

## Curriculum Vitae

ANNE E. EGGER

Geological Sciences and Science Education • Central Washington University

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### Professional appointments

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2021-present Professor, Central Washington University  
2016-2021 Associate Professor, Central Washington University  
2017-2018 Visiting Associate Professor, Stanford University  
2015-2017 Director, Office of Undergraduate Research, Central Washington University  
2011-2016 Assistant Professor, Central Washington University  
2004-2011 Undergraduate Program Coordinator, School of Earth Sciences, Stanford University  
2004-2011 Lecturer, Geological and Environmental Sciences, Stanford University  
2002-2004 Instructor of Geology and Geography, San Juan College, Farmington, NM

### Education

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2010 Ph.D. Geological and Environmental Sciences, Stanford University  
2001 M.S. Geological and Environmental Sciences, Stanford University  
1995 B.A. Geology and Geophysics, Yale University

### Professional activities

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2019-present **Executive Director**, National Association of Geoscience Teachers  
2018-2019 **Editor-in-Chief**, *Journal of Geoscience Education*  
2015-present NAGT Traveling Workshops Program Leader  
2001-present **Senior Editor**, Visionlearning (<http://www.visionlearning.com>)  
2018 NSF **panel reviewer**, IUSE and REU  
2016-2018 **Member**, National Academy of Sciences *Committee on Science Investigations and Engineering Design Experiences in Grades 6-12*  
2014-2018 **Presidential line**, National Association of Geoscience Teachers (NAGT, president 2016-17)  
2016 **Program reviewer**, University of California–Davis  
2015-2016 Science **consultant** for K-5 curriculum development, Lawrence Hall of Science  
2013-2016 **Member**, Faculty Senate General Education Committee (CWU)  
2012-2015 **Panel reviewer**, EDMAP (USGS) (<http://ncgmp.usgs.gov/about/edmap.html>)  
2011-2014 Electorate Nominating Committee **member**, Education Section, AAAS  
2011-12 Curriculum development **consultant**, Nanyang Technological University (Singapore)  
2011 NSF **panel reviewer**, Opportunities for Enhancing Diversity in the Geosciences  
2010-2013 Geoscience **Councilor**, Council on Undergraduate Research (<http://www.cur.org>)  
2009-11 Earth Systems Program (*Stanford University*) Executive Committee **member**  
2005-11 Freshman **advisor** (*Stanford University*)  
2004-11 **Director**, Earth Sciences Undergraduate Research Program (*Stanford University*)  
2006-09 Project Advisory Board **member**, *Understanding Science*  
2006-07 **Instructor**, Continuing Studies Program (*Stanford University*)  
2005-06 NSF **panel reviewer**, Research Experiences for Undergraduates (REU)  
2006 Planning Committee, Geoscience Education & Public Outreach Network (GEPON)

1999-2006 Main **Presenter**, BASEE and PS3 Content Institutes for Teachers

## Honors and Awards

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2019 Elected a Fellow of the Geological Society of America  
 2014-15 EarthScope Distinguished Speaker  
 2011 *Science Prize for Inquiry-Based Instruction (AAAS)*  
 2010 School of Earth Sciences Excellence in Teaching Award (*Stanford University*)

## Funded grants

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### *National Science Foundation*

\$1,998,923 PI, Enabling Future Teachers to Experience Science Investigation and Engineering Design in Introductory Undergraduate STEM Classrooms (IUSE, 2020–2023)  
 \$360,039 PI, REU Site: Hazards and Risks of Climate Change in the Pacific Northwest (REU, 2016-19)  
 \$300,000 Co-PI, Engaging Local Communities in Geoscience Pathways (INCLUDES, 2016-18)  
 \$298,289 Co-PI, Collaborative Research: The Next Generation of STEM Teacher Preparation in Washington State (IUSE, 2016-2020)  
 \$10,000,000 Co-PI, InTeGrate: Interdisciplinary Teaching about Earth for a Sustainable Future (STEP Center, 2011-19)

### *US Geological Survey*

\$61,851 PI, Earthquake Hazard Assessment of the Winter Rim fault system, Eastern Oregon (NEHRP, 2015-16)  
 \$17,500 PI, Volcano-tectonic history of the northern Warner Range, northeastern California (EDMAP, 2012-13)

### *NASA*

\$561,425 Co-PI, Long-term earthquake hazards and groundwater resources in a tectonically active region: Critical insights from UAS (ROSES: UAS-Enabled Earth Science, 2011-13)

### *Central Washington University (Internal)*

\$2900 CWU Foundation Len Thayer Grant (2020)  
 \$2364 School of Graduate Studies and Research Faculty Research Grant (2019)  
 \$6475 Center for Excellence in Science and Math Education (CESME) Faculty Workload Grant (2013)  
 \$3000 College of the Sciences Faculty Summer Grant (2012)

