

# Jenny Marie Dauer

Assistant Professor in Science Literacy

School of Natural Resources

University of Nebraska-Lincoln

502 Hardin Hall, 3310 Holdrege Street, Lincoln, NE 68583-0995

402.318.7349 | 402.472.2946 (fax) | jenny.dauer@unl.edu | <http://go.unl.edu/jennydauer>

## Education:

**Ph.D. in Ecosystem Ecology** 2006 – 2012

**Oregon State University, Department of Forest Science**

Dissertation title: Calcium oxalate in sites of contrasting nutrient status in the Oregon Coast Range.

Advisor: Dr. Steven Perakis, USGS

**Masters in Ecology** 2002 – 2005

**Penn State University**

Thesis title: Reasons for differential leaf calcium accumulation in forest trees.

Advisor: Dr. David Eissenstat, Department of Horticulture

**Bachelor of Science with Honors in Secondary Education** 1995 – 2000

PA Teacher Certification in Biology, Environmental Science, General Science

Penn State University, The Schreyer Honors College

Thesis title: Curriculum integration in the home school; possibilities for meaningful learning.

Advisor: Dr. J. Daniel Marshall, Curriculum and Instruction Department

## Professional Experience:

**Assistant Professor in Science Literacy (60% teaching, 40% research)** 2016- present

School of Natural Resources, University of Nebraska, Lincoln

**Assistant Professor of Practice in Science Literacy (75% teaching, 25% research)** 2013- 2016

School of Natural Resources, University of Nebraska, Lincoln

**Post-doctoral Researcher in Biology Discipline-Based Education Research** 2011 – 2013

**Michigan State University**

Mentor: Dr. C.W. (Andy) Anderson, Department of Teacher Education

**Assistant Director of Graduate Education** 2005 – 2006

**The Franklin Institute Science Museum, Program Associate** 2001 – 2002

## Grants:

Funded:

PI, NSF IUSE, 2016: *“Decision-making about socioscientific issues in multidisciplinary postsecondary learning environments”* Funded 9/2017- 8/2020, \$299,969

Co-PI, University of Nebraska Collaboration Initiative Seed Grant Application, 2017: *Developing a MOOCocracy Prototype to Increase Public Understanding of Food Insecurity* Funded 7/2017 - 6/2019, \$149,693

Co-PI, USDA-NIFA, 2016: *Excellence in Education for Food, Energy and Water (E<sup>2</sup>FEW)* \$150,000

Co-PI, Nebraska Environmental Trust: *Working with rural post-secondary student to document swift fox on*

Nebraska Ranches. Funded 2015, \$210,757

Senior Personnel/Consultant, EPA Environmental Education: *Classrooms Take Charge*. Funded 2016, \$121,675

Senior Personnel/Consultant, EPA Environmental Education: *Classrooms Take Charge*. Funded 2014, \$334,536

IANR Faculty Travel Award, 2015 (\$500), 2016 (\$1000)

Faculty Mentor, UCARE for Olivia Straka, 2015-2016 (\$2,400)

Faculty Mentor, UCARE for Jena Wilson, 2017-2018 (\$2,400)

Pending and in progress:

none

Declined grants (last 5 years):

Collaborating Mentor, USDA-NIFA, 2017, Postdoctoral fellowship for Zhian Kamvar: *Developing a Reproducible Research Curriculum from Real-World Examples in Agriculture*.

Co-PI, USDA-NIFA REEU, 2017: Streaming Science Electronic Field Trip Production for Engaging Undergraduates in Extension Entomology PK-12 Education and Outreach, \$300,000

Co-PI, NSF IUSE/PFE:RED, 2017: *Civil Engineering Education for the Future – Breaking Barriers to Address Big Problems (CEE the Future)* \$1,999,406

Co-PI, Rural Futures Institute, 2017: *Community Engagement for Sustainable Communities: Food System Decision-Making* \$19,998

Co-PI, NSF IUSE, 2016: *Excellence in Education for Food, Energy and Water (E<sup>2</sup>FEW)* \$300,000

