

# Jesse L. Wilcox

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## Education

- 2017**            **Doctor of Philosophy- Science Education**  
Iowa State University, Ames, Iowa
- 2006**            **Masters of Arts in Teaching- Science Education**  
Iowa State University, Ames, Iowa
- 2004**            **Bachelor of Science- Biology**  
Iowa State University, Ames, Iowa

## Professional Experience

- 2021- Present**    **Assistant Professor of Biology and Science Education**  
University of Northern Iowa, Cedar Falls, IA
- 2018- 2021**        **Assistant Professor of STEM Education**  
Simpson College, Indianola, IA
- 2016- 2018**        **Assistant Professor of Teacher Education and Graduate Studies**  
Drake University, Des Moines, IA
- 2014- 2016**        **Assistant Professor of Education- Science Education**  
Grand View University, Des Moines, IA
- 2011-2014**        **Graduate Teaching Assistant- Science Education and Biology**  
**Academic Advisor of the Masters of Arts in Teaching Program**  
**Student Teaching Supervisor**  
Iowa State University, Ames, IA
- 2011**                **Adjunct Instructor- Secondary Science Methods**  
Drake University, Des Moines, IA
- 2006- 2011**        **Science Teacher: Biology and General Science**  
Valley Southwoods Freshman High School, West Des Moines, IA
- 2005**                **Associate Teacher: Special Education and Reading**  
Demoney Elementary School, Estherville, IA

## Professional Teaching Credentials

### Iowa Master Teaching License: Grades K-12

Endorsements: Biology, Chemistry, General Science, Physical Science, Earth Science, Life Science, and K-8 Science

## Honors, Awards, and Fellowships

- 2023**            **UNI Outstanding Teaching Award**  
Awarded by the University of Northern Iowa
- 2023**            **Excellence in Science Teaching Award**  
**Science Supervisory- College**  
Awarded by the Iowa Academy of Sciences
- 2021**            **Faculty Summer Research Fellowship**  
Awarded by the University of Northern Iowa Graduate College
- 2020**            **Outstanding Service Award**  
Awarded by the Iowa Academy of Sciences
- 2019**            **Distinguished Junior Faculty Award**  
Awarded by Simpson College
- 2019**            **Distinguished Science Teaching Award**  
Awarded by the Iowa Academy of Sciences
- 2016**            **Outstanding Academic Advisor Award**  
Awarded by Grand View University
- 2011**            **Excellence in Science Teaching Award**  
**General Science- High School**  
Awarded by the Iowa Academy of Sciences
- 2007**            **Maitland P. Simmons Memorial Award for New Teachers**  
Awarded by the National Science Teachers Association

## Refereed Publications

### (Underlined names are current or former students)

55. Wilcox, J., Voss, S., Miller, S., Kruse, J.W., & Fettkether, L. (Accepted). Research Experiences for Undergraduates through Extracurricular Practitioner Inquiry: Exploring the Experiences of Preservice Elementary Teachers. *Journal of Science Teacher Education*.
54. Wilcox, J., Berger, H., Lawson, S., & Ramker, M. (Accepted with Revisions). Building Bridges: Carver Bridge to STEM Success Students' Experiences and Sense of Community. *School Science and Mathematics*.
53. Wilcox, J., Kilburg, H., Swain, S., & Weber, C. (Accepted). Distributing Time Across the STEM Disciplines: Teaching Nature of STEM using a 5th Grade Water Distribution 5E. *Science & Children*.

52. Lange, W.R., Wilcox, J., & Breheny, S. (Accepted). Going Beneath the Surface: Using socioscientific issues to explore agricultural activities related to Earth Science. *The Science Teacher*.
51. Wilcox, J., Florez, S., Bruns, M., & Nolting, S. (Accepted). Sparking Students' Curiosity: Using Static Electricity Activities to Engage Students. *Science Scope*.
50. Wilcox, J., Lindsay, M., & Steinke, K. (Accepted). Warming up to Inquiry: Using inquiry to teach heating and cooling of substances to 2nd graders. *Science & Children*.
49. Wilcox, J. & Townsley, M. (2024). The Standard Answer: Considerations for Implementing Standards-based Grading in an NGSS-aligned Science Classroom. *Science Scope*, 47(2), 47-55.
48. Wilcox, J., Chibnall, D., Lange, W.R., & Clausen, D. (2024). Making light work of gravity: Scaffolding middle schoolers' thinking to help them understand gravitational lensing. *Science Scope*. 47(1), 16-22. DOI; 10.1080/08872376.2023.2290285
47. Bustamante, H., Wilcox, J., & Donnelly, J. (2024). Concentrating on Cross-Disciplinary Connections: Using reaction rates to help students make connections between chemistry and biology. *The Science Teacher*. 91(1), 1-7. DOI: 10.1080/00368555.2023.2292341
46. Wilcox, J., Roberts, K., Kaemmer, J., McKenzie, J., & McClain, C. (2023). Questioning the Relationships: Helping students explore analogous and homologous structures through teacher questioning. *Science Scope*. 46(7), 46-53.
45. Wilcox, J., Troyna, C., Lange, W.R., Gray, K., & Leadley, C. (2023). Transitioning from Partial to Total Understanding: Using Visual Data to Help Students Understand Eclipses. *Science Scope*. 46(6), 16-23.
44. Edgerly, H.S., Kruse, J.W., Wilcox, J. (2023). Investigating Elementary Teachers' Views, Implementation, and Longitudinal Enactment of Nature of Science Instruction. *Science & Education*. 32(4), 1049–1073. DOI: <https://doi.org/10.1007/s11191-022-00343-1>
43. Wilcox, J., Potter, C., Nolting, S., Voss, S., & Webb, E. (2022). Bringing Engineering into Play: Using Guided Play to Help Kindergarteners Engage in Engineering Activities with Pushes and Pulls. *Science & Children*. 60(2), 44-48.
42. Wilcox, J. & Townsley, M. (2022). Debunking Myths of Standards-based Grading: Addressing the concerns and providing some strategies for implementing alternative grading practices. *The Science Teacher*. 90(1), 29-33.
41. Murano, K., Wilcox, J., Easter, J., & Lucht, C. (2022). Making Group Work Natural: Using Effective Group Work to Engage Students with Natural Hazards. *Science Scope*. 46(1), 22-32.
40. Wilcox, J. & Rose, A. (2022). Visualizing Habitats: Using visual data to help Kindergarteners model relationships between living things and the places they live. *Science & Children*. 60 (1), 26-31.

39. Wilcox, J., Person, S., & Lyons, C. (2022). Starting with Science: Developing students' speaking and listening skills through investigating food webs and habitats. *Science & Children*.59(6), 48-53.
38. Pleasants, J. & Wilcox, J. (2022). Putting the Energy into Concept Development: Developing the concept of thermal energy transfer and science and engineering practices. *Science Scope*.45(6), 40-46.
37. Kruse, J.W., Wilcox, J., & Easter, J. (2022). Learning to Learn: Drawing Students' Attention to Ideas about Learning. *The Clearing House: A Journal of Educational Strategies, Issues, and Ideas*, 9(2), 110-116. <https://doi.org/10.1080/00098655.2022.2033670>.
36. Wilcox, J., Reiter, R., Rose, A., Alberts, A., & Murano, K. (2022). Patterns that Matter: Helping 2nd graders explore patterns of properties of matter and the nature of science. *Science & Children*. 59(3). 48-54.
35. Kruse, J.W., Wilcox, J., Patel, N., Borzo, S., Seebach, C., & Henning, J. (2022). The Power of Practicum Support: A Quasi-experimental Investigation of Elementary Preservice Teachers' Science Instruction in a Highly Supported Field Experience. *Journal of Science Teacher Education*. 33(4).392-412. <https://doi.org/10.1080/1046560X.2021.1949099>.
34. Edgerly, H.S., Kruse, J.W., & Wilcox, J. (2022). Quantitatively Investigating Inservice Elementary Teachers' Nature of Science Views. *Research in Science Education*. 52 (5), 1467–1480 DOI 10.1007/s11165-021-09993-7
33. Wilcox, J., Moore, N., Nolting, S., Reyna, C., & Potter, C. (2021). Don't Force It: Using Guiding Questions to Scaffold Kindergartner's Thinking of Pushes and Pulls. *Science & Children*. 59(2). 48-53.
32. Wilcox, J., Kruse, J.W., & Decker, S. (2021). Exploring the STEM Landscape: Integrating the Nature of STEM into Elementary Earth Science. *Science & Children*. 58(6). 30-37.
31. Nolting, S., Wilcox, J., Moore-Dilworth, N., & Grenko, M. (2021). Shining a Light on the "T" in STEM- Engaging 1st grade students in computational thinking using activities about light. *Science & Children*. 58(5). 48-52.
30. Wilcox, J., Lucht, C., Murano, K., McBroom, E., & Kruse, J.W. (2021). Launching Inquiry into Motion: Using Launch-Explore-Summarize to Explore Energy and Motion. *Science Scope*. 45(2). 40-49.
29. Derry, S. & Wilcox, J. (2021). Growing STEM in the Community: Planning a STEM Festival. *The Elementary STEM Journal*. 25(3), 9-15.
28. Roberts, K., Wilcox, J., & Bahnson, A. (2021). Cultivating Place: Engaging Students with Place-Based Learning in Community Gardens. *Science & Children*. 58(4), 48-55.
27. Kruse., J.W., Henning, J., Wilcox, J., Carman, K., Patel, N., & Seebach, C. (2021). Investigating the correlation between preservice elementary teachers' self-efficacy and science teaching practices. *Journal of Science Teacher Education*. 32 (4), 469-479. DOI: 10.1080/1046560X.2020.1861767

