Jenny Marie Dauer

School of Natural Resources
University of Nebraska-Lincoln
904 Hardin Hall, 3310 Holdrege Street, Lincoln, NE 68583-0995
402.472.8136 | 402.472.2946 (fax) | jenny.dauer@unl.edu | http://go.unl.edu/jennydauer

Professional Appointments:

School of Natural Resources Associate Director for Undergraduate Education & Professor in Science Literacy
(25% administration, 35% teaching, 40% research) **2025 – present**
School of Natural Resources, University of Nebraska, Lincoln

School of Natural Resources Associate Director for Undergraduate Education & Associate Professor in Science Literacy
(25% administration, 35% teaching, 40% research) **2019 – 2025**
School of Natural Resources, University of Nebraska, Lincoln

Assistant Professor in Science Literacy (60% teaching, 40% research) **2016 – 2019**
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

Discipline-Based Education Research Post-doc/Carbon TIME Project Director **2011 – 2013**
Michigan State University
Mentor: Dr. C.W. (Andy) Anderson, Department of Teacher Education

Assistant Director of Graduate Education, Huck Institutes, Penn State Univ. **2005 – 2006**
The Franklin Institute Science Museum, Program Associate **2001 – 2002**

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**
Pennsylvania State 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

Grants:

Funded:

1. PI, National Science Foundation, Improving Undergraduate STEM Education (IUSE) (#2417004), 2024: *My Impact: Incorporating Experiential Learning into a Large-Enrollment Introductory STEM Course*: $399,997.
2. Co-PI, UNL Grand Challenges planning grant: *Nebraska One Health,* Funded 2022-2023, $150,000
3. Co-PI, UNL Grand Challenges planning grant: *Serving At-Risk Communities in Disasters: Studying Planning and Response Measures under the Lens of Equity,* Funded 2022-2023, $150,000
4. PI, National Science Foundation, Improving Undergraduate STEM Education (IUSE) (#2216214): *Supporting Students' Science Literacy through Collaborative Critical Evaluation of Evidence,* Funded 2022-2025, $299,983
5. PI, CASNR Holling Innovation Award: *Incorporating Experiential Learning into CASNR's Introductory Core Course, SCIL 101,* Funded 2021, $20,000
6. PI, National Science Foundation, EDU Core Research: Building Capacity in STEM Education Research (BCSER), (#1937657): *Bridging science education and psychology perspectives to support science literacy theory and instruction*, Funded 2019-2023, $349,836
7. Senior personnel, National Science Foundation, Research Coordination Network (RCN): *INFEWS/T3 Cultivating a National Collaborative for Research on Food, Energy and Water Education (NC-FEW),* Funded 2019-2023, $749,964
8. Co-PI, United States Department of Agriculture (USDA)-National Institutes of Food and Agriculture (NIFA), Research and Extension Experiences for Undergraduates (REEU): *Building Undergraduate Research and Science Communication Skills Through Beneficial Insects Protection Research and Extension Experiences (FACT),* Funded 1/2019–12/2022, $362,150
9. PI, National Science Foundation, Improving Undergraduate STEM Education (IUSE) (#1711683): "*Decision-making about socioscientific issues in multidisciplinary postsecondary learning environments*" Funded 9/2017 - 8/2020, $299,969
10. Co-PI, University of Nebraska Collaboration Initiative Seed Grant: *Developing a MOOCocracy Prototype to Increase Public Understanding of Food Insecurity,* Funded 7/2017 - 6/2019, $149,690
11. Co-PI, United States Department of Agriculture (USDA)-National Institutes of Food and Agriculture (NIFA), 2016: *Excellence in Education for Food, Energy and Water (E²FEW)*. Funded 1/2017 – 12/2019, $150,000
12. Co-PI, Nebraska Environmental Trust: *Working with rural post-secondary student to document swift fox on Nebraska Ranches.* Funded 6/2015 – 6/2018, $210,757
13. Senior Personnel/Consultant, Environmental Protection Agency (EPA) Environmental Education: *Classrooms Take Charge*. Funded 11/2016 - 8/2018, $121,675
14. Senior Personnel/Consultant, Environmental Protection Agency (EPA) Environmental Education: *Classrooms Take Charge*. Funded 7/2014 – 6/2016, $334,536
15. UNL, Institutes of Agriculture and Natural Resources (IANR) Faculty Travel Award, 2015 ($500), 2016 ($1000), 2018 ($800), 2024 ($800)
16. Faculty Mentor, UNL, Undergraduate Creative Activities and Research Experience (UCARE) for Jena Wilson, 2017-2018 ($2,400)
17. Faculty Mentor, UNL, Undergraduate Creative Activities and Research Experience (UCARE) for Olivia Straka, 2015-2016 ($2,400)

Pending: none

1. PI, University of Nebraska, Fred J. Kelly Fund for Research on Teaching, 2025. *Streamlining Student Sensemaking with GenAI Primary Literature Summaries*. $100,000 requested.

Declined grants (last 9 years):

1. Co-PI, NSF-Collaborative Research: SRS RN 2024: *Comprehensive Aquifer and Surface water Coordination to Aid Decision-making for Equity and Efficiency (CASCADE2)*: $6,348,852 requested.
2. Co-PI, UNL Grand Challenges Catalyst: ***ASCEND** (**A**rt, **S**cience, and **C**ommunity **E**ngagement for i**N**terconnected health and bio**D**iversity): Blending ways of knowing across disciplines and cultures to enhance health and biodiversity*: $4,498,385 requested.
3. Senior Personnel, NSF EPSCoR RII Track-2 FEC: *Equip, Empower, Assist: Transdisciplinary, Participatory Approaches to Equity for Flood-Prone Rural Communities Amid Climate Change.* 8/24 to 8/28: $6,000,000 requested.
4. PI, NSF-IUSE, 2023: *Incorporating Experiential Learning into a Large-Enrollment Introductory STEM Course.*
5. Senior Personnel, NSF National Artificial Intelligence (AI) Research Institutes Accelerating (NSF 2022-502), preproposal: *AI Institute for Climate-Smart Agriculture and Forestry (AI-CSAF)*
6. PI, NSF-IUSE, 2021: *Supporting Students' Critical Evaluation of Evidence in Socioscientific Issues Contexts*
7. PI, UNL ORED COVID-19 Rapid proposal, 2020: *Teaching self-efficacy and stress: responses to mid-semester drastic changes in course delivery.*
8. PI, UNL ORED COVID-19 Rapid proposal, 2020: *Bolstering acceptance during a pandemic: documenting and improving accuracy-oriented reasoning in students and members of the public.*
9. Co-applicant, UNL Center for Transformative Teaching (CTT) Seeding Student Success: Transformative Active Learning Projects, 2020: *Assessing Social Engagement in Discussions using Yellowdig as a Retention Tool which Empowers Students to Co-Create Knowledge and Build Active Involvement in Learning.*
10. Co-PI, Continental Divide Research Learning Center, National Park Service, 2019: *Foraging knowledge and behavior of Rocky Mountain National Park Visitors*.
11. PI, NSF-CAREER, 2018: *Students' decision-making practices: supporting the use of evidence in community deliberation*
12. Co-PI, USDA-AFRI, SAS, 2018, *Optimizing water and nutrient management with climate resilience for sustainable agricultural intensification*, Letter of Intent.
13. Co-PI, Agronomy and Horticulture Department, UNL, Teaching Enhancement Funding, 2018, *Using games to teach and assess systems thinking in agronomy*.
14. 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
15. 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
16. Co-PI, Rural Futures Institute, 2017: *Community Engagement for Sustainable Communities: Food System Decision-Making* $19,998