PI, Academic Affairs – Grants for Scholarship of Teaching and Learning, 2016: “*Science literacy through decision-making about complex socioscientific issues.*”

Co-PI, Academic Affairs – Grants for Scholarship of Teaching and Learning, 2016: “*Shifting science communication courses to a project-based solutions-focused instructional design approach.*”

Steering Committee and founding member, NSF Research Coordination Network-UBE, 2016: *RELATES: Research Establishing & Linking Argumentation to Education in Science*

PI, NSF IUSE, 2016: *Making Decisions about Socioscientific Issues in Multidisciplinary Postsecondary Learning Environments*

Co-PI, NSF REU: *Immersion into the STEM Education Research Community*

Co-PI, USDA NIFA: *Building Resilient Organic Agroecosystems through Cover Crops and Science Literacy*

Co-PI, NE Teacher Quality: *Agroecosystems as Tools for Teaching*

Co-PI, NSF CORE: *Developing a Learning Progression for Learning From Scientific Evidence*

## **Publications:**

Golick D, Dauer JM\*, Lynch L, Ingram E (2017) A framework for pollination systems thinking and conservation. *Environmental Education Research*. \*joint first-authorship with Golick.  
DOI:10.1080/13504622.2017.1349878

Sabel JL, Vo T, Alred A, Dauer JM, Forbes CT (2017) Undergraduate students’ scientifically-informed decision-making about socio-hydrological issues. *Journal of College Science Teaching*, 46(6), 64-72.

Covitt BA, Dauer JM, Anderson CW (2017) The Role of Practices in Scientific Literacy. In Schwarz, C., Passmore, C., & Reiser, B. (Eds.) *Helping Students Make Sense of the World Using Next Generation Science and Engineering Practices*. The National Science Teachers Association (NSTA) Press: Arlington, VA.

Dauer JM, Lute ML, Straka O (2017) Indicators of informal and formal decision-making about a socioscientific issue. *International Journal of Education in Mathematics, Science and Technology*. 5(2), 124-138. DOI:10.18404/ijemst.05787

- Dauer JM and Forbes C (2016) Making decisions about complex socioscientific issues: a multidisciplinary science course. *Science Education and Civic Engagement: An International Journal*, 8:5-12.
- Dauer JT and Dauer JM (2016) A framework for understanding the characteristics of complexity in biology. *International Journal of STEM Education*. 3:13
- Dauer JM, Doherty JH, Freed AL, Anderson CW (2014) Connections between student explanations and arguments from evidence about plant growth. *CBE-Life Science Education*, 13:397-409.
- Dauer JM, Perakis SS (2014) Calcium oxalate contribution to calcium cycling in forests of contrasting nutrient status. *Forest Ecology and Management*, 334:64-73.
- Dauer JM, H Miller & CW Anderson (2014). Conservation of energy: An analytical tool for student accounts of carbon-transforming processes. In R. Chen, A. Eisenkraft, D. Fortus, J. Krajcik, K. Neumann & A. Scheff (Eds.), *Teaching and Learning of Energy in K-12 Education*. New York: Springer
- Dauer JM, and S Perakis (2013) Contribution of calcium oxalate to soil exchangeable calcium. *Soil Science*, 178:671-678.
- Dauer JM, H Miller & CW Anderson (2013) Inquiry and argumentation about carbon transforming processes. Paper Presented at the Annual Meeting of the National Association for Research in Science Teaching, Rio Grande, Puerto Rico, April 6, 2013. Available at: <http://edr1.educ.msu.edu/EnvironmentalLit/index.htm>
- Miller H, A Webster, JM Dauer, CW Anderson (2013). Alternative Learning Trajectories Toward Understanding Matter and Energy in Socio-Ecological Systems. Paper Presented at the Annual Meeting of the National Association for Research in Science Teaching, Rio Grande, Puerto Rico, April 6, 2013. Available at: <http://edr1.educ.msu.edu/EnvironmentalLit/index.htm>
- Dauer JM, J Chorover, OA Chadwick, J Oleksyn, MG Tjoelker, SE Hobbie, PB Reich, DM Eissenstat, 2007. Controls over leaf and litter calcium concentrations among temperate trees. *Biogeochemistry* 86: 175-187.
- Dauer JM, JM Withington, J Oleksyn, J Chorover, OA Chadwick, PB Reich, DM Eissenstat, 2009. A scanner-based approach to soil profile-wall mapping of root distribution. *Dendrobiology* 62:35-40
- Dauer JM, C Lettero, M Ocana, 2011. A review of ethical concepts and moral reasoning integration into climate change curriculum. *Journal for Activism in Science & Technology Education* 3:131-175.
- Johnathan Thompson & Jenny Edwards\*, 2008. A landslide is a landslide is a landslide... or is it? Defining landslide potential across large landscapes. *Science Findings*, Issue 101, Pacific Northwest Research Station. \*unmarried name
- Jordan Butler & Dale McCreedy. 2007 Science is everywhere: A resource guide. Parent Partners In School Science. The Franklin Institute Science Museum. (contributor)
- Noteable Notes on Forest Science. 2009. A series of three 500-word articles about climate change for K-12. Published online at Oregon State College of Forestry and at AAAS Science Reporting for Kids. <http://www.cof.orst.edu/cof/extended/K-12/notablenotes/index.php>