26. Kruse, J.W., Wilcox, J., & Menke, L. (2020). Changes in Elementary Teachers' Conceptions About Matter. *Journal of College Science Teaching*. 50(2), 36-43.
25. Bahnson, A., Wilcox, J., Kruse, J.W., & Schou, T. (2020). From Surviving to Thriving: Teaching Social Emotional Learning Alongside the NGSS. *The Science Teacher*. 87(6), 28-34.
24. Easter, J., Hollister, E., & Wilcox, J. (2019). Where Have the Birds Gone? Engineering solutions to authentic problems in the elementary science classroom. *Science & Children*. 57(4), 62-69.
23. Wilcox, J., Kruse, J.W., and Voss, S. (2019). Rethinking Classic Engineering Activities: Embedding NGSS and natures of technology and engineering to improve student learning. *Technology and Engineering Teacher (TETe)*. 79(2), 1-7.
22. Kruse, J.W. & Wilcox, J. (2019). Blowing Up Demos: Making Demos More Effective. *Science Scope*. 42(11), 40-47.
21. Clough, K., Kruse, J.W., & Wilcox, J. (2019). It's Alive?!? Accurately modeling how science works using patterns in a kindergarten classroom. *Science & Children*. 56(8), 34-39.
20. Wilcox, J., Klapprodt, M., Holub, J., & Van Buskirk, K. (2019). Balancing Engineering and Science Instruction: Teaching third-graders about balanced and unbalanced forces using an engineering task. *Science & Children*. 56(7), 58-63.
19. Chibnall, D., Wilcox, J., & Willeford, S. (2018). Astronomy that Makes Sense: Helping students with visual impairments hear and feel the cosmos. *Science Scope*. 44(2), 45-52.
18. Edgerly, H.S., Wilcox, J., & Easter, J. (2018). Creating a Positive Feedback Culture: Eight practical principles to improve students' learning. *Science Scope*. 41(5), 43-49.
17. Wilcox, J. & Lake, A. (2018). Teaching the Nature of Science in Elementary: Strategies and Resources. *Science & Children*. 55 (5), 78-85.
16. Wilcox, J., Kruse, J.W., & Clough, M.P. (2017). Blending In: Using an adaptation activity to integrate math and science. *Science & Children*. 54(9), 60-66.
15. Kruse, J.W., Easter, J., Edgerly, H.S., & Wilcox, J. (2017). Myths about the Nature of Technology: Using philosophy of technology and engineering to expose misconceptions. *The Science Teacher*. 84 (5), 3-7.
14. Kruse, J.W. & Wilcox, J. (2017). Using a Water Purification Activity to Teach the Philosophy and Nature of Technology. *Technology & Engineering Teacher*. 76(8), 13-19.
13. Kruse, J.W. & Wilcox, J. (2017). Building Technological Literacy with Philosophy of Technology. *Science & Children*, 54(7), 66-73.
12. Wilcox, J., Kruse, J.W. & Clough, M.P. (2015). Teaching Science through Inquiry: Seven common myths about this time-honored approach. *The Science Teacher*, 82 (6), 62-67.
11. Wilcox, J., Kruse, J.W., & Herman, B.C. (2015). Beyond an equation: Explaining density related phenomena. *The Science Teacher*, 82 (2), 28-33.

10. Kruse, J.W. & Wilcox, J. (2015). Sinking in: Developing a model for density. *The Science Teacher*, 82(2), 23-27.
9. Kruse, J.W. & Wilcox, J. (2013). Engaging students with the Nature of Science and Nature of Technology by modeling the work of scientists. *The Clearing House*. 86(3), 109-115.
8. Wilcox, J. & Richey, L. (2012). May the magnetic force be with you! Using concrete activities to help students confront misconceptions of magnetism. *Science & Children*, 50 (2), 62-67.
7. Wilcox, J. & Kruse, J.W. (2012). Springing into seasons: Using students' ideas to inquire about seasons. *Science Scope*, 35(6), 26-31.
6. Wilcox, J. (2011). Holding Ourselves to a Higher Standard: Using standards-based grading in science as a means to improve teaching and learning. *Iowa Science Teachers Journal*. 39(3), 4-11.
5. Borton, K., Satre, H., & Wilcox, J. (2011). Cloudy judgment: Students investigate cloud formation and factors greatly influencing weather. *Iowa Science Teachers Journal*. 38(1).
4. Kruse, J.W. & Wilcox, J. (2009). Conceptualizing Moon Phases- Helping students learn how to learn. *Science Scope*, 32(5), 55-59.
3. Wilcox, J. (2008). Eyes on your classroom: Collaborating with others to improve your practice. *Iowa Science Teachers Journal*, 35(3),7-11.
2. Wilcox, J. & Potter, E.M. (2008). Painting an accurate picture of the Nature of Science. *Iowa Science Teachers Journal*, 35(2), 21-24.
1. Hall, G.T. & Wilcox, J. (2007). It's alive... I think: Students investigate what defines something as living. *Iowa Science Teachers Journal*, 34(1), 5-9.

## **Refereed Publications In Progress**

Wilcox, J., Ramker, M., Lange, W.R., Kota, P., Kress, C., Clausen, D., & Fettkether, L. (Submitted). Why Do Effective Science Teachers Persist? A Mixed Methods Approach Exploring Post-Induction Effective Science Teachers' Experiences. *International Journal of Science and Mathematics Education*.

Wilcox, J., Tate, A., Meier, A., & Morrissey, L. (Submitted). Improving the Classroom Climate: Incorporating Social Emotional Learning into a 3rd Grade Lesson about Climate. *Science & Children*.

Wilcox, J., James, L., Kerndt, C., & Zavalza Flores, S. (Submitted). Crafting the Environment for Learning: Using concrete experiences to teach how traits are influenced by the environment. *Science & Children*.

Townsley, M. & Wilcox, J. (Submitted). Standards-based Grading: Core principles and current implementation debates. *The Clearing House*.

Lange, W.R., Clements, A.R., Wilcox, J., Dolphin, G., & Fettkether, L. (Submitted). Putting the Pieces Together: Using a Map Activity to Help Students Understand Plate Tectonics and the Contributions of Marie Tharp. *The Science Teacher*.

Wilcox, J., Fettkether, L., & Wright, J. (Submitted). Making Plants Matter: Modeling Photosynthesis. *The Science Teacher*.

Wilcox, J. Kruse, J.W., Ramker, M., Daniel, J., & Patel, N. (Writing in Progress). Preservice Science Teachers' Experiences Conducting Science Education Research. *Journal of Science Teacher Education*.

Wilcox, J., Florez, S., Carpenter, B., & Morlan, A., & Rodriguez, G. (Writing in Progress). Effectively Structuring Lessons: Teaching Internal and External Structures and Functions to Fourth Graders. *Science & Children*.

## **Other Publications (Book Chapters, Books)**

13. Wilcox, J., Burgess, T., & Garcia, S. (2026). *Experience Science: Grade 8 National*. Savvas Learning Company.
12. Wilcox, J., Burgess, T., & Garcia, S. (2026). *Experience Science: Grade 7 National*. Savvas Learning Company.
11. Wilcox, J., Burgess, T., & Garcia, S. (2026). *Experience Science: Grade 6 National*. Savvas Learning Company.
10. Wilcox, J., Burgess, T., Forsythe, M., & Domjan, H. (2025). *Experience Science: Grade 5 National*. Savvas Learning Company.
9. Wilcox, J., Burgess, T., Forsythe, M., & Domjan, H. (2025). *Experience Science: Grade 4 National*. Savvas Learning Company.
8. Wilcox, J., Burgess, T., Forsythe, M., & Domjan, H. (2025). *Experience Science: Grade 3 National*. Savvas Learning Company.
7. Wilcox, J., Burgess, T., Forsythe, M., & Domjan, H. (2025). *Experience Science: Grade 2 National*. Savvas Learning Company.
6. Wilcox, J., Burgess, T., Forsythe, M., & Domjan, H. (2025). *Experience Science: Grade 1 National*. Savvas Learning Company.
5. Wilcox, J., Burgess, T., Forsythe, M., & Domjan, H. (2025). *Experience Science: Grade K National*. Savvas Learning Company.
4. Burgess, T., Garcia, S., & Wilcox, J. (2025). *Experience Science: 6<sup>th</sup> Grade Texas*. Savvas Learning Company.
3. Burgess, T., Garcia, S., & Wilcox, J. (2025). *Experience Science: 7<sup>th</sup> Grade Texas*. Savvas Learning Company.

2. Burgess, T., Garcia, S., & Wilcox, J. (2025). *Experience Science: 8<sup>th</sup> Grade Texas*. Savvas Learning Company.
1. Kennedy, N. & Wilcox, J. (2024). Prospective Mathematics Teachers' Decision-making during Lesson Study. In S. Dodger, G. Matney, K. Chandler-Olcott, J. Heckathorn, & M. Fox (Eds.), *Lesson Study in Preservice Mathematics and Science Teacher Education* (pp. 24-33). Routledge.

## **Refereed Presentations**

**(Underlined names are current or former students)**

### **2024**

184. Wilcox, J., Miller, C., and Hughes, E. (2024, June 18). *But we have to get kids ready for college, right?: College professors' use of SBG*. [Presentation]. Science Education Update Conference at the University of Northern Iowa, Cedar Falls, IA.
183. Wilcox, J. (2024, June 18). *Standards-based Grading Core Ideas and Implementation Debates*. [Presentation]. Standards-based Grading Conference, Cedar Falls, IA.
182. Wilcox, J., Like, C., and Karbeling, S. (2024, April 12). *Standards-based Grading and the NGSS: How can we effectively implement SBG in Science?* [Presentation]. Science Education Update Conference at the University of Northern Iowa, Cedar Falls, IA.
181. Wilcox, J. & Mahmoud, R. (2024, March 20-23). *Science Madness Basketball Competition: Strategies for Implementing Phenomena*. [Exhibitor Presentation]. National Science Teaching Association Conference, Denver, CO.
180. Wilcox, J. & Fettkether, L. (2024, March 20-23). *Making Sense of Modeling: Exploring how to use modeling to help student sense-making in an NGSS Classroom*. [Presentation]. National Science Teaching Association Conference, Denver, CO.
179. Wilcox, J. & Mahmoud, R. (2024, March 20-23). *Collaboration over Compliance: How to effectively engage students in an interactive science classroom through student decision-making*. [Presentation] National Science Teaching Association Conference, Denver, CO.
178. Wilcox, J., Nixon, R., & Gossen, D. (2024, January 10-13). *Innovating the Science Content Courses for Elementary Teachers*. [Presentation]. Association for Science Teacher Education International Conference, New Orleans, LA.