## Invited talks (*since 2015*)

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2020 National Academies of Science, Engineering, and Medicine workshop, *Education for Living in a Changing Climate*  
 2020 National Academies of Science, Engineering, and Medicine Symposium, *Advancing a Systems Approach to Studying the Earth*  
 2019 Trinity University, Collaborative for Teaching and Learning  
 2018 University of North Carolina, Geological Sciences Seminar  
 2017 Seattle *March for Science*

- 2017 GSA Annual Meeting, Session T124. *Practical Advice for In-Service and Pre-Service K–12 Earth Science Teacher Preparation and Professional Development*
- 2016 Portland State University, Geology department seminar
- 2015 American Geophysical Union Fall Meeting, Session ED23F *Climate Literacy: Research and Evaluation at the Intersection of Barriers, Science Literacy, and Misconceptions*
- 2015 GSA Annual Meeting, Session T84. *Practical Faculty-Related Issues & Trans-Disciplinary Pedagogical Strategies Associated with Classroom Transformation*
- 2015 American Association of Physics Teachers Annual Meeting

### Professional development workshops led (since 2015)

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- 2021 1 (Traveling workshop at the University of Montana)
- 2020 2 (3-day workshop at Earth Educators' Rendezvous, ½-day AGU Heads and Chairs)
- 2019 3 (Traveling workshops at University of the Pacific (2 days) and AGU meeting (½-day), ½-day JGE workshop at Earth Educators' Rendezvous)
- 2018 4 (1/2-day NAGT workshop at AGU, 2-day Traveling Workshop at Boise State University, 3-day InTeGrate workshop for K–12 teachers, 1-day InTeGrate workshop for Stanford graduate students)
- 2017 4 (Traveling workshops at California State University–San Bernardino (2 days) and University of Hawaii (1/2-day), 2-day NAGT workshop at Earth Educators' Rendezvous, ½-day InTeGrate workshop at GSA Cordilleran Section Meeting)
- 2016 3 (1/2-day NAGT workshop at AGU, 2-day InTeGrate workshop for Stanford graduate students, 2-day workshop at Earth Educators' Rendezvous)
- 2015 3 (1-day Traveling Workshop at UW-Tacoma, 2-day InTeGrate workshop for Stanford graduate students, 2-day workshop at Earth Educators' Rendezvous)

### Books

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- Gosselin, D.C., Egger, A. E., and Taber, J.J., eds., 2019, [Interdisciplinary Teaching about Earth and the Environment for a Sustainable Future](#). AESS Interdisciplinary Environmental Studies and Sciences Series, Springer International Publishing, doi: 10.1007/978-3-030-03273-9
- National Academies of Sciences, Engineering, and Medicine, 2018, *Science and Engineering for Grades 6-12: Investigation and Design at the Center*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/25216>.
- Carpi, A. and Egger, A.E., 2011, [The Process of Science](#). Visionlearning, Inc.: New Canaan, CT (also available online at <http://www.visionlearning.com>)
- Carpi, A. and Egger, A.E., 2009, *Natural Science*, 6<sup>th</sup> Edition. Kendall-Hunt, Dubuque, IA (also available online at <http://www.visionlearning.com/library>)

### Publications (\* = student co-author)

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- Viskupic, K., Egger, A. E., McFadden, R. R., & Schmitz, M. D., 2020, Comparing desired workforce skills and reported teaching practices to model students' experiences in undergraduate geoscience programs. *Journal of Geoscience Education*, 1-16. <https://doi.org/10.1080/10899995.2020.1779568>
- McFadden, R. R., Viskupic, K., & Egger, A. E., 2019, Faculty self-reported use of quantitative and data analysis skills in undergraduate geoscience courses. *Journal of Geoscience Education*, 1-14. <https://doi.org/10.1080/10899995.2019.1700595>