**Publications in preparation or review, manuscripts available:**

Petersen A.M., Dauer J.M., Forbes C. (accepted) Construal and value-belief norm theories: implications for undergraduate decision-making on a prairie dog socioscientific issue. *International Journal of Science Education*.

Lynch L., Dauer J.M., Babchuck W., Heng-Moss T., Golick D. (accepted) Assessing Entomology Citizen Science Learning Outcomes: The Value of Participants' Perceptions Gathered Through a Mixed Methods Approach.

Petersen A.M., Dauer J.M., Forbes C., Kreuziger T., Schubert J. (submitted) Sixth grade students' problematization of and decision-making about a wind energy socioscientific issue.

Alred A., Dauer JM (submitted) A Framework for Quality Decision-making in a Postsecondary Classroom Setting.

Goralnik L., Dauer J.M., Lettero C., (submitted) Communities Take Charge: Climate Learning and Changemaking in the Science Classroom.

Sorensen, A.E., Corral, L., Fontaine, J.T., Dauer, J. M. (in preparation) Authentic science learning and data collection in the classroom- Classroom Undergraduate Research Experiences (CUREs).

Lynch L., Babchuck W., Dauer J., Heng-Moss T., Golick D. (in preparation) Transference of citizen science program impacts: An untapped benefit of public participation in scientific research.

Dauer JM, T Bullen and S Perakis (in preparation) Role of calcium oxalate in controlling Ca/Sr discrimination and  $^{44}\text{Ca}/^{40}\text{Ca}$  fractionation in terrestrial ecosystems.

Alred A., Hartley L.M., Doherty J.H., Harris C., Dauer J.M. (in preparation) Exploring student understanding of genetic variability of species conservation.

Romine, W., Sadler, T., Dauer, J.M., Kinslow, A. (in preparation) Further development and validation of the quantitative assessment of socioscientific reasoning (QuASSR) and evaluation of a model for scaffolding socioscientific reasoning within SSI-based instruction at the university level.

Dauer JT., Alred A., Dauer J.M., Niosco N., (in preparation) Recognition of surface and deep features of a food web by undergraduates in introductory biology.

Dauer J.M., Doherty J., Anderson C.W. (in preparation) Tracing matter and energy at ecosystem scales.