Peer-reviewed Publications:

1. Tabassum, S., Dauer, J.M. (2025). Different lenses for equity: exploring student perspectives of a socioscientific issue. In press: *Disciplinary and Interdisciplinary Science Education Research.*
2. Dauer, J.M., Kirby, C., Sorensen, A., (2025). Defining students' socioscientific issues classroom decision-making components and practice proficiencies. *Disciplinary and Interdisciplinary Science Education Research*. 7(12). https://doi.org/10.1186/s43031-025-00132-0
3. Dauer, J.M., Bravo Gaona, V., Meulenbroeks, R. (2025). Vision II scientific literacy assessment instruments for secondary education: a scoping review. *International Journal of Education in Mathematics, Science and Technology*, 13(2):498-516. https://doi.org/10.46328/ijemst.4747

4. Tabassum, S., Dauer, J.M., Sintov, N., Scherer, H. H., Wang, H. (2025). Understanding the emerging food, energy, water nexus systems in science education. *Journal of Environmental Studies and Sciences*. https://doi.org/10.1007/s13412-024-01000-5
5. Teshera-Levye, J., Alam, I., Corwin, L., Dauer, J.M. (2025). Developing a conceptual model for students' scientific civic engagement. *International Journal of Science Education*. https://doi.org/10.1080/09500693.2024.2449220
6. Romulo, C., B. Venkataraman, S. Caplow, S. Ajgaonkar, C.R. Allen, A. Anandhi, S.W. Anderson, C.B. Azzarello, K. Brundiers, E. Blavascunas, J.M. Dauer, D.L. Druckenbrod, E. Fairchild, L.R. Horne, K. Lee, M. Mwale, J.A. Mischler, E.E. Pappo, N.S. Patel, N.D. Sintov, C.S. Ramsdell, and S. Vincent. (2024) Implementing Interdisciplinary Sustainability Education With the Food-Energy-Water Nexus. *Nature Humanities and Social Sciences Communications*. *11*, 928. https://doi.org/10.1057/s41599-024-03332-7
7. Sorensen A.E., Alred A, Fontaine J.J., Dauer J.M. (2024) A Model-based Instructional Approach in Socio-Ecological Course-Based Undergraduate Research Experience (CURE). *Ecosphere*. http://dx.doi.org/10.1002/ecs2.70007
8. Jimenez, C.P., Alred, A. R., Dauer, J.M., (2024) Describing undergraduate students' reasoning and use of evidence during argumentation about socioscientific issues systems. *Frontiers in Education*. 9:1371095. doi:10.3389/feduc.2024.1371095
9. Jimenez, P.C., Zwickle, A., Dauer, J.M. (2023) Defining and describing students' socioscientific issues tradeoffs practices. *International Journal of Science Education*. https://doi.org/10.1080/21548455.2023.2263608
10. Smith, C.R., Menon, D., Wierzbicki, A., Dauer, J.M. (2023) Exploring STEM teaching assistants' self-efficacy and its relation to approaches to teaching. *CBE Life-Sciences*. 22(1) https://doi.org/10.1187/cbe.22-06-0115
11. Smith, C., Menon, D., Wierzbicki, A., Dauer J.M. (2023) Teaching Assistant Response to COVID-19: Investigating Relationships Between Stress, Self-Efficacy, and Approaches to Teaching, *Journal of College Science Teaching*. 52(3).
12. Sparks, R.A., Jimenez, P.C., Kirby, C.K., Dauer, J.M. (2022) Using Critical Integrative Argumentation to Assess Socioscientific Argumentation Across Decision-Making Contexts. *Education Sciences*. 12(10), 644 https://doi.org/10.3390/educsci12100644
13. Jimenez, C.P., Golick, D., Couch, B., Dauer, J.M. (2022) Developing and evaluating a pollination systems knowledge assessment in a multidisciplinary course, *International Journal of STEM Education*, *9*(1), 1-13.
14. Hogan, K.F.E., J.A. Fowler, C.D. Barnes, A.K. Ludwig, D. J. Cristiano, D. Morales, R. Quiñones, D. Twidwell, J.M. Dauer (2022) New multimedia resources for ecological resilience education in modern university classrooms, *Ecosphere*, 13 (10):e4245, https://doi.org/10.1002/ecs2.4245
15. Dauer, J.T., Dauer, J.M., Lucas, L., Helikar, T., Long, T. (2022) "Supporting university student learning of complex systems: an example of teaching the interactive processes that constitute photosynthesis." *Fostering Understanding of Complex Systems in Biology Education – Pedagogies, guidelines and insights from classroom-based research*. Eds: O. B. Assaraf & M.C. Knippels, Springer Nature.
16. Sommers, A., Dauer J.M., White, H., Forbes, C. (2022) Impacts of Faculty Development on Interdisciplinary Undergraduate Teaching and Learning in the Food-Energy-Water Nexus. *Journal of College Science Teaching*. 51(6).
17. Dauer J.M., Sorensen A., Jimenez, J.C. (2022) Using a structured decision-making tool in the classroom to promote information literacy in the context of decision-making. *Journal of College Science Teaching*. 51(6).