### **2023**

177. Wilcox, J., Voss, S., & Leadley, C. (2023, October 25-28). *Visualizing the Sun-Moon-Earth System*. [Presentation]. National Science Teaching Association Conference, Kansas City, Missouri.
176. Wilcox, J. (2023, October 25-28). *Shining a Light on the "T" in STEM- Engaging elementary students in computational thinking using activities about light*. [Elementary Extravaganza Workshop Presentation]. National Science Teaching Association, Kansas City, Missouri.



175. Wilcox, J. (2023, October 25-28). *Questions are the Answer: How to scaffold students' thinking without telling them the answers*. [Exhibitor Workshop]. National Science Teaching Association Conference, Kansas City, Missouri.
174. Wilcox, J., Borton, K., & Tate, A. (2023, October 25-28). *Making Meaningful Connections to Social Emotional Learning Alongside the NGSS*. [Presentation]. National Science Teaching Association Conference, Kansas City, Missouri.
173. Ramker, M., Wilcox, J., Kress, C., & Kota, P. (2023, October 6-8). *Why Do Effective Science Teachers Persist? Exploring Post-induction Effective Science Teachers' Experiences*. [Presentation]. North-Central Association of Science Teacher Education Conference, Des Moines, Iowa.
172. Wilcox, J. & Fettkether, L. (2023, October 6-7). *Exploring How Teaching Assistants and Practitioner Inquiry Experiences Can Improve Your Courses (and Your Scholarship)*. North Central Association of Science Teacher Education Conference, Winona, Minnesota.
171. Wilcox, J. (2023, October 6-7). *Writing Practitioner Articles to Scaffold Preservice Science Teachers' Thinking*. [Roundtable]. North Central Association of Science Teacher Education Conference, Winona, Minnesota.
170. Wilcox, J. & Zavalza Flores, S. (2023, October 6-7). *Improving an Elementary Life Science Course through Practitioner Inquiry*. [Poster Presentation]. North Central Association of Science Teacher Education Conference, Winona, Minnesota.
169. Derry, S., Wilcox, J. & Wilcox, J.J. (2023, April 12-15). Planning a STEM Festival: How to Grow STEM in Your Community [Presentation]. International Technology and Engineering Educators Association Conference, Minneapolis, Minnesota.
168. Wilcox, J. (2023, March 22-25). Helping Elementary Students Understand What Scientists Do. [Presentation]. National Science Teaching Association Conference, Atlanta, Georgia.
167. Wilcox, J. (2023, March 22-25). Strategies for Teaching the Nature of Science. [Presentation]. National Science Teaching Association Conference, Atlanta, Georgia.
166. Wilcox, J., McClain, C., & Roberts, K. (2023, March 22-25). Questions are the Answer: How to scaffold students' thinking without telling them the answers. [Presentation]. National Science Teaching Association Conference, Atlanta, Georgia.
165. Wilcox, J. (2023, March 22-25). Patterns that Matter: Helping second graders explore patterns of properties of matter and the nature of science. [Presentation]. National Science Teaching Association Conference, Atlanta, Georgia.
164. Hanuscin, D.L., Wilcox, J., Mikeska, J., Lottero-Perdue, P., Kruse, J.W., Voss, S., Melton, J., Atwood-Blaine, D., Douglass, H., Moran, D., Bartels, S., Boche, B., Pecore, J., Kim, M., Nagle, C., Welty, T., Demetrikopoulos, M., Perkins Coppola, M., Feille, K., & Hathcock, S. (2023, January 11-14). Reimagining Possibilities for Elementary Science Field Experiences & Practica. [Presentation]. Association for Science Teacher Education International Conference, Salt Lake City, Utah.
163. Wilcox, J., Voss, S., & Miller, S. (2023, January 11-14). Research Experiences for Undergraduates in Practitioner Inquiry: Exploring the experiences of preservice elementary

teachers. [Paper Presentation]. Association for Science Teacher Education International Conference, Salt Lake City, Utah.

162. Ramker, M., Wilcox, J., Lange, W.R., & Clausen, D. (2023, January 11-14). Why do Effective Science Teachers Persist? A Mixed-methods approach to exploring post-induction effective science teachers' experiences. [Paper Presentation]. Association for Science Teacher Education International Conference, Salt Lake City, Utah.

## 2022

161. Wilcox, J. (2022, November 10-12). *Blowing Up Demos: Making Demos More Effective*. [Presentation]. Conference for the Advancement of Science Teaching, Dallas, Texas.
160. Wilcox, J. (2022, November 10-12). *How do science teachers stay effective? Practical implications and strategies based on research*. [Presentation]. Conference for the Advancement of Science Teaching, Dallas, Texas.
159. Wilcox, J. (2022, November 10-12). *From Surviving to Thriving: Teaching Social Emotional Learning Alongside the TEKS*. [Presentation]. Conference for the Advancement of Science Teaching, Dallas, Texas.
158. Wilcox, J. & Fantacone, D. (2022, October, 27-29). How to Facilitate Effective Professional Development in STEM. [Presentation]. School Science and Mathematics Association Conference. Missoula, Montana.
157. Ramker, M., Wilcox, J., & Lange, W.R. (2022, September 30-October 1). *Why Do Effective Science Teachers Persist? A Mixed Methods Approach Exploring Post-induction Effective Science Teachers' Experiences*. [Poster Presentation]. North-Central Association of Science Teacher Education Conference, Des Moines, Iowa.
156. Wilcox, J. & Ramker, M. (2022, September 30-October 1). *Research Experiences for Preservice Science Teachers*. [Presentation]. North-Central Association of Science Teacher Education Conference, Des Moines, Iowa.
155. Wilcox, J. (2022, July 21-23). *Creating Effective Storylines: How to Help Students Make Connections Between Concepts*. [Presentation]. National Science Teaching Association Conference, Chicago, Illinois.
154. Wilcox, J. & Lange, W.R. (2022, July 21-23). *Going Beneath the Surface: Using socioscientific issues to help students engage in 3D learning*. [Presentation]. National Science Teaching Association Conference, Chicago, Illinois.
153. Wilcox, J., Ramker, M., & Lange, W.R. (2022, July 21-23). *How do science teachers stay effective? Practical implications and strategies based on research*. [Presentation]. National Science Teaching Association Conference, Chicago, Illinois.
152. Edgerly, H., Kruse, J.W., & Wilcox, J. (2022, July 3-7). *Investigating Elementary Teachers' Views, Implementation, and Longitudinal Enactment of Nature of Science Instruction*. [Paper Presentation]. International History, Philosophy, and Science Teaching Group Conference, Calgary, Alberta Canada.

151. Webb, E., Holub, J., & Wilcox, J. (2022, July 3-7). *Teaching Nature of Science to Elementary Children: Successes, Challenges, and Possibilities*. [Presentation]. International History, Philosophy, and Science Teaching Group Conference, Calgary, Alberta Canada.
150. Wilcox, J., Lange, W.R., & Roberts, K. (2022, July 3-7). *Teaching Evolution and Geologic Time: Strategies and Resources*. [Presentation]. International History, Philosophy, and Science Teaching Group Conference, Calgary, Alberta Canada.
149. Wilcox, J. (2022, March 31- April 2). *You Started with a Phenomenon! Now What?* [Exhibitor Workshop]. National Science Teaching Association, Houston, Texas.
148. Wilcox, J. (2022, March 31- April 2). *Don't Force It: Using Guiding Questions to Scaffold Kindergartner's Thinking of Pushes and Pulls*. [Elementary Extravaganza Workshop Presentation]. National Science Teaching Association, Houston, Texas.
147. Easter, J., Kruse, J.W., & Wilcox, J. (2022, March 27-30). *Using Science Historical Short Stories to Impact Students' Science-specific and General Epistemological Beliefs* [Paper Presentation]. NARST International Conference, Vancouver, British Columbia, Canada.
146. Easter, J., Kruse, J.W., & Wilcox, J. (2022, January 5-8). *The Impact of Epistemological Beliefs Curricular Materials on the Domain-General and Domain-Specific Epistemological Beliefs of Middle School Science Students* [Paper Presentation]. Association for Science Teacher Education, Greenville, SC.

## 2021

145. Patel, N., Kruse, J.W., Wilcox, J., Holub, J., & Roberts, K. (2021, October 28-30). Supporting Elementary Preservice Teachers' Science Instruction in Highly Supported Field Experiences. [Paper presentation]. School Science & Mathematics Conference, Online.
144. Holub, J., Kruse, J.W., Wilcox, J., Roberts, K., & Patel, N. (2021, October 28-30). *Exploring the Impact of STEM Professional Development on Literacy Instructional Views*. [Paper presentation]. School Science & Mathematics Conference, Online.
143. Derry, S., Trent, M., & Wilcox, J. (2021, October 3-4). *Growing STEM in Your Community: Planning a STEM Festival*. [Conference Presentation]. Iowa Science Teaching Section Conference, Ankeny, IA.
142. Wilcox, J., Moore, N., & Peck, A. (2021, October 3-4). *Teaching Units for Elementary Physical Science and STEM*. [Conference Presentation]. Iowa Science Teaching Section Conference, Ankeny, IA.
141. Wilcox, J., Lindsey, M., & Steinke, K. (2021, October 3-4). *Warming Up to Inquiry: Embedding Inquiry into Elementary Lessons*. [Conference Presentation]. Iowa Science Teaching Section Conference, Ankeny, IA.
140. Wilcox, J. (2021, October 1). *Filling in the Gaps: Practitioner Articles to Scaffold Preservice STEM Teachers' Thinking*. [Conference Presentation]. North Central Association for Science Teacher Education, Online.