**Presentations:****Invited presentations:**

1. Dauer, J. M. "Definitions of science literacy and finding models for change" Presentation for the UNL Applied Plant Sciences Experiential Learning Program, June 16, 2017.
2. Dauer, J. M. "Definitions of science literacy and finding models for change" Presentation for the Agronomy & Horticulture Graduate Student Association and Scientific Communication and its Impacts on Policy, Literacy and Education (SCImPLE) Group, January 26, 2017.
3. Dauer, J. M. "Teaching and research in SCIL 101: Science and decision-making for a complex world." DBER seminar at UNL, Oct 6, 2016, Lincoln, NE
4. Dauer, J. M. "Teaching and research in SCIL 101: Science and decision-making for a complex world." Agronomy & Horticulture Seminar Series, Oct 14, 2016, Lincoln, NE.
5. Golick, D and Dauer, J. "Brain Buzz: A framework for exploring pollination systems knowledge of undergraduates." DBER meeting group at UNL, Nov 17, 2016, Lincoln, NE.
6. Dauer, J. "Science Literacy and Decision-making." Re-STEM Institute, University of Missouri, October, 2016.

7. Dauer, J. "Investigating students' ecosystem knowledge and science literacy practices." Ecology and Evolutionary Biology Departmental Seminar, C.U. Boulder, February 2016
8. Dauer, J., Doherty, J., Anderson C.W. "Student learning about tracing matter and energy in ecosystems" Ecology Society of America, Baltimore, MD August 2015.
9. Dauer, J. "Transformations in matter and energy: student learning and inquiry to inform teaching" DBER seminar at UNL, September 5<sup>th</sup>, 2013, Lincoln, NE.
10. Dauer, J. & Anderson C.W. "Developing a framework for inquiry and argumentation about carbon-transforming process" National Association for Research in Science Teaching (NARST), Puerto Rico, April 2013.
11. Dauer, J. & Anderson C.W. "An inquiry learning progression for carbon-transforming processes" Create 4 STEM seminar series, Michigan State University, March 2013, Lansing, MI.
12. Dauer, J. "Calcium: location, movement and chemical forms in forest ecosystems." Summer Institute, K-12 Science Teacher Workshop, Kellogg Biological Station, June 2012.
13. D'Avanzo, C., Doherty, J., Dauer, J., Hartley, L., Momsen, J. "Whole Course Transformation for Introductory Biology." Introductory Biology Program Conference, Washington, D.C., July 2012.
14. Dauer, J. "Differential leaf calcium accumulation in forest trees" University of Penn, Philadelphia PA, Sept 2004.
15. Dauer, J. "Calcium uptake in forest trees." Penn State Scranton-Worthington Campus, Scranton, PA, April 2005.

**Presentations (2012 to present):**

1. Lally, D., Forbes, C. T., Dauer, J.M. "Helping undergraduate students CREATE understanding of scientific and popular media articles about contemporary water issues." NARST, March 2018 (accepted paper).
2. Jimenez, P.C., Dauer, J.M. "Applying scientific evidence to solving socioscientific issues using a science literacy decision-making tool." NARST, March 2018 (accepted paper).
3. Dauer, J.M., Alred, A. "A framework for quality decision-making to promote science literacy in a post-secondary classroom." NARST, March 2018 (accepted paper).
4. Sorensen, A.E., Dauer, J.M., Corral, L., Fontaine, J.J. "Authentic scientific data collection in support of an integrative model-based class." American Geophysical Union, December 2017, New Orleans, LA.
5. Dauer, J.T., Alred, A., Dauer, J.M., Niosco, N. "Exploration of undergraduate students' knowledge of community dynamics." Ecology Society of America. Portland, OR, Aug 2017.
6. Jimenez, P.C., Dauer, J.M. "Students' decision-making process within socioscientific issues: the use of a decision-making tool." SABER, Minneapolis, MN, July 2017.
7. Wilson, J., Dauer, J.M. "Civic engagement in an undergraduate course focused on socioscientific issues." UNL Spring Research Fair, Lincoln, NE, April 2017.
8. Wilson, J., Dauer, J.M. "Civic engagement in socioscientific issues." UNL RED talk, Lincoln, NE, Oct 2017.
9. Dauer, J., Jimenez, P.C. "Supporting students' decision-making about food, energy and water socioscientific issues" Food, Energy & Water Education Poster Symposium, Water for Food Conference, April 2017, Lincoln, NE.
10. Peterson, A. M., Dauer, J., Forbes, C. "Using construal theory to understand students' problemization of a prairie dog socioscientific issue." Food, Energy & Water Education Poster Symposium, Water for Food Conference, April 2017, Lincoln, NE.
11. Golick D, Dauer J, Lynch L, Ingram E. "Brain Buzz: A framework for exploring pollination systems knowledge of undergraduates." Food, Energy & Water Education Poster Symposium, Water for Food Conference, April 2017, Lincoln, NE.