18. Lynch L., Babchuck W., Dauer J.M., Heng-Moss T., Golick D. (2021) Transference of citizen science program impacts: A theory grounded in public participation in scientific research. Diversity, 13(8), 339; https://doi.org/10.3390/d13080339
19. Dauer J.M., Sorensen A., Wilson J., (2021) Students civic engagement self-efficacy varies across socioscientific issues contexts. Frontiers in Education, https://doi.org/10.3389/feduc.2021.628784
20. Romine, W., Sadler, T. D., Dauer J.M., Kinslow, A.T. (2020) Measurement of socio-scientific reasoning (SSR) and exploration of SSR as a progression of competencies. *International Journal of Science Education*. https://doi.org/10.1080/09500693.2020.1849853.
21. Sorensen, A.E., Brown, B., Alred, A., Fontaine J.J., Dauer J.M. (2020) Student representations and conceptions of ecological versus social science in a conservation course, *Journal of Environmental Sciences and Studies*, 11, 139-149. https://doi.org/10.1007/s13412-020-00594-w
22. Alred, A. & Dauer, J.M. (2020) Understanding factors related to undergraduate student decision-making about a complex socio-scientific issue: mountain lion management. *Eurasia Journal of Mathematics, Science and Technology Education*, *16*(2):1821.
23. Sommers, A., White, H., Alred, A., Dauer, J.M., Forbes, C. (2019) Teaching Styles and Student Outcomes in Undergraduate Food, Energy, and Water Systems (FEWS) Courses. *Journal of National Colleges and Teachers of Agriculture*, *63*(2) 67-77.
24. Goralnik A., Dauer J.M., Lettero C. (2019) Communities Take Charge: Climate Learning and Changemaking in the Science Classroom. *The Science Teacher, 87*(1) 54-59.
25. Alred A., Hartley L.M., Doherty J.H., Harris C., Dauer J.M. (2019) Exploring student ideas about biological variation. *International Journal of Science Education*, *41*(12), 1682-1700. https://doi.org/10.1080/09500693.2019.1635289.
26. Sutter A.M., Dauer J.M., Forbes C., Kreuziger T., Schubert J. (2019) Sixth grade students' problematization of and decision-making about a wind energy socioscientific issue. *International Research in Geographical and Environmental Education,* 1-15. https://doi.org/10.1080/10382046.2019.1613586.
27. VanWormer, E., Mlawa, J., Komba, E., Gustafson, C., Mrema, H., Dauer, J.M. (2018) Using art and story to explore how primary school students in rural Tanzania understand planetary health: a qualitative analysis. *Lancet: Planetary Health*, Vol 2, Special Issue, S18.
28. Sutter A.M., Dauer J.M., Forbes C. (2018) Application of construal level and value-belief-norm theories to undergraduate decision-making on a wildlife socio-scientific issue. *International Journal of Science Education*. 40, 1058-1075. DOI: 10.1080/09500693.2018.1467064.
29. Sorensen, A.E., Corral, L., Dauer, J. M., Fontaine, J.J. (2018) Integrating authentic scientific research in a conservation course-based undergraduate research experience. *Natural Sciences Education*. 47(1), 1-10. doi:10.4195/nse2018.02.0004.
30. Lynch L.I., Dauer J.M., Babchuck W.A., Heng-Moss T., Golick D. (2018) In Their Own Words: The Significance of Participant Perceptions in Assessing Entomology Citizen Science Learning Outcomes Using a Mixed Methods Approach. *Insects* 9(1), 16:1-15.
31. Golick D., Dauer J.M., Lynch L., Ingram E (2017) A framework for pollination systems thinking and conservation. *Environmental Education Research*. DOI:10.1080/13504622.2017.1349878.
32. Sabel J.L., Vo T., Alred A., Dauer J.M., Forbes C.T. (2017) Undergraduate students' scientifically-informed decision-making about socio-hydrological issues. *Journal of College Science Teaching*, 46(6), 64-72.
33. Covitt B.A., Dauer J.M., Anderson C.W. (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.

34. Dauer J.M., Lute M.L., 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.
35. Dauer J.M. 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.
36. Dauer J.T. and Dauer J.M. (2016) A framework for understanding the characteristics of complexity in biology. *International Journal of STEM Education*. 3:13
37. Dauer J.M., Doherty J.H., Freed A.L., Anderson C.W. (2014) Connections between student explanations and arguments from evidence about plant growth. *CBE-Life Science Education*, 13:397-409.
38. Dauer J.M., Miller H., & Anderson C.W. (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.
39. Dauer J.M., Perakis S.S. (2014) Calcium oxalate contribution to calcium cycling in forests of contrasting nutrient status. *Forest Ecology and Management*, 334:64-73.
40. Dauer J.M., and Perakis S. (2013) Contribution of calcium oxalate to soil exchangeable calcium. *Soil Science*, 178:671-678.
41. Dauer J,M., Lettero C., Ocana M., (2011). A review of ethical concepts and moral reasoning integration into climate change curriculum. *Journal for Activism in Science & Technology Education* 3:131-175.
42. Dauer J.M., Withington J.M, Oleksyn J., Chorover J., Chadwick O.A., Reich P.B., Eissenstat D.M., (2009). A scanner-based approach to soil profile-wall mapping of root distribution. *Dendrobiology* 62:35-40
43. Dauer J.M., Chorover J., Chadwick O.A., Oleksyn J, Tjoelker M.G., Hobbie S.E., Reich P.B., Eissenstat D.M., (2007). Controls over leaf and litter calcium concentrations among temperate trees. *Biogeochemistry* 86: 175-187.

Publications in review, manuscripts available:

Tabassum, S., Dauer, J.M. "Leveraging autonomy: teaching controversial environmental issues in science classrooms."(In review: Journal of Environmental Education)

Rauschert, E., Dauer, J.T., Dauer, J.M., Momsen, J. Sutton-Grier, A. "Systems thinking in ecosystems: modeling and predicting complex disease dynamics." Pathways to Teaching. Eds. Emily Holt, Diane Ebert-May (In review).

Gill, A., Kirby, C.K., Smith, C., Sorensen, A.E., Dauer, J.M. "Exploring students' certainty of assumptions about Socioscientific Issues Systems." (In review: International Journal of Science Education).

Dauer, J.M., Knippels, C., Tabassum, S. "Opinion-Forming Process – an Underused Learning Goal for Socioscientific Issues Instruction " (In review: Disciplinary and Interdisciplinary Science Education Research)

Presentations:

Invited presentations (2012 – present):

1. Dauer, J.M. "Developing students' science civic engagement through experiential learning in an issues based course." Invited seminar, University of Omaha, Department of Biology, November 5, 2025.