139. Holub, J. & Wilcox, J. (2021, October 1). *Exploring the Impact of STEM Professional Development on Literacy Instructional Views*. [Paper presentation]. North Central Association for Science Teacher Education, Online.
138. Wilcox, J. (2021, October 1). *Getting Undergraduate Students Involved in Science Education Research*. [Conference Presentation]. North Central Association for Science Teacher Education, Online.
137. Wilcox, J. (2021, April). *Investigating Teacher Decision-making in Elementary Math Methods Using Lesson Study*. [Conference Presentation]. Lesson Study in Mathematics and Science Teacher Education Conference, Online.
136. Roberts, K., & Wilcox, J. (2021, March). *Engaging Urban and Suburban Students in Nature Using Place-based Learning in Community Gardens*. [Conference Presentation] Iowa Science Teaching Section Conference, Online.
135. Nolting, S., Moore, N., Reyna, C., & Wilcox, J. (2021, March). *Effective Teaching Elementary Science During a Global Pandemic*. [Conference Presentation]. Iowa Science Teaching Section Conference, Online.
134. Wilcox, J., Breheeny, S., & Montavon, A. (2021, March). *Making Weather A Breeze: Using Physical Science Concepts to Teach Students About Meteorology*. [Conference Presentation]. Iowa Science Teaching Section Conference, Online.
133. Edgerly, H.S., Kruse, J.W., & Wilcox, J. (2021, January). *Investigating Inservice Elementary Teachers' Nature of Science Implementation*. [Paper Presentation]. Association for Science Teacher Education International Conference, Online.

## 2020

131. Wilcox, J. & Nolting, S. (2020, November). *Exploring How Secondary Science Teachers with Over Five Years of Experience Stay Effective: A pilot study*. Paper presented at the School Science and Mathematics Conference, Minneapolis, MN. \*Conference moved online due to the Coronavirus.
130. Wilcox, J., Lawson, S., & Berger, H. (2020, November). *Building Bridges: Carver Bridge to STEM Success Students' Experiences and Sense of Community*. Paper presented at the School Science and Mathematics Conference, Minneapolis, MN. \*Conference moved online due to the Coronavirus.
129. Easter, J. & Wilcox, J. (2020, October). *Engaging Preservice Teachers in Online Science Activities*. Presented at the North Central Association for Science Teacher Education Conference, Des Moines, IA. \*Conference moved online due to the Coronavirus.
128. Thoma, J. & Wilcox, J. (2020, April). *Teacher Perceptions of Changes to Literacy Instruction After Professional Development in Science*. Poster presented at the American Educational Research Association, San Francisco, CA. \*Conference moved online due to the Coronavirus.

## 2019

127. Wilcox, J, Miller, S., Patel, N., & Kruse, J.W. (2019, November). *Preservice Science Teachers as Science Education Researchers: Investigating participant perspectives*. Presentation at School Science and Mathematics National Conference, Salt Lake City, UT.
126. Christensen, B., Ward, N., Wilcox, J., Kruse, J.W., Roberts, K., & Porter, C. (2019, November). *Exploring Mathematicians' Views of Nature of Mathematics*. Presentation at School Science and Mathematics National Conference, Salt Lake City, UT.
125. Wilcox, J., Scogin, S., Lyons, L., Miller, S., & Kruse, J.W (2019, November). *How to Facilitate Effective Undergraduate Research Experiences in STEM*. Presentation at School Science and Mathematics National Conference, Salt Lake City, UT.
124. Edgerly, H., Kruse, J.W., & Wilcox, J. (2019, October). *Investigating Inservice Elementary Teachers' Nature of Science (NOS) Implementation*. Paper presentation at the North-Central Association for Science Teacher Education Conference, St. Paul, MN.
123. Easter, J., Kruse, J.W., & Wilcox, J. (2019, October). *Improving the Domain-General Epistemological Beliefs of Middle-Level Science Students*. Paper presentation at the North-Central Association for Science Teacher Education Conference, St. Paul, MN.
122. Wilcox, J. & Easter, J. (2019, October). *Teaching Epistemological Beliefs: Helping students learn how to learn*. Presentation at the North-Central Association for Science Teacher Education Conference, St. Paul, MN.
121. Wilcox, J. (2019, October). *Effective Assessment Practices in Science Methods Classes*. Roundtable discussion at the North-Central Association for Science Teacher Education Conference, St. Paul, MN.
120. Patel, N., Kruse, J.W., & Wilcox, J. (2019, October). *Helping Elementary Pre-Service Teachers Teach Science Through a Highly Supported Field Experience Model*. Paper presentation at the North-Central Association for Science Teacher Education Conference, St. Paul, MN.
119. Roberts, K., Wilcox, J., & Bahnsen, A. (2019, October). *Engaging Urban and Suburban Students in Nature Using Place-based Learning*. Presentation at the Iowa Science Teaching Section Conference, Ankeny, IA.
118. Wilcox, J., Nolting, S., Moore, N., & Grenko, M. (2019, October). *Shining a Light on Elementary Inquiry Experiences*. Presentation at the Iowa Science Teaching Section Conference, Ankeny, IA.
117. Wilcox, J., Wilson, K., & Morrett, R. (2019, April). *Growing STEM in the Community: Planning a STEM Festival*. Presentation at Iowa Governor's 2019 Future Ready Iowa Summit, Des Moines, IA.
116. Kruse, J.W. & Wilcox, J. (2019), April). *Going Beyond 3D with the Natures of STEM*. Presentation at the National Science Teachers Association Conference, St. Louis, MO.
115. Kruse, J.W., Easter, J.M., & Wilcox, J. (2019, April). *Using Science and STEM to Help Students Learn How to Learn*. Presentation at the National Science Teachers Association Conference, St. Louis, MO.

114. Farnsworth, A. & Wilcox, J. (2019, April). *You Started with a Phenomenon! Now What?* Presentation at the National Science Teachers Association Conference, St. Louis, MO.
113. Wilcox, J., Edgerly, H., & Easter, J. (2019, April). *Creating a Positive Feedback Culture: Practical ideas for providing effective feedback.* Presentation at the National Science Teachers Association Conference, St. Louis, MO.
112. Wilcox, J. & Carman, K. (2019, April). *What about Cross-cutting Concepts? How to make the CCCs explicit in your science lessons.* Presentation at the National Science Teachers Association Conference, St. Louis, MO.
111. Wilcox, J., Kruse, J.W., & Decker, S. (2019, April). *Exploring the STEM Landscape: Helping students reflect on science, engineering, and math practices.* Presentation at the National Science Teachers Association Conference, St. Louis, MO.
110. Wilcox, J., Chibnall, D., & Willeford, S. (2019, April). *Astronomy that Makes Sense: Helping students hear and feel the cosmos.* Presentation at the National Science Teachers Association Conference, St. Louis, MO.
109. Wilcox, J., Roberts, K., & Kruse, J.W. (2019, January). *Exploring Mathematicians Views of Nature of Mathematics and STEM Education.* Poster presentation at the Association for Science Teacher Education International Conference, Savannah, GA.
108. Carman, K., Kruse, J.W., Wilcox, J., Patel, N., Seebach, C., & Henning, J. (2019, January). *Lack of Relationship between Self-Efficacy and Science Teaching Practice.* Poster presentation at the Association for Science Teacher Education International Conference, Savannah, GA.
107. Kruse, J.W., Wilcox, J., Menke, L., Schank, M., Klocke, M., & Holub, J. (2019, January). *Elementary Teachers' Learning of NGSS-related Physical Science.* Paper presentations at the Association for Science Teacher Education International Conference, Savannah, GA.

## 2018

106. Menke, L., Kruse, J.W., & Wilcox, J. (2018, October). *Elementary Teachers' Learning of NGSS-Related Physical Science.* Paper presentation at the North-Central Association for Science Teacher Education Conference, Porter, IN.
105. Eisler, A., Wilcox, J., & Kruse, J.W. (2018, October). *Exploring the Impact of STEM Professional Development on Urban Elementary Teachers' Science and Literacy Instruction.* Poster presentation at the North-Central Association for Science Teacher Education Conference, Porter, IN.
104. Wilcox, J., Henning, J.; Kruse, J.W.; Patel, N.; Seebach, C. (2018, October). *Is Self-efficacy correlated to Effective Science Teaching Practices?* Poster presentation at the North-Central Association for Science Teacher Education Conference, Porter, IN.
103. Easter, J. & Wilcox, J. (2018, October). *Effective Science Methods Activities Sharing Session.* Roundtable discussion at the North-Central Association for Science Teacher Education Conference, Porter, IN.
102. Wilcox, J. & Kruse, J.W. (2018, October). *Going Beyond Explicit/Reflective: Teaching*

*Preservice Teachers How to Effective Teach NOS.* Presentation at the North-Central Association for Science Teacher Education Conference, Porter, IN.

101. Wilcox, J., Edgerly, H.S., & Easter, J. (2018, October). *Creating a Positive Feedback Culture.* Presentation at School Science and Mathematics Association National Conference, Little Rock, AR.
100. Wilcox, J. & Lake, A. (2018, October). *Teaching Nature of Science to Elementary Students.* Presentation at School Science and Mathematics Association National Conference, Little Rock, AR.
99. Easter, J., Kruse, J.W., & Wilcox, J. (2018, October). *Learning to Learn: Helping students change their problematic beliefs about learning.* Presentation at School Science and Mathematics Association National Conference, Little Rock, AR.
98. Wilcox, J. (2018, October). *Modifying Elementary Science Activities to Foster 3-dimensional Learning.* Presentation at School Science and Mathematics Association National Conference, Little Rock, AR.
97. Edgerly, H., Kruse, J.W., & Wilcox, J. (2018, October). *Engaging Students with the Natures of STEM.* Presentation at School Science and Mathematics Association National Conference, Little Rock, AR.
96. Wilcox, J., Huntley, M., & Holub, J. (2018, October). *Teaching Engineering in the Elementary and Middle School.* Presentation at Iowa Science Teaching Section Conference, Ankeny, IA.
95. Wilcox, J. Schou, T., & Easter, J. (2018, October). *Teaching Social Emotional Learning alongside the NGSS.* Presentation at Iowa Science Teaching Section Conference, Ankeny, IA.
94. Wilcox, J., Holub, J., & Carman, K. (2018, October). *What about Cross-cutting Concepts? How to make CCCs explicit in your science lessons.* Presentation at Iowa Science Teaching Section Conference, Ankeny, IA.
93. Wilcox, J., Henry, E., & Easter, J. (2018, October). *Principles of Effectively Teaching the NGSS.* Presentation at Iowa Science Teaching Section Conference, Ankeny, IA.
92. Land, T.J., Wilcox, J. & Kruse, J.W. (2018, April). *Teachers' Identification of the Standards of Mathematical Practice in Planning and Instruction.* Poster presentation at the American Education Research Association Conference, New York, NY.
91. Edgerly, H., Kruse, J.W., Easter, J., & Wilcox, J. (2018, March). *Elementary Teachers' Implementation of the Nature of Technology and Engineering in the Classroom.* Paper presentation at the National Association for Research in Science Education International Conference, Atlanta, GA.