12. Helmke, C., Corral, L., Lute, M., Dauer, J.M., Fontaine, J. J. "Using citizen science to monitor carnivores in Nebraska." Midwest Fish and Wildlife Conference, Feb 2017, Lincoln, NE.
13. Peterson, A. M., Dauer, J., Forbes, C. "Using construal theory to understand students' problemization of a prairie dog socioscientific issue." Midwest Fish and Wildlife Conference, Feb 2017, Lincoln, NE.
14. Peterson, A. M., Dauer, J., Forbes, C. "Student conceptualization of wind energy issues and their decision-making in wind energy education" NARST Annual International Conference, April 2017, San Antonio, TX.
15. Lally, D., Sabel, J., Forbes, C., Dauer, J.M. "Undergraduate Students' Use and Understanding of Scientific and Popular Media Articles" NARST Annual International Conference, April 2017, San Antonio, TX.
16. Alred, A., Dauer J. "Exploring how values influence undergraduate informal and formal decision-making about a wildlife conservation issue." SABER, Minneapolis MN, July 2016.
17. Dauer, J. Lute, M. Straka, O. "Supporting students' formal decision-making about biofuels." SABER, Minneapolis MN, July 2016.
18. Dauer, J. "Teaching tools for agricultural literacy and science-informed decision-making." North American Colleges and Teachers of Agriculture, June 2016, Honolulu, Hawaii.
19. Golick D, Dauer J, Lynch L, Ingram E. "Brain Buzz: A framework for exploring pollination systems knowledge of undergraduates." International Pollinator Conference, July 2016, State College, PA
20. Dauer, J. Lute, M. Straka, O. "Supporting students' formal decision-making about biofuels." STEM retreat Oct 2016, Lincoln, NE
21. Straka, O., Dauer, J. "Science-informed arguments in undergraduates' opinions about biofuels" Spring Research Fair, April 2016, Lincoln, NE.
22. Straka, O., Dauer, J. "Science-informed arguments in undergraduates' opinions about biofuels" School of Natural Resources Elevator Speech Contest, Winning Undergraduate Poster, Feb 2016, Lincoln, NE.
23. Sabel, J., Vo, T., Alred, A., Dauer, J., Forbes, C. "Undergraduate Students' Scientifically-Informed Decision-Making about Water-Based Socioscientific Issues." NARST, Baltimore, MD, April 2016.
24. Golick, D., Dauer, J., Lynch, L., Ingram, E. "Buzz Brains: A framework for exploring pollination knowledge of undergraduates." National Entomological Society of America Meeting, Minneapolis, MN Nov 2015.
25. Dauer, J., Forbes, C. "A socioscientific framework for teaching a general science literacy course." UNL STEM Retreat, Lincoln NE, Oct 2015
26. Golick, D., Dauer, J., Lynch, L., Ingram, E. "Exploring pollination knowledge of undergraduates through interviews." Entomological Society of America, Manhattan KS, June 2015
27. Dauer, J., Forbes, C. "A socioscientific framework for teaching a general science literacy course." SABER, Minneapolis MN, July 2015
28. Alred, A., Doherty, J., Hartley, L., Dauer, J. "Biodiversity literacy: using learning progression frameworks to explore student explanations of species conservation" SABER Minneapolis MN, July 2015.
29. Parker, J., Covitt, B., Dauer, J., & Anderson, C.W. "Student sense making about climate change-related data" NARST, Chicago IL, April 2015
30. Freed, A., Dauer, J., Tompkins, E., & Anderson, C.W. "Do students improve their inquiry practices after Carbon TIME instruction?" NARST, Chicago IL, April 2015.
31. Dauer, J., Doherty, J., Freed, A., & Anderson, C. W. "Connections between student explanations and arguments from evidence about plant growth" SABER, Minneapolis MN, July 2014.
32. Dauer, J., & Anderson, C. W. "Learning from evidence in the context of global climate change." NARST, Pittsburg PA, April 2014.

