nature Geosciences.
Geology.
Physical of Earth and Planetary Interiors.
Journal of Geophysical Research.
Geophysical Research Letters.
Tectonophysics.
Geophysics, Geochemistry& Geosystems.
Physics of Fluids.

Reviewer & Panel Member: National Science Foundation, 2009-present.

Coordinator of the Study of Earth's Deep Interior's Outstanding Student Presentation Award for American Geophysical Union Fall Meeting, 2011.

Judge, student presentations: Tectonophysics & Study of Earth's Deep Interior, American Geophysical Union, Fall 2009-present.

Organizer and Session Chair: American Geophysical Union, Fall Meeting, 2009, 2013, 2016.

SERVICE TO UNIVERSITY

Executive Board Member, Interim Co-Chair (2017), Chair Elect (2016), Reporter (2015-2016), & Voting Member of the President's Commission on the Status of Women, Washington State University, 2015-present.

Faculty Advisor: Diversity in STEM Student Group, Washington State University, 2016-present.

Awards and Scholarship Committee Chair, School of the Environment, Washington State University, 2015-2016.

Executive Committee Member, School of the Environment, Washington State University, 2014-2016.

Student Recruitment Committee Chair & Member: School of the Environment, Washington State University, 2010-2015 (member), 2013-2015 (chair).

Interviewer: College of Arts & Sciences Ambassador Program, 2014.

High Performance Computing Committee Member: (university wide faculty committee commissioned by VP of Research and VP of IT to guide purchase of a campus high performance computer), Washington State University, 2009-2013.

Faculty Advisor: Geology Club, Washington State University, 2012.

Co-chair of Departmental Seminar Series, Washington State University, 2009-2010.

Faculty Search Committee Member: Washington State University, 2009, 2012-2013, 2013-2015.

SERVICE TO COMMUNITY

Planning Commission Member, City of Palouse, 2016-present.

Geology Expert, Palouse Prairie Charter School, 2016-present.

Film Committee Member, Kenworthy Performing Arts Centre, Moscow, Idaho, 2015-present.

Panel Member: National Oceanic Science Bowl, Washington, D.C., 2009, 2010.

Presenter: What is Geology?, Palouse Cub Scout Troop, Pullman, WA 99163, 2015.

Presenter: Boom! Fizz! Read!, Summer Reading Program, Palouse Library, Palouse, WA 99161, 2014.

Presenter: Great Explorations: a Science, Technology, Engineering and Math Adventure for 5th-8th grade girls, Walla Walla, WA, 2013.

Judge: Showcase for Undergraduate Research and Creative Activities, Washington State University,

2008-2014.

Guest Lecturer: Washington State University Honors Courses, 2010, 2013, 2014.

FIELD EXPERIENCE

Participant: High Lava Plains Continental Dynamics seismic experiment, 2006-2009.

AWARDS/VISITING APPOINTMENTS

Woman of Distinction, Washington State University, 2015.

Exceptional Reviewer, Geological Society of America, 2012.

Adjunct Senior Research Fellow, School of Mathematical Sciences, Monash University, 2010.

Visiting Research Scientist, Department of Terrestrial Magnetism, Carnegie Institute of Washington, 2009-present.

Outstanding Student Presentation, American Geophysical Union, Tectonophysics Section, 2004.