## **2017**

90. Kruse, J. & Wilcox, J. (2017, November). *STEM Literacy through Engineering and Philosophy.* Presented at the School Science and Mathematics Association National Conference. Lexington, KY.

89. Easter, J., & Wilcox, J. (2017, October). *Developing Capacity of Science Faculty Members to Design and Implement Research-based Science Teaching*. Poster presentation at North-Central Association for Science Teacher Education Conference, Rochester, MN.
88. Edgerly, H.S., Kruse, J.W., Easter, J., & Wilcox, J. (2017, October). *Elementary Teachers' Implementation of the Nature of Technology and Engineering in the Classroom*. Paper presentation at North-Central Association for Science Teacher Education Conference, Rochester, MN.
87. Wilcox, J. (2017, October). *STEM Education or Science Education?* Presentation at North-Central Association for Science Teacher Education, Rochester, MN.
86. Wilcox, J. (2017, October). *Promoting Student Goals in Science Methods*. Presentation at North-Central Association for Science Teacher Education, Rochester, MN.
85. Wilcox, J. & Chibnall, D. (2017, October). *Astronomy that Makes Sense: Helping students hear and feel the cosmos*. Presentation at the Iowa Science Teaching Section, Ankeny, IA.
84. Wilcox, J. & Lake, A. (2017, October). *Teaching Nature of Science in Elementary and Middle Grades: Strategies and Resources*. Presentation at the Iowa Science Teaching Section, Ankeny, IA.
83. Kruse, J.W., Wilcox, J., Edgerly, H., & Easter, J. (2017, August). *Investigating elementary teachers' philosophy and nature of technology (PNOT) instruction*. Paper presentation at European Science Education Research Associate, Dublin, Ireland.
82. Wilcox, J., Kruse, J.W., Easter, J., Edgerly, H.S. (2017, August). *The impact of a year-long professional development on elementary teachers' teaching of math and science*. Paper presentation at European Science Education Research Associate, Dublin, Ireland.
81. Edgerly, H.S., Easter, J.M., Kruse, J.W., & Wilcox, J. (2017, April). *Investigating the Development of Elementary Teachers' Philosophy and Nature of Technology & Engineering Views*. Paper presentation at the National Association for Research in Science Teaching Conference, San Antonio, TX.
80. Brauer, K., Kruse, J.W., Daemicke, R., Klocke, M., Wagner, M., Wilcox, J., Seebach, C., & Easter, J. (2017, April). *Testing Our Assumptions About Teaching Philosophy and Nature of Technology to Elementary Students*. Paper presentation at the National Association for Research in Science Teaching Conference, San Antonio, TX.
79. Wilcox, J., Kruse, J.W., Lines, R., & Whigham, E. (2017, April). *Students' Longitudinal NOS Views 4-5 Years after an Explicit/Reflective Middle School Science Course*. Paper presentation at the National Association for Research in Science Teaching International Conference, San Antonio, TX.
78. Sudak-Allison, J., Woods, J., & Wilcox, J. (2017, April). *Engaging All Learners: The power of authenticity*. Paper presentation at the Midwestern Psychological Association Conference, Chicago, IL.
77. Wilcox, J., Kruse, J.W., Edgerly, H.S., & Easter, J.M. (2017, January). *Quality AND Quantity: The impact of a year-long professional development on elementary teachers' teaching of*



*science*. Paper presentation at the Association for Science Teacher Education Conference, Des Moines, IA.

76. Klocke, M., Daemicke, R., Wagner, M., Kruse, J.W., & Wilcox, J. (2017, January). *Changes in Elementary Teachers' Planning for Engineering with Professional Development Support*. Paper presentation at the Association for Science Teacher Education Conference, Des Moines, IA.
75. Easter, J. M., Edgerly, H. S., Kruse, J.W., & Wilcox, J. (2017, January). *Exploring the Experiences of Urban Elementary Teachers in an Intensive Science and Math Professional Development Program*. Paper presentation at the Association for Science Teacher Education Conference, Des Moines, IA.

## 2016

74. Edgerly, H., Easter, J., Kruse, J.W., & Wilcox, J. (2016, October). *Exploring the Experiences of Urban Elementary Teachers in an Intensive Science and Math Professional Development Program*. Paper presentation at the North-Central Association for Science Teacher Education Conference, Des Moines, IA.
73. Klocke, M., Daemicke, D., Kruse, J.W. & Wilcox, J. (2016, October). *Change in Elementary Teachers' Planning for Engineering with Professional Development Support*. Poster presentation at the North-Central Association for Science Teacher Education Conference, Des Moines, IA.
72. Wilcox, J. (2016, October). *How Do We Get Teachers to Enact Reforms-based Science Teaching?* Roundtable Presentation at the North-Central Association for Science Teacher Education, Des Moines, IA.
71. Wilcox, J. (2016, October). *So You Did an Inquiry Activity...Now What?* Presentation at the Iowa Science Teaching Section, West Des Moines, IA.
70. Gihring, L., Wilcox, J., Carbajo, M. (2016, October). *Blowing Up Common Ideas about Demos: Making demos more effective*. Presentation at the Iowa Science Teaching Section, West Des Moines, IA.
69. Wilcox, J., Kruse, J.W., Clough, M.P. (2016, October). *How to Effectively Manage Inquiry Activities*. Presentation at the Iowa Science Teaching Section, West Des Moines, IA.
68. Kruse, J.W., Wilcox, J. & Land, T. (2016, January). *Developing content, pedagogy, and mentorship capacity for improving elementary math and science*. Poster presentation at the Association for Science Teacher Education Conference, Reno, NV.
67. Wilcox, J., Ihrig, L., Clough, M.P., & Olson, J.K. (2016, January). *Are beginning science teachers in over their heads? How beginning teachers handle the complexities of teaching science while facing institutional constraints*. Paper presented at the Association for Science Teacher Education Conference, Reno, NV.
66. Sudak-Allison, J., Wilcox, J., Woods, J., & White, A. (2016, January). *Three Majors: Poster Symposium for Engaging all Learners of Psychology, Human Services & Education*. Poster presented at the National Institute on the Teaching of Psychology, St. Pete Beach, Florida.

## 2015

65. Wilcox, J. (2015, November). *Exploring the STEM Endorsement*. Presentation at the STEM Pre-service Teaching Conference, Iowa City, IA.
64. Wilcox, J. (2015, November). *Modifying cookbook labs*. Presentation at the STEM Pre-service Teaching Conference, Iowa City, IA.
63. Wilcox, J., Kruse, J.W., & Land, T. (2015, October). *Developing content, pedagogy, and mentorship capacity for improving elementary math and science*. Poster presented at the North-Central Association for Science Teacher Education Conference, Peoria, IL.
62. Kruse, J.W., & Wilcox, J. (2015, September). *What should we flip?*. Presentation at the Iowa Science Teaching Section, West Des Moines, IA.
61. Wilcox, J., & Clough, M.P. (2015, September). *Improving teaching practices to promote student learning of science practices*. Presentation at the Iowa Science Teaching Section, West Des Moines, IA.
60. Wilcox, J., Hall, G.T., & Reichert, C. (2015, March). *Collaboration instead of compliance: How to effectively manage an interactive classroom through student decision-making*. Presentation at the National Science Teachers Association Conference, Chicago, IL.
59. Wilcox, J., Kruse, J.W., & Richey, L. (2015, March). *May the magnetic force be with you*. Presentation at the National Science Teachers Association Conference, Chicago, IL.
58. Wilcox, J., Ihrig, L., & Kruse, J.W. (2015, March). *Using M&M's to teach Elementary students life science and math*. Presentation at the National Science Teachers Association Conference, Chicago, IL.
57. Wilcox, J., Hall, G.T., Edgerly, H. (2015, March). *Connecting the dots: Using particles and gas laws to scaffold student understanding of weather*. Presentation at the National Science Teachers Association Conference, Chicago, IL.
56. Kruse, J.W. & Wilcox, J. (2015, March). *Modeling the work of scientists and engineers*. Presentation at the National Science Teachers Association Conference, Chicago, IL.
55. Kruse, J.W., Wilcox, J., Patel, N., & Seebach, C. (2015, January). *The impact of support networks within an elementary science teaching field experience*. Paper presented at the Association for Science Teacher Education Conference, Portland, OR.

## 2014

54. Kruse, J.W., Wilcox, J., Seebach, C., & Patel, N. (2014, October). *Restructuring the elementary science field experience*. Paper presented at the North-Central Association for Science Teacher Education Conference, Eau Claire, WI.
53. Wilcox, J. & Root, G. (2014, October). *Minds in Motion: Using the nature of science to help students deeply understand Newton's first law*. Presentation at the Iowa Science Teaching Section Conference, Ames, IA.
52. Root, A. & Wilcox, J. (2014, October). *How to survive your beginning years of teaching*. Presentation at the Iowa Science Teaching Section Conference, Ames, IA.

51. Kruse, J.W., Wilcox, J., Clough, M.P. (2014, October). *Myths regarding teaching science through inquiry*. Presentation at the Iowa Science Teaching Section Conference, Ames, IA.
50. Wilcox, J., Olson, J.K., & Reid-Smith, J.A. (2014, January). *An analysis of ontological and epistemological underpinnings of science methods textbooks and syllabi*. Paper presented at the Association for Science Teacher Education Conference, San Antonio, TX.
49. Ihrig, L.M., Wilcox, J., Olson, J.K., & Clough, M.P. (2014, January). *I bamboozled them: How novice teachers working to implement reforms-based instruction may resist socialization into school*. Paper presented at the Association for Science Teacher Education Conference, San Antonio, TX.