33. Freed, A., Dauer, J., Doherty, J., Johnson, W., & Anderson, C. W. "Connections between students' explanations and interpretations of arguments from evidence." NARST, Pittsburg PA, April 2014.
34. Dauer, J., & Anderson, C. W. "Learning from evidence in the context of global climate change." Geology Society of America, North-Central Section, Lincoln, NE, April 2014.
35. Dauer, J., & Anderson, C. W. "Learning from evidence in the context of global climate change." Geology Society of America, Denver CO, Oct 2013.
36. Dauer, J. & Anderson C.W. "Student practices during inquiry about carbon-transforming processes" Ecology Society of America (ESA), Minneapolis, MN, Aug 2013
37. Dauer, J. & Perakis, S. "Role of Ca oxalate in controlling Ca/Sr discrimination and  $^{44}\text{Ca}/^{40}\text{Ca}$  fractionation" ESA, Minneapolis, MN, Aug 2013
38. Dauer, J. & Anderson C.W. "Student learning about tracing matter and energy in ecosystems" SABER, Minneapolis MN, July 2013
39. Dauer, J. & Anderson C.W. "An inquiry learning progression for carbon-transforming processes" NARST, Puerto Rico, April 2013
40. Miller, H., Webster A., Dauer, J., Anderson C.W. "Alternative learning trajectories toward understanding matter and energy in socio-ecological systems" NARST, Puerto Rico, April 2013
41. Dauer, J. & Anderson C.W. "Carbon TIME Project: Inquiry Activities and Learning Progression" Ecological Society of America, Portland, Oregon, Aug 2012
42. Dauer, J. & Anderson C.W. "Carbon TIME Project: Inquiry Activities and Learning Progression" CREATE for STEM at MSU, May 2012.

**Older presentations venues:**

Ecological Society of America, Austin TX, 2011; Pittsburgh, PA, Aug 2010; Montréal, Canada, Aug 2005; Portland OR. Aug 2004; Savannah GA. Aug 2003  
 Biogeomon International Symposium on Ecosystem Behavior, Helsinki, Finland, June 2009.  
 Forest Science Symposium, Oregon State University, Corvallis, OR, May 2009, May 2007.  
 Northeast Ecology and Evolution Conference, University Park, PA, March 2005.  
 Penn State University Environmental Chemistry Symposium, University Park, PA. March 2004.  
 Cornell University Plant and Soil Symposium, Ithaca NY. April 2003.

**Post-doc Mentoring:**

Amanda Sorensen, University of Nebraska-Lincoln, School of Natural Resources	2017- present
Michelle Lute, University of Nebraska-Lincoln, School of Natural Resources	2015-2016

**Graduate Mentoring:**

P. Citlally Jimenez, PhD, University of Nebraska-Lincoln, SNR	2016-present
A. McKinzie Peterson, MS, University of Nebraska-Lincoln, SNR	2015-2017
Ashley Alred, MS, University of Nebraska-Lincoln, School of Natural Resources	2014-2016

**Committee member:**

Diane Lally, PhD, University of Nebraska-Lincoln, SNR	2017 - present
Brooke Talbott, MAS, University of Nebraska-Lincoln, SNR	2016 - present
Erin Ingram, PhD, University of Nebraska-Lincoln, Entomology Dept	2014 - present
Louise Lynch, PhD, University of Nebraska-Lincoln, Entomology Dept	2013 - 2016

**Undergraduate Mentoring - Independent Research Projects:**

Jena Wilson, University of Nebraska-Lincoln UCARE student	2016 - present
Madeline Eischen (honors thesis)	2016 - present