2. Dauer, J.M. "Context matters when assessing science civic engagement." Invited colloquium speaker, Ecology & Evolutionary Biology Department, University of Colorado-Boulder, January 31, 2025.
3. Dauer, J.M. "Intro to college through science and decision-making," High School Science Academy, Wildlife Rescue, Rehabilitation & Education in Nebraska, September 28, 2024.
4. Dauer, J.M. "Using 4DEE to support students' decision-making about ecology issues" Keynote speaker for the Ecology Society of America's Four-Dimensional Ecology Education Extravaganza, April 20, 2024.
5. Dauer, J.M. "Design for science literacy learning goals in biology classrooms" invited seminar, Institute for Science Education, Radboud University, Nijmegen, The Netherlands, March 28, 2024.
6. Dauer, J.M. "Students' collaborative evaluation of evidence: a qualitative description of students' sensemaking" Center for Science and Technology in Education, University of Maryland, Feb 23, 2024.
7. Dauer, J.M. "Experiential Learning and Community Engagement in SCIL 101," UNL, Agronomy & Horticulture Seminar Series, Dec 2023.
8. Dauer, J. M. "Assessing Students" UNL LA Training, Aug 2023.
9. Dauer, J. M. "Student conceptions of civic engagement in the context of socioscientific issues" University of Utrecht Freudenthal Institute, Utrecht, Netherlands, November, 2022.
10. Dauer, J.M. "Teaching using socioscientific issues to support students' science literacy skills." Keynote address for the American Society for Microbiology Conference for Undergraduate Educators, online, July 13, 2022.
11. Dauer, J.M. "How do we teach evidence evaluation and science informed decision-making?" Empower with Evidence, AAAS Annual Meeting, Philadelphia, PA, February 2022.
12. Dauer, J. M. "Defining Students' Decision-Making Practices for Socioscientific Issues" University of Utrecht Freudenthal Institute, Utrecht, Netherlands, November, 2021.
13. Dauer, J.M. "What are science literacy skills? How do we teach them to students?" Summit on Science Literacy, Princeton Council on Science and Technology, June 15, 2021, virtual.
14. Dauer, J.M. "Understanding and supporting students' science literacy skills: students' reasoning about scientific evidence in the context of controversial socioscientific issues." Biological Sciences, Washington State University, Feb 22, 2021.
15. Dauer, J.M. & Dauer, J.T. "What is complexity? How do people learn about complex systems?" Complex Biosystems Graduate Program Seminar, UNL, Feb 18, 2021.
16. Dauer, J.M. "Science literacy through structured decision-making tools: lessons from a classroom for broader science communication." Nebraska Department of Natural Resources, May 10, 2019.
17. Dauer, J.M. "A framework for decision-making in a science classroom to promote science literacy" STEM Education Speaker Series, University North Carolina, Greensboro, NC, March, 2019.
18. Dauer, J.M. "Teaching decision-making in the science classroom to promote science literacy" Science Literacy Program at University of Oregon, Eugene, OR, February 2019.
19. Dauer, J.M. "(Science Literacy 101) Science and decision-making for a complex world: a classroom model to promote students' science literacy" IANR All Hands Meeting, January 2019.
20. Dauer, J.M. "A framework for decision-making in a science classroom to promote science literacy" Biological Sciences departmental seminar, Northern Illinois University, DeKalb, IL, Nov 8, 2018.
21. Dauer, J.M. "How to optimize decision making for personal and professional lives" Presentation for the UNL Doctorate of Plant Health program, Nov 1, 2018.
22. Envirorun Sustainability Speaker Series, panelist for discussion on local community policy, advocacy, environmental literacy and engagement. Lincoln, NE, October 2018.
23. Dauer, J.M. "A framework for decision-making in a science classroom to promote science literacy" Departmental seminar for the School of Molecular Biosciences, Washington State University, Pullman, WA, April 26, 2018.

24. Dauer, J. M. "How to optimize decision making for personal and professional lives" Presentation for the UNL Applied Plant Sciences Experiential Learning Program, June 16, 2017 and July 27, 2018, July 26, 2019.
25. Dauer, J. M. "Definitions of science literacy and finding models for change" Presentation for the Agronomy & Horticulture Graduate Student Association and Scientific Communication and it Impacts on Policy, Literacy and Education (SCImPLE) Group, January 26, 2017.
26. 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
27. 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.
28. 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.
29. Dauer, J. "Science Literacy and Decision-making." Re-STEM Institute, University of Missouri, October, 2016.
30. Dauer, J. "Investigating students' ecosystem knowledge and science literacy practices." Ecology and Evolutionary Biology Departmental Seminar, C.U. Boulder, February 2016
31. Dauer, J., Doherty, J., Anderson C.W. "Student learning about tracing matter and energy in ecosystems" Ecology Society of America, Baltimore, MD August 2015.
32. Dauer, J. "Transformations in matter and energy: student learning and inquiry to inform teaching" DBER seminar at UNL, September 5th, 2013, Lincoln, NE.
33. 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.
34. 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.
35. Dauer, J. "Calcium: location, movement and chemical forms in forest ecosystems." Summer Institute, K-12 Science Teacher Workshop, Kellogg Biological Station, June 2012.
36. 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.

Presentations (2012 to present):

1. Dauer, J.M., Dunbar-Wallis, A., Teshera-Levye, J., "Can brief experiential learning be transformative in a large-enrollment university science course?" ECER, Belgrade Serbia, to be presented in Sept 2025.
2. Teshera-Levye, J., Dunbar-Wallis, A., Dauer, J.M., "Experiential learning and transformative experiences in an introductory college course" SABER, Minneapolis, MN, July 2025.
3. Dauer, J.M., Teshera-Levye, J., Corwin, L., Haney-Douglass, C. "Science civic engagement self-concept and experiential learning in an introductory college course" NARST, National Harbor, MD, March 2025.
4. Tabassum, S., & Dauer, J.M. "The role of autonomy in facilitating sensemaking of controversial issues" Water and Integrated Cropping Systems Hub Share Fair, Lincoln NE, Oct 2024.
5. Tabassum, S., & Dauer, J.M. "Student perspectives about equity in the context of a socioscientific issue: housing buyouts." Geological Society of America, Anaheim CA, Sept 2024.
6. Teshera-Levye, J., Alam, I., Corwin, L., Dauer, J.M., "Context matters when assessing science civic engagement." SABER, July 2024, Minneapolis, MN.
7. Tabassum, S., & Dauer, J.M. "Student interpretation of evidence from online sources: is climate change making floods more extreme?" National Association of Geoscience Teachers Earth Educators' Rendezvous, Philadelphia, PA, July 2024