## 2013

48. Ihrig, L.M., Wilcox, J., Olson, J.K., & Clough, M.P. (2013, October). *The role of superordinates in socialization of novice science teachers working to implement reforms-based instruction*. Poster presented at the North-Central Association for Science Teacher Education Conference, Macomb, IL.
47. Reichert, C. & Wilcox, J. (2013, October). *Collaboration instead of compliance: How to effectively manage an interactive classroom through student decision-making*. Presentation at the Iowa Science Teaching Section Conference, Ames, IA.
46. Wilcox, J., Edgerly, H., & Kruse, J.W. (2013, October). *Creating a positive feedback loop: How providing extensive feedback on students' work can help students become better learners*. Presentation at the Iowa Science Teaching Section Conference, Ames, IA.
45. Wilcox, J., Ihrig, L.M., & Bahnsen, A. (2013, October). *Helping students understand STEM: Developing meaningful understanding of the purposes of science, technology, and engineering*. Presentation at the Iowa Science Teaching Section Conference, Ames, IA.
44. Wilcox, J., Borton, K., & Kruse, J.W. (2013, October). *Beyond an equation: Helping students deeply understand density through scaffolded inquiry*. Presentation at the Iowa Science Teaching Section Conference, Ames, IA.
43. Clough, M.P., Olson, J.K., Ihrig, L.M., Wilcox, J., Bergman, D.J., & Herman, B.C. (2013, September). *Structure and efficacy of the ISU Secondary Science Teacher Education Program*. Paper presented at the STEM Teacher Educators' Conference, Des Moines, IA.
42. Wilcox, J., Smith, J.A.R., & Kruse, J.W. (2013, June). *Teaching secondary science students the Nature of Science by scaffolding experiences along the Decontextualized/Highly Contextualized Nature of Science Continuum*. Paper presented at the International History, Philosophy, and Science Teaching Group, Pittsburgh, PA.
41. Kruse, J.W., Roby, T.M., Herman, B.C., Wilcox, J. (2013, June). *Exploring the relationship between Nature of Science learning and Epistemological Beliefs*. Poster presented at the International History, Philosophy, and Science Teaching Group, Pittsburgh, PA.
40. Wilcox, J., Kruse, J.W., & Herman, B.C. (2013, April). *Modifying eighth grade science students' Views of Learning: A Quasi-experiment investigating the impact of instruction*. Paper presented at the National Association for Research in Science Teaching Conference, Rio Grande, Puerto Rico.

39. Roby, T.M., Kruse, J.W., Wilcox, J., & Herman, B.C. (2013, April). *The impact of explicit and reflective NOS instruction on students' Epistemological Beliefs*. Paper presented at the National Association for Research in Science Teaching Conference, Rio Grande, Puerto Rico.
38. Irhig, L.M., Wilcox, J., Olson, J.K., & Clough, M.P. (2013, January). *Factors that impact reform-oriented practices of first year science teachers*. Poster presented at the Association for Science Teacher Education Conference, Charleston, SC.
37. Wilcox, J., Kruse, J.W., & Herman, B.C. (2013, January). *Let our students in on the secret: The effect of explicit instruction on the Nature of Learning along with reforms-based teaching on students' Personal Epistemological Beliefs*. Paper presented at the Association for Science Teacher Education Conference, Charleston, SC.

## 2012

36. Irhig, L.M., Olson, J.K., & Wilcox, J. (2012, October). *How do we teach science content standards? Instructional planning as represented by science methods textbooks, science methods course syllabi, and teachers' science instructional units*. Poster presented at the North Central Association for Science Teacher Education Conference, Cedar Falls, IA.
35. Richey, L.R. & Wilcox, J. (2012, October). *Confronting elementary students' misconceptions of magnetism using concrete activities*. Presentation at the Iowa Science Teaching Section Conference, Ames, IA.
34. Wilcox, J., Edgerly, H., & Kruse, J.W. (2012, October). *Rethinking grading and assessment*. Presentation at the Iowa Science Teaching Section Conference, Ames, IA.
33. Wilcox, J., Kruse, J.W., & Edgerly, H. (2012, October). *Encouraging ALL students to participate in science*. Presentation at the Iowa Science Teaching Section Conference, Ames, IA.
32. Smith, J.A.R. & Wilcox, J. (2012, October). *Teaching about the Nature of Science in high school science classes*. Presentation at the Iowa Science Teaching Section Conference, Ames, IA.
31. Wilcox, J. & Olson, J.K. (2012, March). *Planning effective units: Helping students make connections between individual lessons*. Presentation at the National Science Teachers Association National Conference, Indianapolis, IN.
30. Potter-Nelson, E.M. & Wilcox, J. (2012, March). *So you did an inquiry activity...What next?* Presentation at the National Science Teachers Association National Conference, Indianapolis, IN.
29. Kruse, J.W., & Wilcox, J. (2012, January). *Exploring the relationship between formal assessment strategies and Nature of Science learning of pre-service elementary teachers*. Paper presented at the Association for Science Teacher Education Conference, Clearwater Beach, FL.

## 2011

28. Kruse, J.W. & Wilcox, J. (2011, October). *Exploring standards-based assessments in methods courses*. Paper presented at the North Central Association for Science Teacher Education Conference, St. Cloud, MN.

27. Wilcox, J. & Kruse, J.W. (2011, October). *Teaching moon phases while helping students learn how to learn*. Presentation at the Iowa Science Teaching Section Conference, Ames, IA.
26. Wilcox, J. (2011, October). *Incorporating the history of science into chemistry*. Presentation at the Iowa Science Teaching Section Conference, Ames, IA.
25. Wilcox, J. & Moore, S.M. (2011, March). *Teaching the periodic table using the nature of science*. Presentation at the NSTA National Conference, San Francisco, CA.
24. Wilcox, J. & Kruse, J.W. (2011, March). *Assessing inquiry in the science classroom*. Presentation at the National Science Teachers Association National Conference, San Francisco, CA.
23. Kruse, J.W. & Wilcox, J. (2011, January). *Using historical short stories to illuminate Nature of Science ideas and reduce stereotypical views in a sixth grade classroom*. Paper presented at the Association for Science Teacher Education Conference, Minneapolis, MN.

## 2010

22. Wilcox, J. & Kruse, J.W. (2010, October). *Strategies to increase student engagement and involvement in class*. Presentation at the Iowa Science Teaching Section Conference, Ames, IA.
21. Wilcox, J. & Kruse, J.W. (2010, October). *Helping students to inquire through scaffolding experiences*. Presentation at the Iowa Science Teaching Section Conference, Ames, IA.
20. Kruse, J.W. & Wilcox, J. (2010, October). *Historical science stories – how to harness the power of the past to engage students*. Presentation at the Iowa Science Teaching Section Conference, Ames, IA.
19. Kruse, J.W. & Wilcox, J. (2010, January). *Investigating the influence of a reflective summer research experience on teachers' understanding of Nature of Science concepts and Nature of Science instructional strategies*. Paper presented at the Association for Science Teacher Education Conference, Sacramento, CA.
18. Clough, M. P., Herman, B. C., Smith, J.A.R., Kruse J. W., & Wilcox, J. (2010, January). *Seamlessly teaching science content and the Nature of Science*. Paper presented at the Association of the Science Teacher Educators Conference, Sacramento, CA.
17. Kruse, J.W., Wilcox, J., & Herman, B. (2010, January). *Learning Dispositions: Explicit instruction concerning the Nature of Learning and assessing students' views on learning*. Paper presented at the Association for Science Teacher Education Conference, Sacramento, CA.

## 2009

16. Wilcox, J. & Kasuga, L. (2009, October). *Using community service projects to enhance learning in the classroom*. Presentation at the National Science Teachers Association Regional Conference, Minneapolis, MN.
15. Wilcox, J. & Moffitt, M. (2009, October). *Inquiring in chemistry with everyday materials*. Presentation at the NSTA Regional Conference, Minneapolis, MN.

14. Kruse, J.W. & Wilcox, J. (2009, June). *Influence of a summer research experience on teacher Nature of Science views: A case study*. Paper presented at the International History, Philosophy, and Science Teaching Group. South Bend, IN.
13. Potter-Nelson, E.M. & Wilcox, J. (2009, March). *A hands-on approach to the periodic table*. Presentation at the National Science Teachers Association National Conference, New Orleans, LA.
12. Wilcox, J. & Moore, S. (2009, March). *Self-reflection and SATIC coding: Improving your interactions with students*. Presentation at the National Science Teachers Association National Conference, New Orleans, LA.
11. Kruse, J.W. & Wilcox, J. (2009, March). *Restructuring forensics-based activities to promote deeper levels of understanding for students*. Presentation at the National Science Teachers Association National Conference, New Orleans, LA.
10. Kruse, J.W. & Wilcox, J. (2009, January). *Influence of a summer research experience on teacher Nature of Science views: A case study*. Paper presented at the Association for Science Teacher Education Conference, Hartford, CT.
9. Kruse, J.W. & Wilcox, J. (2009, January). *9th Grade student resistance of reform-based instruction*. Paper presented at the Association for Science Teacher Education Conference, Hartford, CT.

## 2008

8. Wilcox, J. & Whigham, E. (2008, October). *Inquiry all year long: Including inquiry in the classroom from day 1*. Presentation at the Iowa Science Teaching Section Conference, Des Moines, IA.
7. Wilcox, J. & Moffitt, M. (2008, October). *Questions are the answer*. Presentation at the Iowa Science Teaching Section Conference, Des Moines, IA.
6. Kruse, J.W. & Wilcox, J. (2008, March). *Using the nature of science and inquiry to increase student interest in science*. Presentation at the National Science Teachers Association National Conference, Boston, MA.
5. Wilcox, J. & Hall, G. (2008, March). *Restructuring science activities- From cookbook to inquiry*. Presentation at the National Science Teachers Association National Conference, Boston, MA.

## 2007

4. Wilcox, J. & Hall, G. (2007, March). *Restructuring science activities- From cookbook to inquiry*. Presentation at the National Science Teachers Association National Conference, St. Louis, MO.
3. Wilcox, J., Hall, G., Potter, E.M., & Girup, K. (2007, March). *Tips and strategies for first year teachers*. Presentation at the National Science Teachers Association National Conference, St. Louis, MO.