Lexus Wellman	2016
Jessica Thompson, University of Nebraska-Lincoln	2015
Olivia Straka, University of Nebraska-Lincoln UCARE student	2014 – 2015
Courtney Lannen, Michigan State University	2011 – 2012
Danielle Heston, Oregon State University	2008 – 2009
Jonathan Kravitz, Penn State University	2003 – 2004
Steven Wysinger (Tuskegee University), Penn State University	2004 – 2005

### **Service and Professional Activities (past 3 years):**

NSF DRK-12 Review Panel	2018
UNL Chancellor's Commission on the Status of Women	2017
Multistate Research Planning Committee USDA NCDC231 - Collaborative for Research On Food, Energy and Water Education	2017
UNL Discipline-based Educational Research Organization Leadership	2013 – present
Graduate Student Association Faculty Advisor	2015 – present
Natural Resources Diversity Initiative Student Organization Faculty Advisor	2016 – present
Steering Committee and founding member, Women in Science Group at UNL	2015 – present
School of Natural Resources Seminar Committee	2014 – 2016
School of Natural Resources Social Committee	2014 – 2016
Learning Progression for Place & Region, (NSF, RCN), Workshop in Manhattan KS	2016
Imposter Syndrome Workshop Facilitator, WISE UNL	2016
UNL Spring Research Fair Poster Judge	2016
Mentor, Community for Advancing Discovery Research in Education	2015 – 2016
Faculty Search Committee, Assistant Professor Position, Fish Biologist	2015
Environmental Studies Poster Judge	2014, 2015
Volunteer, STEMMING into the Future K-12 outreach, NE State Fair	2015
Volunteer, UNL School of Natural Resources annual NaturePaloosa outreach	2014, 2015
Prairie Corridor on Haines Branch Committee	2014 – 2015
Outdoor Science Laboratory Development Committee	2013 – 2014
Ad-hoc Journal Reviewer (last 5 years)	
<ul style="list-style-type: none"> <li>• CBE- Life Sciences Education</li> <li>• The Institute for Effective Education</li> <li>• Canadian Journal of Forest Research</li> <li>• International Journal of Education in Math, Science &amp; Technology</li> </ul>	

### **Post-Secondary Teaching Experience:**

*Science and Decision-making for a Complex World (SCIL 101), 2 sections Fall 2016, Spring 2017*

*Introduction to Agriculture and Natural Resources (AGRI/NRES 103), Fall 2014, 2 sections Fall 2015, Spring 2016*

Interdisciplinary science course with 130 students per section. Serving as the lead instructor responsible for curriculum development for all sections encompassing ~600 students per year.

University of Nebraska-Lincoln

*Nebraska Canid Project (NRES 498) 1-credit course* Fall 2016

*School of Natural Resources Seminar (NRES 891)* Fall 2015



*Fundamentals of Biology* (LIFE 121) Evolution, Ecology and Organisms, 2 sections of ~120 in Spring 2014  
University of Nebraska-Lincoln

*Biological Science, Organisms and Populations*, 120 students. Fall 2011  
Michigan State University

*Science for Elementary Schools*, 20 students Fall 2012  
Michigan State University

*Introductory Soil Science*, 12 students Fall 2009  
Linn-Benton Community College

### **Professional Fellowships & Awards:**

**Daugherty Water For Food Global Institute Faculty Fellow** 2018

**Holling Family Award for Teaching Excellence** 2017

**Research Development Fellow Program, UNL** 2016 -2017

Selected to participate from a candidate pool with a 50% acceptance rate. The RDFP is designed to help jumpstart research programs by providing access to information and resources to successfully pursue external grant funding.

**Center for Great Plains Studies Faculty Fellow** 2016 - present

**Community for Advancing Discovery Research in Education (CADRE) Fellow** 2012 - 2013

An NSF-funded program that is a capacity building experience for early career researchers to gain experience in STEM education research and grant finding. One of 10 Fellows selected from competitive national pool.