8. Dauer, J.M., Gill, A., Kirby, C., Smith, C., Sorensen, A. "Exploring students' certainty of assumptions about socioscientific issues" NARST, March 2024, Denver, CO.
9. Teshera-Levye, J., Alam, I., Corwin, L., Dauer, J.M., "Context matters when assessing science civic engagement." NARST, March 2024, Denver, CO.
10. Dauer, J.M., Teshera-Levye, J., Alam, I., Corwin, L. "Context matters when assessing science civic engagement." European Researchers in Didactics of Biology, July 2024, Lyon France.
11. Dauer, J.M. "Identity predicts students' motivated reasoning – which predicts students' use of evidence in coursework" NSF EHR PI Meeting, May 29, 2024, Arlington, VA.
12. Tabassum, S., & Dauer, J.M. "Student interpretation of evidence from online sources: is climate change making floods more extreme?" Daugherty Water for Food Global Initiative Nebraska Water Conference, Lincoln NE, Oct 2023.
13. Sparks, R.A., Dauer, J.M. "Evidence evaluation and motivated reasoning in the context of socioscientific issues." X-DBER Virtual Conference, April 2023.
14. Tabassum, S., Sparks, R.A., Dauer, J.M. "Student interpretation of evidence from online sources: Is climate change making floods more extreme?" X-DBER Virtual Conference, April 2023.
15. Teshera-Levye, J., Alam, I., Corwin, L., Dauer, J.M. "Scientific civic engagement among students in a science literacy course. " X-DBER Virtual Conference, April 2023.
16. Dauer, J.M., Sparks, R.A. "Can we detect motivated reasoning in students' evidence evaluation of socioscientific issues?" EARLI SIG 20 & 26, Utrecht, Netherlands, September 2022.
17. Dauer, J.M., Sorensen, A.E., Smith, C. "Investigating predictors of students' certainty of assumptions about socioscientific issues." EARLI SIG 8 & 16, Dresden, Germany, August 2022.
18. Sparks, R.A., Dauer, J.M. "Effect of metacognition, emotions and identity on students' reasoning orientation." EARLI SIG 8 & 16, Dresden, Germany, August 2022.
19. Sparks, R.A., Dauer, J.M. "Exploring relationships between students' emotions, cognition, and evidence evaluation regarding a socioscientific issue." Center for Integrative Research on Cognition, Learning and Education, St. Louis, MO April 2022.
20. Sparks, R.A., Dauer, J.M. "Effect of metacognition, emotions and identity on students' reasoning orientation." Center for Integrative Research on Cognition, Learning and Education, St. Louis, MO April 2022.
21. Jimenez, C.P., Zwickle, A., Dauer, J.M. "Describing undergraduates' tradeoffs practices as they make decisions about socioscientific issues." Center for Integrative Research on Cognition, Learning and Education, St. Louis, MO April 2022.
22. Dauer, J.M., Alam, I., Corwin, L.A. "Exploring the concept of scientific civic engagement and its role in developing science literacy skills." NARST, Vancouver, Canada, April 2022.
23. McFarlin, I. I., Chizinski, C. J., Dauer, J. M, Hurley, K., Kaemingk, M., and Pope, K. "Modeling time use among Nebraska recreationists." Oral presentation, 2021 Pathways Conference, September 19 - 22, 2021.
24. Jimenez, P.C., Wierzbicki, A., Dauer, J.M. "How undergraduates engage with tradeoffs when solving complex issues using a structured decision-making tool" Society for the Advancement of Biology Education Research, July 2021.
25. Smith, C., Dauer, J.M. "Teaching assistant efficacy and stress response to the COVID-19 disruption" Inaugural X-DBER Virtual Conference, March 2021.
26. Dauer, J.M., Sorensen, A., Wilson, J "Students' civic engagement self-efficacy varies across socioscientific issues contexts" Inaugural X-DBER Virtual Conference, March 2021.
27. Kirby, C., Dauer J.M. "Defining Skills Required in the Decision-Making Process around Socioscientific Issues" oral presentation, NARST, April 2021.
28. Smith, C., Dauer J.M. "Investigating the relationship between self-efficacy and approach to teaching in undergraduate and graduate teaching assistants" oral presentation, NARST, April 2021.

29. Dauer, J.M., Kirby, C.K., Sorensen, A.E. & Smith, C. "Investigating predictors of students' certainty of assumptions about socioscientific issues." oral presentation, AERA Virtual Conference April 2021.
30. Dauer, J.M., Sorensen, A.E., Smith, C. "Investigating predictors of students' certainty of assumptions about socioscientific issues." European Association for Research on Learning and Instruction, accepted and conference cancelled (Dresden, Germany 2020).
31. Jimenez, P.C., Dauer, J.M "Developing frameworks to describe students' use of evidence in the context of socioscientific issues. Society for the Advancement of Biology Education Research, Aug 2020.
32. Smith, C., Dauer, J.M. "Investigating self-efficacy and approach to teaching in teaching assistants." Society for the Advancement of Biology Education Research, accepted and withdrawn, Aug 2020.
33. Dauer, J.M. Sorensen, A.E., Smith, C. "Investigating predictors of students' certainty of assumptions about socioscientific issues." Society for the Advancement of Biology Education Research, accepted and withdrawn, Aug 2020.
34. Sorensen, A.E., Fontaine, J.J., Dauer, J.M. "Case studies in integrating the 4DEE approach to social and ecological data sense-making." Ecology Society of America, virtual presentation, Aug 2020
35. Sorensen, A.E., Wagner, S., Fontaine, J.J., Dauer, J.M. "Framing around protected species and landowner perceptions and behavior." Ecology Society of America, virtual presentation, Aug 2020
36. Dauer, J.M. "How to Teach for Science Literacy using Structured Decision-Making in College Courses" Ecology Society of America, virtual workshop, Aug 2020.
37. Dauer, J.M., Wilson, J., Sorensen, A. "Student civic engagement in an ecological issue-based course that uses structured decision-making" Ecology Society of America, virtual presentation, Aug 2020.
38. Jimenez, P.C., Wierzbicki, A., Dauer, J.M. "Describing How Students Engage with Tradeoffs During Decision-Making About Socio-Ecological Issues" Ecology Society of America, virtual presentation, Aug 2020.
39. Forbes, C.T., Scherer, H., Sintov, N., Wang, H., Dauer J.M. "Ecoscience Education in the Food-Energy-Water-Nexus: Enhancing Capacity for Transdisciplinary Education and Education Research across Communities" Ecology Society of America, virtual poster, Aug 2020.
40. McFarlin, I., Weaver, G., Dauer, J.M., Chizinski, C. "Foraging in the Northern Great Plains: A Policy Overview." Annual Midwest Fish and Wildlife Conference, St. Paul, MN, Jan 2020
41. Jimenez, P.C., Dauer, J.M. "Decision-making about socioscientific issues in a large post-secondary STEM course: Describing students use of evidence." European Science Education Research Association, Bologna, Italy, September 2019.
42. Lynch L., Babchuck W., Dauer J.M., Heng-Moss T., Golick D. Transference of Citizen Science Impacts. Entomological Society of America North Central Branch Meeting, Cincinnati, March 2019.
43. Jimenez, P.C., Golick D., Couch B. and Dauer J.M. Developing and Evaluating a Pollination Knowledge Assessment Instrument (PKAI) in a Multidisciplinary Undergraduate Course, Ecology Society of America, Louisville KY, August 2019.
44. AE Sorensen, J Brown, A Alred, JJ Fontaine, JM Dauer. 2019. "How do students integrate social and ecological knowledge in a socio-ecological systems class?" Ecological Society of America, Louisville, KY, August 2019.
45. Jimenez, P.C., Alred, A., Meyer, B., Dauer, J.M. "Quality decision-making about socioscientific issues: Developing frameworks describing students' use of evidence" American Education Research Association, Toronto, CA, April 2019.
46. Dauer, J.M, Wilson, J., Sorensen, A. "Civic engagement in an undergraduate science literacy course focused on socioscientific issues and decision-making" American Education Research Association, Toronto, CA, April 2019.