2. Wilcox, J., Potter, E.M., & Kehret, S. (2007, March). *What is science? Incorporating nature of science activities in to the classroom*. Presentation at the National Science Teachers Association National Conference, St. Louis, MO.

## 2006

1. Wilcox, J., Potter, E.M., & Kehret, S. (2006, October). *What is science? Incorporating nature of science activities in to the classroom*. Presentation at the NSTA midwestern area conference. Omaha, NE.

## Non- refereed Presentations

### Keynote Speeches, Invited Lectures and Presentations, Student Presentations, and Workshops (Underlined names are current or former students)

43. Derry, S. & Wilcox, J. (2024, April 16). Planning a STEM Festival: How to Grow STEM in Your Community. [Invited Roundtable]. *International Technology and Engineering Educators Association (ITEEA) Engagement Series*, Online.
42. Wilcox, J. (2024). *Inquiry Teaching, Learning, & Assessment* [Podcast]. The Learning Curve Podcast Edmonton Catholic School District, Online. <https://spotifyanchor-web.app.link/e/1sNnvuKLSGb>.
41. Wilcox, J. (2023, August 2). *Making Phenomena Phenomenal: Strategies for implementing phenomena and what to do next*. [Invited Presentations]. Savvas Learning Company. Three presentations for the Aldine Independent School District, Aldine, Texas.
40. Wilcox, J. (2023, April 25). *How to Modify K-12 Activities* [Presentation]. UNI student chapter of the National Science Teaching Association, University of Northern Iowa, Cedar Falls, Iowa.
39. Wilcox, J. (2022, October 19). *You Started with a Phenomenon! Now What?* [Webinar]. Savvas Learning Company, Online.
38. Wilcox, J. (2022, October 6). *Using Science Stories and Helping Students Learn How to Learn*. [Podcast]. Fresh Ideas for Teaching: Keeping Science Real Podcast. Savvas Learning Company, Online. <https://www.savvas.com/resource-center/blogs-and-podcasts/fresh-ideas-for-teaching/science/2022/motivating-students-with-science-stories>.
37. Ramker, M., Lange, W., & Wilcox, J. (2022, July 29). *Why Do Effective Science Teachers Persist? A Mixed-methods approach exploring post-induction effective science teachers' experiences*. Presentation at the Summer Undergraduate Research Program Symposium, University of Northern Iowa, Cedar Falls, IA.
36. Wilcox, J. (2022, June 27). *Scientific Revolutions and the Nature of Science*. [Guest Lecturer] History, Philosophy, and Nature of Science, SCI ED 6700, University of Northern Iowa, Cedar Falls, Iowa.
35. Gonzalez, H., Wilcox, J., Angle, J., Brooks, K., McGinnis, K., & Sutton, S. (2022, May 3). *Let's Talk about How to Get Published in Science Scope!* [Webinar]. National Science Teaching Association, Online.

34. Wilcox, J. & Chibnall, D. (2022, April 9). *Making Space Science Accessible*. Iowa Preservice STEM Teacher Conference. [Invited Presentation] University of Northern Iowa, Cedar Falls, Iowa, Hybrid.
33. Wilcox, J. & Science and Children Authors (2021, March 10). *NSTAchat: Design Thinking*. [Invited roundtable]. National Science Teaching Association, Online.
32. Derry, S., & Wilcox, J. (2021, November 3). *Planning a STEM Night: How to*. [Invited Presentation]. International Technology and Engineering Educators Association, Online.
31. Wilcox, J. & Science and Children Authors (2021, June 10). *NSTAchat: Culturally Responsive Teaching*. [Invited roundtable]. National Science Teaching Association, Online.
30. Alt, S., Hoffman, T., Mohammadi, R., Nielsen, L., Ritscher, M., Shipp, N., & Wilcox, J. (2021, April). *Simpson Honors Capstone- An interdisciplinary approach to ethical service*. Presented at the Simpson College Research and Creativity Symposium, Indianola, IA.
29. Smith, K., Bardwell, K., Callan, M., Green, M., Downey, J., Timm, C., & Wilcox, J. (2021, March). *A Faculty Roadmap to Teaching in SC Honors*. Great Ideas For Teaching (GIFT) Session Presentation, Simpson College, Indianola, IA.
28. Meyer, C., Berger, H., Corni- Benson, M., Smith, K., & Wilcox, J. (2020, November). *Research in a Liberal Art College: Experiences and Resources*. Professional Development Panel Session, Simpson College, Indianola, IA.
27. Cummings, K. & Wilcox, J. (2020, November). *Planning through an Equity Lens*. Presentation for the Division of Teacher Education, Library, and Sports Science Diversity, Equity, and Inclusion Group, Simpson College, Indianola, IA.
26. Wilcox, J. (2020, March). *How to Make Your Grading More Transparent*. Great Ideas For Teaching (GIFT) Session Presentation, Simpson College, Indianola, IA.
25. Wilcox, J. (2020, January). Guest lecturer for Secondary Science Methods II, Iowa State University, Ames, IA.
24. Wilcox, J. (2020, January). *Surviving and Thriving in the Teaching Profession*. Guest Lecturer for Student Teaching Seminar, Simpson College, Indianola, IA.
23. Wilcox, J. (2020, January). *Effectively Incorporating Science into Preschool Classrooms*. Workshop for Preschool Teachers in the West Des Moines Community School District, West Des Moines, IA.
22. Wilcox, J. (2019, November). *Surviving and Thriving in the Service Professions*. Keynote speaker at the Social Work, Human Services and Psychology and Education (SHaPE) Symposium, Grand View University, Des Moines, IA.
21. Miller, S., & Wilcox, J. (2019, November). *Preservice Science Teachers as Science Education Researchers: Investigating participant perspectives*. Poster presentation at the Simpson College Summer Research Symposium, Indianola, IA.



20. Christensen, B., Ward, N., & Wilcox, J. (2019, November). *Exploring Mathematicians' Views of Nature of Mathematics*. Presentation at the Simpson College Summer Research Symposium, Indianola, IA.
19. Wilcox, J & Timm, C. (2019, November). *I Wish I Knew... Strategies for Being Successful in Middle and High School Teaching*. Presentation at the Simpson College Education Club Conference, Indianola, IA.
18. Wilcox, J. (2019, September). Guest lecturer for Foundations of Education, EDUC 114, Simpson College, Indianola, IA.
17. Wilcox, J. (2019, September). Guest lecturer (4 class sessions) for Math for Elementary Teachers, Math 116, Simpson College, Indianola, IA.
16. Christensen, B., Ward, N., & Wilcox, J. (2019, July). *Exploring Mathematicians' Views of Nature of Mathematics*. Presentation at the Simpson College Summer Lecture Series, Indianola, IA.
15. Wilcox, J. (2019, April). *Science Education and Information Literacy in an Age of Misinformation*. Keynote speaker at STEM Librarians of Iowa Unite! Conference, Des Moines, IA.
14. Eisler, A. & Wilcox, J. (2018, July). *Exploring the Impact of STEM Professional Development on Urban Elementary Teachers' Science and Literacy Instruction*. Presentation at the Drake Undergraduate Science Collaborative Institute Summer Research Program, Des Moines, IA.
13. Kruse, J.W. & Wilcox, J. (2018, May). *Using Engineering to Develop Structure/Function Relationships and Pedagogical Content Knowledge*. Presentation for the Education Department at the University of the Andes, Santiago, Chile.
12. Wilcox, J. (2014, 2016, 2018). *The impact of institutional constraints on beginning teachers*. Guest lecturer for the Advanced Qualitative Methods course, DOC 396, Drake University.
11. Wilcox, J & Woods, J. (2017, November). *The Adolescent Brain and Learning*. Workshop for Waukee Middle School Faculty, Waukee, IA.
10. Schank, M., Klocke, M., Lake, A., & Wilcox, J. (2017, April). *Investigating Change in Teachers' Math and Science Abilities through a Year-long Professional Development Program*. Poster presentation at the Drake University Conference on Undergraduate Research in the Sciences, Des Moines, IA.
9. Wilcox, J. (2017, January). *Creating a Positive Feedback Loop: How to provide quality feedback without going to "grading jail."* Presentation for the College of Pharmacy and Health Sciences, Drake University.
8. Wilcox, J. (2015, April). *Using concept maps for teaching and learning*. Presentation for Jacobson Visiting Scholar Symposium Teach Meet, Grand View University.
7. Wilcox, J. (2012-2014). *Using seasons to teach the learning cycle*. Guest lecturer (6 semesters) for the Strategies in Teaching course, CI 245, Iowa State University.

6. Wilcox, J. & Smith, J.A.R. (2013, October). *Modifying science activities from cookbook to inquiry*. Half day workshop given at the Taking the Road Less Traveled Conference, Ames, IA.
5. Wilcox, J., Smith, J.A.R., & Root, A. (2013, April). *Modifying science activities from cookbook to inquiry*. Half day workshop given at the Taking the Road Less Traveled Conference, Ames, IA.
4. Wilcox, J. (2012, November). *Reconceptualizing grading and assessment practices through standards-based grading*. Half day workshop given at Gladbrook-Reinbeck School District.
3. Wilcox, J & Hagerty, S. (2011, March). Standards-based grading in a math and science classroom. Presentation for the English Department at Valley Southwoods Freshman High School. West Des Moines, IA.
2. Wilcox, J. & Christensen, P. (2009, February). *Tracking your interaction patterns using SATIC*. Invited presentation at the Area Education Agency's Content Area Building session about Inquiry.
1. Wilcox, J. & Christensen, P. (2008, December). *Using questions to improve class discussions*. Invited presentation at the Area Education Agency's Content Area Building session about Inquiry.

## Grants

### Pending Grants

Vazquez, M., Berger, H., Payton, C., Sweet, R., Vance, K., & Wilcox, J. (2024). *Leading and Communicating with Data: Improving undergraduate STEM self-efficacy and STEM communication across the disciplines*. Submitted to the National Science Foundation Improving Undergraduate STEM Education: Education and Human Resources (IUSE: EHR). Pending at \$338,844.