- Egger, A. E., Viskupic, K., and Iverson, E., 2019, Results of the National Geoscience Faulty Survey (2004-2016). Northfield, MN: National Association of Geoscience Teachers, 82 p.  
[https://serc.carleton.edu/NAGTWorkshops/CE\\_geo\\_survey/index.html](https://serc.carleton.edu/NAGTWorkshops/CE_geo_survey/index.html)
- Egger, A. E., 2019, The role of introductory geoscience courses in preparing teachers—and all students—for the future: Are we making the grade? *GSA Today*, v. 29, <https://doi.org/10.1130/GSATG393A.1>
- Egger, A. E., Bruckner, M. Z., Birnbaum, S. J., and Gilbert, L. A., 2019, Developing effective interdisciplinary curricular materials, in Gosselin, D. C., Egger, A. E., and Taber, J. J., eds., *Interdisciplinary Teaching about Earth and the Environment for a Sustainable Future*. Springer International Publishing
- Gosselin, D. C., Manduca, C. A., Bralower, T. J., and Egger, A. E., 2019, Preparing Students to Address Grand Challenges and Wicked Problems: The InTeGrate Approach, in Gosselin, D. C., Egger, A. E., and Taber, J. J., eds., *Interdisciplinary Teaching about Earth and the Environment for a Sustainable Future*, Springer International Publishing.
- Steer, D., Iverson, E., Egger, A. E., Kastens, K., Manduca, C., & McConnell, D., 2019, InTeGrate materials development: A framework and process for developing curricular materials that address grand challenges facing society, in Gosselin, D. C., Egger, A. E., and Taber, J. J., eds., *Interdisciplinary Teaching about Earth and the Environment for a Sustainable Future*. Springer International Publishing
- Ritzinger, B. \*, Glen, J.M.G., and Egger, A.E., *in review*, Resolving a detailed tectonic history using paleomagnetic correlation and mapping: Faulting, volcanism, and vertical-axis rotation in the northwestern Basin and Range. *Geochemistry, Geophysics, Geosystems*.
- Egger, A. E., Weldon, R. J., Langridge, R. M., Ibarra, D. E., Marion, B. \*, & Hall, J. \*, 2018, The influence of pluvial lake cycles on earthquake recurrence in the northwestern Basin and Range, USA. In S. W. Starratt & M. R. Rosen (Eds.), *From Saline to Freshwater: The Diversity of Western Lakes in Space and Time* (Special Paper 536). Boulder, CO: Geological Society of America.
- Egger, A. E., Marion, B. \*, & Hall, J. \*, 2017, Combined high-resolution topographic analysis and paleoshoreline dating reveal spatio-temporal variability in slip rates on low-strain-rate normal faults. In *8th International INQUA Meeting on Paleoseismology, Active Tectonics and Archeoseismology (PATA)*. Blenheim, New Zealand.
- Egger, A. E., Kastens, K. A., & Turrin, M. K., 2017, Sustainability, the Next Generation Science Standards, and the education of future teachers. *Journal of Geoscience Education*, v. 65, no. 2, p. 168-184, doi: [10.5408/16-174.1](https://doi.org/10.5408/16-174.1)
- Grose, T. L. T., Egger, A. E., & O'Neal, M. D., 2017, Preliminary Geologic Map of the Cedarville 30' × 60' Quadrangle, California. *California Geological Survey*.  
[http://www.conservation.ca.gov/cgs/rghm/rgm/Pages/preliminary\\_geologic\\_maps.aspx](http://www.conservation.ca.gov/cgs/rghm/rgm/Pages/preliminary_geologic_maps.aspx)
- Athens, N., Glen, J.M.G., Klemperer, S., Egger, A.E., Fontiveros, V., 2015, Hidden intra-basin extension: Evidence for dike-fault interaction from magnetic, gravity, and seismic reflection data in Surprise Valley, NE California. *Geosphere*, v. 12, no. 1, doi:10.1130/GES01173.1
- Ibarra, D.E. \*, Egger, A.E., Weaver, K.L., Harris, C.R., Maher, K., 2014. Rise and fall of late Pleistocene pluvial lakes in response to reduced evaporation and precipitation: Evidence from Lake Surprise, California. *Geological Society of America Bulletin* B31014.1, 30.
- Egger, A.E., Glen, J.M.G., McPhee, D.K., 2014. Structural controls on geothermal circulation in Surprise Valley, California: A re-evaluation of the Lake City fault zone. *Geological Society of America Bulletin* 126, 523-531.
- Egger, A. E. and Carpi, A., 2013, Revealing data in science: Using and teaching about data-based graphics for analysis and display, in Finson, K. D. and Pederson, J., eds., *Visual Data and Their Use in Science Education*; Charlotte, NC: Information Age Publishing (INVITED)
- Egger, A. E., 2012, Engaging Students in Earthquakes via Real-Time Data and Decisions: *Science*, v. 336, no. 6089, p. 1654-1655, doi: 10.1126/science.1214293 (INVITED)
- Egger, A.E. and Klemperer, S.L., 2011, Recruiting Students into the Earth Sciences through Undergraduate Research: *CUR Quarterly*, v. 32, no. 2, p. 22-31
- Egger, A.E. and Miller, E.L., 2011, Evolution of the northwestern margin of the Basin and Range: The geology and extensional history of the Warner Range and environs, northeastern California: *Geosphere*, v. 7, no. 3, p. 756-773, doi: 10.1130/GES00620.1