47. P.C. Jimenez, A. Alred, B. Meyer, J.M. Dauer. "Encouraging science literacy: Developing frameworks describing students' use of evidence when solving environmental issues." North American Association for Environmental Education, Spokane, WA, Oct, 2018.
48. A.E. Sorensen, L. Corral, J.J. Fontaine, J.M. Dauer. "Authentic scientific data collection in support of an integrative model-based class: A framework for student engagement in the classroom." Ecological Society of America, New Orleans, LA, Aug 2018. (organized oral session).
49. Sorensen, A.E., Corral, L., Dauer, J.M., Fontaine, J. "Student cognitive processes and argumentation during consensus modeling" Symposium on Forging Integrated Expertise in Graduate Education, Raleigh, NC, June 4-5, 2018.
50. VanWormer, L., Mlawa J., Komba, E., Gustafson, C., Mrema, H., Dauer, J.M. "Using art and story to explore how primary school students in rural Tanzania understand planetary health: a qualitative study." 2018 Planetary Health Annual Meeting, Edinburgh, Scotland, May 2018.
51. Wilson, J., Dauer, J.M. "Civic engagement in an undergraduate course focused on socioscientific issues." UNL Spring Research Fair, Lincoln, NE, April 2018. **Won top poster.
52. Eischen, M., Dauer, J.M. "Student argumentation, knowledge and values related to biofuels." UNL Spring Research Fair, Lincoln, NE, April 2018.
53. 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, Atlanta GA.
54. Jimenez, P.C., Dauer, J.M. "Applying scientific evidence to solving socioscientific issues using a science literacy decision-making tool." NARST, March 2018, Atlanta GA.
55. Dauer, J.M., Alred, A. "A framework for quality decision-making to promote science literacy in a post-secondary classroom." NARST, March 2018, Atlanta GA.
56. 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.
57. Wilson, J., Dauer, J.M. "Civic engagement in socioscientific issues." UNL RED talk, Lincoln, NE, Oct 2017.
58. 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.
59. 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.
60. Wilson, J., Dauer, J.M. "Civic engagement in an undergraduate course focused on socioscientific issues." UNL Spring Research Fair, Lincoln, NE, April 2017.
61. 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.
62. 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.
63. 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.
64. 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.
65. 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.

66. 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.
67. 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.
68. Alred, A., Dauer J. "Exploring how values influence undergraduate informal and formal decision-making about a wildlife conservation issue." SABER, Minneapolis MN, July 2016.
69. Dauer, J. Lute, M. Straka, O. "Supporting students' formal decision-making about biofuels." SABER, Minneapolis MN, July 2016.
70. Dauer, J. "Teaching tools for agricultural literacy and science-informed decision-making." North American Colleges and Teachers of Agriculture, June 2016, Honolulu, Hawaii.
71. 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
72. Dauer, J. Lute, M. Straka, O. "Supporting students' formal decision-making about biofuels." STEM retreat Oct 2016, Lincoln, NE
73. Straka, O., Dauer, J. "Science-informed arguments in undergraduates' opinions about biofuels" Spring Research Fair, April 2016, Lincoln, NE.
74. 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.
75. 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.
76. 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.
77. Dauer, J., Forbes, C. "A socioscientific framework for teaching a general science literacy course." UNL STEM Retreat, Lincoln NE, Oct 2015
78. Golick, D., Dauer, J., Lynch, L., Ingram, E. "Exploring pollination knowledge of undergraduates through interviews." Entomological Society of America, Manhattan KS, June 2015
79. Dauer, J., Forbes, C. "A socioscientific framework for teaching a general science literacy course." SABER, Minneapolis MN, July 2015
80. 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.
81. Parker, J., Covitt, B., Dauer, J., & Anderson, C.W. "Student sense making about climate change-related data" NARST, Chicago IL, April 2015
82. Freed, A., Dauer, J., Tompkins, E., & Anderson, C.W. "Do students improve their inquiry practices after Carbon TIME instruction?" NARST, Chicago IL, April 2015.
83. 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.
84. Dauer, J., & Anderson, C. W. "Learning from evidence in the context of global climate change." NARST, Pittsburg PA, April 2014.
85. 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.
86. 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.
87. Dauer, J.M., Miller, H., & Anderson, C.W. "Inquiry and argumentation about carbon transforming processes." NARST, Rio Grande, Puerto Rico, April 2013.

88. Miller, H., Webster, A., Dauer, J.M., & Anderson, C.W. "Alternative Learning Trajectories Toward Understanding Matter and Energy in Socio-Ecological Systems." NARST, Rio Grande, Puerto Rico, April 2013.
89. Dauer, J., & Anderson, C. W. "Learning from evidence in the context of global climate change." Geology Society of America, Denver CO, Oct 2013.
90. Dauer, J. & Anderson C.W. "Student practices during inquiry about carbon-transforming processes" Ecology Society of America (ESA), Minneapolis, MN, Aug 2013
91. Dauer, J. & Perakis, S. "Role of Ca oxalate in controlling Ca/Sr discrimination and 44Ca/40Ca fractionation" ESA, Minneapolis, MN, Aug 2013
92. Dauer, J. & Anderson C.W. "Student learning about tracing matter and energy in ecosystems" SABER, Minneapolis MN, July 2013
93. Dauer, J. & Anderson C.W. "An inquiry learning progression for carbon-transforming processes" NARST, Puerto Rico, April 2013
94. 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
95. Dauer, J. & Anderson C.W. "Carbon TIME Project: Inquiry Activities and Learning Progression" Ecological Society of America, Portland, Oregon, Aug 2012
96. 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.

Undergraduate Teaching Experience:

University of Nebraska-Lincoln
Science and Decision-making for a Complex World (SCIL 101): 2 sections Fall 2016, Spring 2017, Spring 2018, 2 sections Fall 2018, Fall 2019, Summer 2020, Fall 2020, Fall 2021, Fall 2023, Fall 2024, Fall 2025.
Under the title *Intro to Agriculture and Natural Resources* (AGRI/NRES 103): Fall 2014, 2 sections Fall 2015, Spring 2016.
An interdisciplinary science course with ~120 students per section. Serving as the lead instructor responsible for curriculum development for all sections encompassing ~600 students per year.

Teaching Undergraduate Science (SCIL 488/888) 1-credit course Spring 2018, 2019, 2020, 2021, 2022, 2024

Nebraska Canid Project CURE (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

Michigan State University

Biological Science, Organisms and Populations, 120 students. Fall 2011

Science for Elementary Schools, 20 students Fall 2012

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

Mentoring:

Post-doc Mentoring:

Amy Dunbar-Wallis, UNL School of Natural Resources	2025 – present
Zach Schaefer, UNL School of Natural Resources	2025 – present
Sumaiya Tabassum, UNL, School of Natural Resources	2025 – present
Alex Sobotka, UNL, School of Natural Resources	2023 – 2024
Asghar Pervaiz Gill, UNL, School of Natural Resources	2023 – 2024
Jennifer Teshera-Levy, UNL, School of Natural Resources	2022 – 2024
P. Citlally Jimenez, UNL, School of Natural Resources	2021 – 2022
Rachel Sparks, UNL, School of Natural Resources	2021 – 2023
Caitlin Kirby, UNL, School of Natural Resources	2020 – 2021
Cody Smith, UNL, School of Natural Resources	2019 – 2021
Amanda Sorensen, UNL, School of Natural Resources	2017 – 2019
Michelle Lute, UNL, School of Natural Resources	2015 – 2016