**Scholar, Faculty Institutes for Reforming Science Teaching (FIRST)** 2011 - 2013

An NSF-funded program that trains post-doctoral researchers in active learning pedagogy over the course of two years via 1) two 2-week intensive workshops 2) development of an introductory biology course with colleagues 3) teaching with active mentoring by experts in the field of undergraduate education.

### **Science Curriculum Development & Design:**

**Science and Decision-Making for a Complex World, UNL** 2014 - present

Lead instructor developing innovative curriculum for a freshman level course required by all students in the College of Agriculture and Natural Resources at UNL.

**Classrooms Take Charge** 2014 - present

Wrote curriculum designed to support student understanding of matter and energy transformation in human energy systems and engagement in service learning around carbon dioxide emissions reductions behaviors for 20+ classrooms in the Pacific Northwest. Funded by EPA EE grant.

**Carbon TIME (Transformations in Matter & Energy) Project Director** 2011 – 2012  
Wrote learning progression-based teaching units on carbon-transforming processes for 6<sup>th</sup> to 12<sup>th</sup> grade, including extensive revision and development based on research of students and teacher feedback. Available publicly: <http://ibis.colostate.edu/MSP/CTIME/Index.php>.

**Curriculum Development Consultant, Climate Change and Behavior** 2009 – 2010  
Created and piloted a set of lesson plans for K-12. Published and distributed by Bonneville Environmental Foundation.

**The Franklin Institute Science Museum, Program Associate** 2001 – 2002  
Developed and conducted inquiry-based science workshops for multi-generational audiences of 200+ participants. Liaison between the museum and three highly diverse inner-city elementary school science programs.

**Women in Science and Engineering Girl's Camp** 2004, 2005  
An inquiry workshop independently developed and chosen from a campus-wide entry pool at Penn State.

**BeyondBooks.com** 2000  
Managed a team of researchers that designed interactive educational programs and created lesson plans.

### Facilitating Professional Development:

**E2FEWs Workshop for faculty at UNL** Dec 2017

**Classrooms Take Charge Workshop**, 2 days w/ 12 middle school teachers, Corvallis OR **June 2017**

**"Teaching for the 21<sup>st</sup> Century" Postsecondary Faculty Workshop, UNL** April 2016  
Invited active learning workshop attended by ~15 UNL faculty, Love Library, Lincoln, NE

**Classrooms Take Charge Workshop**, 2 days with 17 high school teachers, Corvallis OR **Aug 2015**

**Project Director for Carbon TIME (Transformations in Matter & Energy)** Primary facilitator and developer of 10 professional development workshops with ~ 40 teachers to support their use of our curriculum, and data collection including training to perform clinical interviews. Workshops were 1 to 3 days and both face-to-face and long-distance between 2011-2013.

**Kellogg Biological Station K-12 Partnership** Facilitated and developed 5 professional development workshops for in-service teachers during one-day workshops and week-long summer institute between 2011-2013.

### Scholarships and Awards:

R. Spaniol/H.J. Andrews Exper. Forest Writing Retreat Grant, June 2010  
Harry and Mildred Fowells Fellowship, April 2010, OSU College of Forestry  
Meier Education Fund Fellowship, April 2009, OSU College of Forestry  
Waring Travel Award, April 2008, OSU College of Forestry  
Cathy Bacon Fellowship, April 2007, OSU College of Forestry  
Global Fund Award for travel to Costa Rica, Feb 2004, PSU  
J. Brian Horton Memorial Award, March 2004, PSU Ecology

Root Biology Fellowship. Summer 1997. Penn State University

**Professional Memberships:**

National Association for Research on Science Teaching (NARST)  
Society for the Advancement of Biology Education Research (SABER)  
Ecological Society of America (ESA) Education and Biogeochemistry Sections

**Diversity and International Experiences:**

Worked in highly diverse inner-city schools in Philadelphia during 2001-2002. Taught at a community college with a diversity of age and cultural groups. Mentored undergraduate researcher through a program for racial minority groups. Some Spanish language skills. Traveled abroad extensively including several months of coursework in England, coursework and travel in Peru, research in Poland and Costa Rica.