- Colgan, J.P., Egger, A.E., John, D.A., Cousens, B., Fleck, R.J., Henry, C.D., 2011, Oligocene and Miocene arc volcanism in northeastern California: Evidence for post-Eocene segmentation of the subducting Farallon plate: *Geosphere*, v. 7, no. 3, p. 733-755, doi: 10.1130/GES00650.1
- Egger, A.E., Glen, J.M.G., and Ponce, D.A., 2010, The northwestern margin of the Basin and Range Province, Part 2: Structural setting of a developing basin from seismic and potential field data: *Tectonophysics*, v. 488, nos. 1-4, p. 150-161, doi:10.1016/j.tecto.2009.05.029
- Egger, A.E., Colgan, J.P., and York, C.\*, 2009, Provenance and paleogeographic implications of Eocene-Oligocene sedimentary rocks in the northwestern Basin and Range, *International Geology Review*, v. 51, p. 900 – 919
- Hamilton, C.H., Surma, L.L.\*, and Egger, A.E., 2006, The Effects of the 1906 Earthquake on the Stanford Campus in Prentice, C.S., Scotchmoor, J.G., Moores, E.M., and Kiland, J.P., eds., 1906 San Francisco Centennial Field Guides: Field trips associated with the 100th Anniversary Conference: GSA Field Guide 7, p. 193-213
- Egger, A.E., Dumitru, T. A., Miller, E. L., Savage, C. F. I., & Wooden, J. L., 2003, Timing and nature of Tertiary plutonism and extension in the Grouse Creek Mountains, Utah. *International Geology Review*, v. 45, no. 6, p. 497-532
- Egger, A.E., 2003, Teaching and Research in Taiwan, *GSA Today*, v. 13, no. 12, p. 30-31

## Edited publications

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- Darby, K., Phillips, L., and Phillips, M., 2016, *Mapping the Environment with Sensory Perception*. edited by A. E. Egger, InTeGrate: [http://serc.carleton.edu/integrate/teaching\\_materials/map\\_sense/index.html](http://serc.carleton.edu/integrate/teaching_materials/map_sense/index.html)
- Hanselman, J., Oches, R., Sliko, J., and Wright, L., 2016. *Cli-Fi: Climate Science in Literary Texts*. edited by A. E. Egger, InTeGrate: [http://serc.carleton.edu/integrate/teaching\\_materials/climate\\_fact/index.html](http://serc.carleton.edu/integrate/teaching_materials/climate_fact/index.html)
- Hoff, R. J., 2016, *Environmental Justice and Freshwater Resources - Spanish Adaptation*. edited by A. E. Egger, InTeGrate: [http://serc.carleton.edu/integrate/teaching\\_materials/freshwater\\_spanish/index.html](http://serc.carleton.edu/integrate/teaching_materials/freshwater_spanish/index.html)
- Baldwin, K. A., Dechaine, J. M., Hauge, R., and Varrella, G., 2015, *Soils, Systems, and Society*, edited by A. E. Egger: InTeGrate [http://serc.carleton.edu/integrate/teaching\\_materials/soils/index.html](http://serc.carleton.edu/integrate/teaching_materials/soils/index.html)
- Rosen, J., 2014, The History of Earth's Atmosphere I: The Origin of the Modern Atmosphere, in *Atmosphere and Oceans*, edited by A. E. Egger, Visionlearning: <http://www.visionlearning.com/en/library/Earth-Science/6/The-History-of-Earth's-Atmosphere-I/202>
- Rosen, J., 2014, The History of Earth's Atmosphere II: The Rise of Atmospheric Oxygen, in *Atmosphere and Oceans*, edited by A. E. Egger, Visionlearning. <http://www.visionlearning.com/en/library/Earth-Science/6/The-History-of-Earth's-Atmosphere-II/203>
- Ebert, J., Linneman, S., and Thomas, J., 2014, Exploring Geoscience Methods, in *InTeGrate teacher preparation modules*, edited by A. E. Egger. Data-rich curricular module for secondary science methods courses: [http://serc.carleton.edu/integrate/teaching\\_materials/geosci\\_methods/index.html](http://serc.carleton.edu/integrate/teaching_materials/geosci_methods/index.html)
- Debari, S. M., Gray, K., and Monet, J., 2014, Interactions between Water, Earth's Surface, and Human Activity, in *InTeGrate teacher preparation modules*, edited by A. E. Egger. Data-rich curricular module for inquiry-based Earth science courses: [http://serc.carleton.edu/integrate/teaching\\_materials/energy\\_and\\_processes/index.html](http://serc.carleton.edu/integrate/teaching_materials/energy_and_processes/index.html)

## Professional memberships

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American Association for the Advancement of Science  
American Educational Research Association  
American Geophysical Union  
Geological Society of America  
North American Association for Environmental Education  
National Association of Geoscience Teachers  
National Science Teachers Association  
Union of Concerned Scientists