Graduate Student Advising:

Rebecca Kollipara, MS, UNL, SNR	2023 – present
F. John Hay, PhD, UNL, SNR	2019 – present
Sumaiya Tabassum, PhD, UNL, SNR	2021 – 2024
Pamela Martinez-Oquendo, PhD, UNL, SNR	2021 – 2023
Iris McFarlin, MS, UNL, SNR	2019 – 2021
P. Citlally Jimenez, PhD, UNL, SNR	2016 – 2021
A. McKinzie (Peterson) Sutter, MS, UNL, SNR	2015 – 2017
Ashley Alred, MS, UNL, School of Natural Resources	2014 – 2016

Graduate Student Committee member:

Betsy Barent, PhD, UNL, Teaching, Learning & Teacher Ed, Lincoln Public Schools	2024 – present
Kierstin Blomberg, PhD, UNL, Earth and Atmospheric Sci	2024 – present
Maddy Vasquez, MS, UNL, School of Natural Resources	2024 – present
Anum Khushal, MS, UNL, School of Natural Resources	2025
Emma Balunek, MS, UNL, School of Natural Resources	2023 – 2025
Tapashi B. M. Chowdhury, Univ of Tartu, Estonia, served as an Opponent at her defense	2022
Aldi Airori, MS, UNL, School of Natural Resources	2021 – 2023
Anna Oetting, MS, UNL, School of Natural Resources	2021 – 2022
Crystal Uminski, PhD, UNL, School of Biological Sciences	2020 – 2023
Katie Patterson, PhD, UNL, Chemistry	2019 – 2021
Ella Burnham, PhD, UNL, Statistics	2019 – 2021
Brianne Wolf, MS, UNL, SNR	2019 – 2021
Anuoluwapo Fasanmi, UNL, Chemistry	2019 – 2021
Emily Reif, MAS, UNL, SNR	2019 – 2020

Jordan Bader, PhD, University of New Hampshire	2018 – 2022
Bridget Gross, MS, UNL, Entomology	2018 – 2021
Shana Winkel, PhD, UNL, Animal Science	2018 – 2020
Diane Lally, PhD, UNL, SNR	2017 – 2020
Erin Ingram, PhD, UNL, Entomology	2014 – 2019
Louise Lynch, PhD, UNL, Entomology	2013 – 2016

Undergraduate Mentoring - Independent Research Projects:

Yi Sheng Liong (Moses), UNL Teacher Learning Teacher Education	2024 – 2025
Amelie Cole, UNL Chemistry (honors thesis co-advisor)	2023 – 2024
Katherine Ingebretsen	2022 – 2023
Ethan Sajko	2022 – 2023
Olivia Hultman (honors thesis reader)	2021
Audrey Harrod, Illinois State Univ, UNL Beneficial Insects Summer REEU	2021
Annette Wierzbicki	2019 – 2020
Sierra Wagner	2019 – 2020
Grace Weaver	2019
Xavier Mack, Penn State Univ, UNL Beneficial Insects Summer REEU	2019
Blaine Meyer	2018 – 2019
Alese Sanders	2018 – 2019
Emily Hergenrader (honors thesis reader)	2018
Emily Reif (honors thesis reader)	2018
Jena Wilson, UNL UCARE student	2016 – 2018
Madeline Eischen (honors thesis)	2016 – 2018
Lexus Wellman	2016
Jessica Thompson, UNL	2015
Olivia Straka, UNL 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, Leadership and Professional Activities:

Department:

SNR Graduate Student Association Faculty Advisor	2015 – present
Leader and founding member, Natural Resources Diversity and Inclusion	2015 – 2020
Faculty Search Committee, Assistant Professor Position, School of Natural Resources	2018
SNR Seminar Committee	2014 – 2016
SNR Social Committee	2014 – 2016
Faculty Search Committee, Assistant Professor Position, School of Natural Resources	2015
Environmental Studies Poster Judge - 2014, 2015, 2018, 2019	2014 – 2019
Volunteer, UNL School of Natural Resources annual NaturePalooza outreach	2014, 2015
Outdoor Science Laboratory Development Committee	2013 – 2014

College:

CASNR Academic Coordination Committee	2024 – present
CASNR Faculty Advisory Committee	2024 – present
Council for Resilience Education, Student Organization Advisor	2021 – 2023
CASNR Communities of Practice: Building Communities in the Classroom, Co-Leader	2020

Faculty Search Committee, Assistant Professor Position, Biochemistry 2020
Working Group to draft College-level Learning Outcomes, CASNR 2019 – 2021
Student Course Evaluations Advisory Committee, CASNR 2018 – 2019
Faculty Search Committee, Professor of Practice Position, School of Biological Sciences 2018
Volunteer, STEM activities for K-12 Lincoln Public School teachers 2018
Natural Resources Diversity Initiative Student Organization Faculty Advisor 2016 – 2020
Volunteer, STEMMING into the Future K-12 outreach, NE State Fair 2015
Prairie Corridor on Haines Branch Committee 2014 – 2015

University:
Student Success Faculty Fellow, UNL 2019 – 2020
Student Course Evaluations Task Force, UNL 2018 – 2019
UNL Chancellor's Commission on the Status of Women 2017 – 2020
UNL Discipline-based Educational Research Organization Leadership 2013 – 2018
Imposter Syndrome Workshop Facilitator, UNL 2016
UNL Spring Research Fair Poster Judge 2016

National/International Community:
Organizing Board and Facilitator, Science Literacy Summit, Princeton University 2021
Facilitator "How to be an Anti-racist" bookclub for Society for the Advancement of Biology Education Research (SABER) 2020
Ecosphere Editorial Board & Subject Editor, Education subject track 2019 – present
Board of Governors of the Center for Great Plains Studies,
Academic Affairs Standing Committee 2019 – 2022
NSF Review Panelist 2018, 2021, Jan & Oct 2022, March 2025
Multistate Research Planning Committee USDA NCDC231 - Collaborative for Research On Food, Energy and Water Education 2017
Learning Progression for Place & Region, (NSF, RCN), Workshop in Manhattan KS 2016
Mentor, Community for Advancing Discovery Research in Education 2015 – 2016
Advisory board member, NSF IUSE, *Put up your dukes and everybody wins: Investigating deliberative argumentation in large lecture biology*, Washington State University 2018 – 2021
Advisory Board Member, USDA NIFA HEC, 2019, *Supporting Undergraduate Teaching and Learning about Socio-Hydrologial Challenges through Data-Driven Modeling in the FANH Sciences*, PI's at UNL and University of Louisiana 2021 – 2024
Advisory Board, NSF EHR: BCSER, *Faculty Professional Identity in Course-based Undergraduate Research Experiences (CUREs): a Framework of Communities of Practice*, PI Zhang, UNL 2023 - 2027
Advisory Board, European Union Horizon-CL5-2023-D1-01 (Climate sciences and responses) *Impact Assessment for Action Competence.* PI Boeve-de-Pauw, Freudenthal Institute, University of Utrecht. (€ 5 million). 2024 – 2028
Advisory Board, NSF ITEST:DTI. *Rural Energy Futures: Facilitating community understanding of energy transition opportunities through middle-school math skills development*. PI Heidi Cian, Maine Mathematics and Science Alliance (MMSA) ($1.3 million) 2024 – 2027

Ad-hoc Journal Reviewer (last 5 years)
- Journal of Research in Science Teaching
- Science Education
- CBE- Life Sciences Education
- Journal of Geosciences Education
- Journal of Chemical Education

- Journal of Biology Education
- The Institute for Effective Education (TIEE)
- Eurasia Journal of Mathematics, Science and Technology Education
- International Journal of Education in Math, Science & Technology
- International Journal of STEM Education

Requests to serve as an expert (Advisory Board or Steering Committee) on grant proposals:

1. Advisory Board, UNL, Grand Challenges Catalyst 2024, "Scientific Nebraska." PI Griep.
2. Advisory Board, UNL Grand Challenges Catalyst 2024, "Building Dynamic Climate Resilience in Peri-Urban Areas." PI Wittich.
3. Senior Personnel, NSF-NRT 2023, NRT: Addressing Risks to (Vulnerable) Cultural Heritage in the Era of Climate Resiliency (ARCHER) through Transdisciplinary Student Training." PI Wood.
4. Advisory Board/Expert Panel, NSF AISL 2021, "Developing an Assessment for Measuring changes in Functional Botanical Literacy in an informal STEM education environment." PI Callis-Duehl & Parsley, Dansforth Institute.
5. Expert panel, NSF IUSE, 2021 "Collaborative Creation of a Functional Botanical Literacy Theory: A Workshop Approach." PI Callis-Duehl & Parsley, Dansforth Institute.
6. Expert panel, NSF IUSE, 2021 "How do we assess changes in undergraduate students' decision-making ability regarding socioscientific issues?" PI Callis-Duehl & Parsley, Dansforth Institute.
7. Advisory Board Member, NSF CAREER, 2020 "Understanding metacognition development and its role in undergraduate biology major success." PI J. Sabel at University of Memphis.
8. Advisory Board Member, NSF IUSE, 2018, "Evo-Med-Ed: an integrative approach for teaching and learning human evolution in undergraduate biology." PI's at Michigan State University.
9. Advisory Board Member, USDA-NIFA CBG, 2018, "Training students in sustainable development of socioecological systems through problem-based and experiential learning." PI at University of Arkansas at Pine Bluff.
10. Advisory Board Member, NSF IUSE, 2017, "Put up your dukes and everybody wins: Investigating deliberative argumentation in large lecture biology." PI's at Washington State University.
11. Collaborating Mentor, USDA-NIFA, 2017, Postdoctoral fellowship for Zhian Kamvar: *Developing a Reproducible Research Curriculum from Real-World Examples in Agriculture*.
12. Steering Committee and founding member, NSF Research Coordination Network-UBE, 2016: *RELATES: Research Establishing & Linking Argumentation to Education in Science*
13. Advisory Board Member, NSF REAL, 2013, "Bio-ENGARD: Experiential Navigation of Graphical And Reasoning Decisions in Biology." PI's at Purdue University.
14. Advisory Board Member, NSF DRK-12, 2013, "SPICE: Science Practices in Inquiry and Critique for Environmental Literacy." PI's at Cary Institute of Ecosystem Studies.

Professional Fellowships, Awards & Recognition:

UNL IANR Omtvedt Innovation Award for Teaching **2024**

UNL Faculty Professional Development Fellowship **2022-2023**
Utrecht University, Freudenthal Institute

Social Engagement Teaching Fellow, UNL **2020**

Faculty Leadership in Academia: from Inspiration to Reality (FLAIR), UNL **2020**

Daugherty Water for Food Global Institute Faculty Fellow, UNL **2020**
Gaining expertise on leading change at the university by reviewing research literature, studying data, and discussing university initiatives surrounding student success.

Faculty Fellows for Student Success, UNL **2019-2020**
Gaining expertise on leading change at the university by reviewing research literature, studying data, and discussing university initiatives surrounding student success.

Holling Family Award for Teaching Excellence, UNL **2017**
Recognizes exceptional teaching within the College of Agriculture Sciences and Natural Resources

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**

Nominated for an Inspire Award, recognizing women leaders in Lincoln, NE **2016**

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 IV) **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 (600 per year) in the College of Agriculture and Natural Resources at UNL.

Classrooms Take Charge **2014 – 2018**
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 6th to 12th grade, including extensive revision and development based on research of students and teacher feedback. Available publicly: https://carbontime.create4stem.msu.edu/

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 online lesson plans.

Facilitating Professional Development of K-12 and Postsecondary Instructors:

UNL University-Wide Annual TA Training, Evidence-based Assessments Workshop **Aug 2023**

How to Teach for Science Literacy (& Ecological Literacy) using Structured Decision-Making in College Courses, Ecology Society of America Annual Meeting Workshop **Aug 2020**

Teaching decision-making in the science classroom to promote science literacy
faculty workshop at University of Oregon, Eugene, OR **Feb 2019**

Overview of the LA Model, UNL Century Club-UNL faculty with class sizes <100 **April 2018**

E2FEWs Workshop for faculty at UNL **Dec 2017, March 2018, May 2018**

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

"Teaching for the 21st 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.

Graduate School 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 (last 5 years):

National Association for Research on Science Teaching (NARST)
Society for the Advancement of Biology Education Research (SABER)
European Conference on Educational Research (ECER)
European Research in Biology Didactics (ERIDOB)
American Educational Research Association (AERA)
European Science Education Research Association (ESERA)
European Association for Research on Learning and Instruction (EARLI)
Ecological Society of America (ESA) Education Section
American Association for the Advancement of Science (AAAS)

Diversity, Equity and Inclusion Experiences:

Worked in majority Black urban schools in Philadelphia during 2001-2002. Taught at a community college with a diversity of age and cultural groups in 2009. Mentored undergraduate researchers in independent research summer programs with emphasis on supporting historically underrepresented students throughout my career, and advised graduate students from historically underrepresented identities. Developed and lead the diversity and equity group (NRDI) in my department for 5 years (2015-2020). Led initiatives at UNL to support women in STEM including better parental leave policies for faculty, staff, post-docs and students for 3 years as part of the Chancellor's Commission for the Status of Women (2017-2020). Led small-group discussions on anti-racism in SABER and within SNR (2020-2021). Strong advocate for inclusive teaching practices and programs to support student success and retention within my department and college roles. Actively attends workshops, discussions and opportunities to learn about diversity, equity and inclusion and advocate for progress.

International experiences: Traveled abroad extensively including several months of coursework in the United Kingdom, coursework and travel in Peru, ecology research in Poland, Canada and Costa Rica, and a year-long professional development faculty fellowship in the Netherlands (2022-2023). Some Spanish language skills.