Levy, K., Brodie, C., Hyppolite, J., Carter-Smith, T., Whan Tong, H., Wilcox, J., Krough, J., Knox, I., & Jackson, D. (2023). *Tech Dreams: Addressing Systemic Racism through Early Access to STEM*. Submitted to the National Science Foundation Racial Equity in STEM Education. **Pending at \$787,201.**

### External Grants Funded

**Total Funded: \$672,766**

Wilcox, J. (PI), Turner, K., Kauffman, B., Turner, A., Haverland, J., & Easter, J. (2022). *Iowa Leadership in Engineering Design*. Submitted to the Iowa STEM Scale-up Program through the Iowa Governor's STEM Advisory Council. **Funded at \$43,460.**

Wilcox, J. (PI), Chibnall, D., & Kruse, J.W. (2022). Developing Effective Astronomy STEM Units for Middle School Science. Iowa Space Grant Consortium: Curriculum Development. **Funded at \$19,306.**

Turner, K. (PI), Wilcox, J. (Co-PI) Kauffman, B., Turner, A., & Haverland, J. (2021). *Iowa Leadership in Engineering Design*. Submitted to the Iowa STEM Scale-up Program through the Iowa Governor's STEM Advisory Council. **Funded at \$75,000.**

Wilcox, J. (PI) (2019-2020). *Project First S.T.E.P.S.: STEM Teaching-units for Elementary Physical Science*. Submitted to the Iowa Science Foundation. **Funded at \$5,000.**

Wilcox, J. (PI), Kruse, J.W. (Co-PI), Easter, J.M. (Co-PI) (2017). *Developing Capacity of Science Faculty Members to Design and Implement Research-based Science Curriculum*. Submitted to the Iowa Space Grant Consortium. **Funded at \$5000.**

Kruse, J.W. (PI), Wilcox, J. (Co-PI), & Land, T. (Co-PI) (2015-2018). *Developing Content, Pedagogy, and Mentorship Capacity for Improving Elementary Math and Science*. Submitted to the No Child Left Behind Act Title II Programs: Improving Teacher Quality State Grant Program (Title IIA). **Funded at \$525,000.**

### **External Grants Not Funded**

Berger, H. (PI), Ditzler, L., Sweet, R., Brodie, M., Subramanian, A., & Wilcox, J. (2023). *Hope in the Heartland: The Carver Bridge to STEM Success Program*. Submitted to the National Science Foundation Scholarships in Science, Technology, Engineering, and Mathematics Track II Program (S-STEM). **Not funded at \$2,473,200.**

Nixon, R., Gossen, D., & Wilcox, J. (2023). *Design Considerations for Specialized Science Courses for Preservice Elementary Teachers*. Submitted to National Science Foundation Improving Undergraduate STEM Education (IUSE). **Not funded at \$49,995.**

Wilcox, J. (PI), Haverland, J., Sedlacek, A.R.C., Kauffman, B., Turner, A., & Johnson, J. (2023). *Iowa Leadership in Engineering Design*. Submitted to the Iowa STEM Scale-up Program through the Iowa Governor's STEM Advisory Council. **Not Funded at \$75,000.**

Vazquez, M. (PI), Berger, H., Payton, C., Vance, K., Sweet, R., & Wilcox, J. (2022). *Leading and Communicating with Data: Improving undergraduate STEM self-efficacy and STEM communication across the disciplines*. Submitted to the National Science Foundation Improving Undergraduate STEM Education and Human Resources Program (IUSE-EHR). **Not Funded at \$282,255.**

Berger, H. (PI), Sweet, R., Brodie, M., Ditzler, L., Wilcox, J., Meyer, C., Corni-Bensen, M., & Woell, J. (2022). *Hope in the Heartland: The Carver Bridge to STEM Success Program*. Submitted to the National Science Foundation Scholarships in Science, Technology, Engineering, and Mathematics Track II Program (S-STEM). **Not Funded at \$1,480,095.**

Wilcox, J. & Beharka, A. (2022). *University of Northern Iowa Project Wild Professional Development for Undergraduates*. Submitted to the Association of Fish & Wildlife Agencies ee360 Competitive Grant Application Leadership and Training Collaborative. **Not Funded at \$3,000.**

Berger, H. (PI), Sweet, R., Brodie, M., Ditzler, L., Wilcox, J., Corni-Bensen, M., & Woell, J. (2021). *Hope in the Heartland: The Carver Bridge to STEM Success Program*. Submitted to the National Science Foundation Scholarships in Science, Technology, Engineering, and Mathematics Track II Program (S-STEM). **Not Funded at \$1,500,000.**

Santos, A. (PI), Skaar, R., Wilcox, J., Glotzer, S., Mahdian A., McLaughlin, S., & Morris, D. (2020). *The 8-Bit NanoKit: A Toolset for Learning Nanoscience*. Submitted to the U.S. Department of Education Small Business Innovation Research Program. **Not Funded at \$200,000.**

Kruse, J.W. (PI), Wilcox, J. (Co-PI), & Easter, J.M. (Co-PI) (2020). *Research in Science Education for Undergraduate Preservice Teachers (RISE UP)*. Submitted to the National Science Foundation Research Experience for Undergraduates Site Program. **Not Funded at \$393,238.**

Berger, H. (PI), Brittingham, J., Brodie, M., Ditzler, L., Sweet, R., Meyers, S., & Wilcox, J. (2020). *Hope in the Heartland: The Carver Bridge to STEM Success Program*. Submitted to the National Science Foundation Scholarships in Science, Technology, Engineering, and Mathematics Track II Program (S-STEM). **Not Funded at \$1,000,000.**

Santos, A. (PI), Skaar, R., Wilcox, J., Glotzer, S., Mahdian A., McLaughlin, S., & Morris, D. (2020). *The 8-Bit NanoKit: A Toolset for Learning Nanoscience*. Submitted to the U.S. Department of Education Small Business Innovation Research Program. **Not Funded at \$200,000.**

Wilcox, J. (PI), Kruse, J.W. (Co-PI), & Holub, J. (Co-PI), & Woodward, L. (Co-PI). (2019). *STEM Stories: Integrating History, STEM, and Reading to Achieve K-5 STEM Literacy*. Submitted to Collins Aerospace. **Not Funded at \$26,000.**

Kruse, J.W. (PI), Wilcox, J. (Co-PI), & Easter, J.M. (Co-PI) (2019). *Research in Science Education for Undergraduate Preservice Teachers (RISE UP)*. Submitted to the National Science Foundation Research Experience for Undergraduates Site Program. **Not Funded at \$391,115.**

Kruse, J.W. (PI), Wilcox, J. (Co-PI), Woodward, L. (Co-PI), Urness, T. (Co-PI) & Manley, E. (Co-PI). (2019). *Project iCAN: Integrating Computer Science and the Next Generation Science Standards for Middle School*. Submitted to National Science Foundation Computer Science for All Program. **Not Funded at \$300,000.**

Kruse, J. (PI), Wilcox, J. (Co-PI), Woodward, L. (Co-PI), Urness, T. (Co-PI) & Manley, E. (Co-PI). (2018). *Project iCAN: Integrating Computer Science and the Next Generation Science Standards for Middle School*. Submitted to National Science Foundation DRK-12 Program. **Not Funded at \$450,000.**

Kruse, J.W. (PI), Wilcox, J. (Co-PI), Woodward, L. (Co-PI), Urness, T. (Co-PI), & Manley, E. (Co-PI) (2018). *Project iCAN: Integrating Computer Science and the Next Generation Science Standards for Middle School*. Submitted to the National Science Foundation. **Not Funded at \$1,998,370.**

Kruse, J.W. (PI), Wilcox, J. (Co-PI) (2017). *Exploring the Impact of STEM Education Research Experiences for Preservice Teacher Development*. Submitted to the Iowa Space Consortium. **Not Funded at \$5000.**

Kruse, J. (PI) & Wilcox, J. (Co-PI) (2017). *Developing Integrated STEM Content, Pedagogy, Mentorship, and Resource Capacities for Middle School Science*. Submitted to the Iowa Mathematics and Science Partnership Program. **Not Funded at \$289,136.**

Williams, P. (PI), Ahart, T. (Co-PI), Grow, L. (Faculty Associate), Wilcox, J. (Faculty Associate), & Good, K. (Staff Associate). (2016). *Project EMPOWER*. Submitted to the United States Department of Education National Professional Development Program for English Language Acquisition and Language Instruction. **Not funded at \$2,750,000.**

## Internal Grants Funded

**Total Funded: \$175,000**

Wilcox, J. (2023). *Innovating the Science Content Courses for Elementary Teachers*. Funded by the University of Northern Iowa College of Humanities, Arts, and Sciences. **Funded at \$250.**

Wilcox, J. (2022). *Research Experiences for Undergraduates in Science Education*. Funded by University of Northern Iowa Pre-Tenure Faculty Grant. **Funded at \$1500.**

Wilcox, J. (2022). *Why Do Effective Science Teachers Persist? A Mixed Methods Approach Exploring Post-induction Effective Science Teachers' Experiences*. Funded by the University of Northern Iowa College of Humanities, Arts, and Sciences. **Funded at \$250.**

Wilcox, J. (2021). *Investigating the Relationship Between Self-Efficacy, Teacher Knowledge, and Science Teaching Practices in Pre-service Science Education*. Funded by the University of Northern Iowa College of Humanities, Arts, and Sciences. **Funded at \$500.**

Meyer, C., Wilcox, J., Ditzler, L., Tun, M., Subramanian, A., Corni-Benson, M., Madanipour, A., Vance, K., Smith, K., Walker, J., Nolting, S., & Rose, A. (2020). *Enhancing Undergraduate Research and Creativity Opportunities at Simpson College*. Submitted to Simpson College Strategic Initiative Program. **Funded at \$140,250.**

Wilcox, J. (PI) & Cummings, K. (Co-PI) (2020). *Engaging the Division of Teacher Education, Sports Science & Health, and Library with Diversity and Inclusivity Professional Development*. Submitted to Simpson College Faculty Grants for Inclusive Teaching and Learning. **Funded at \$2000.**

Wilcox, J. (PI) (2019). *Understanding the Science Teaching Practices, History and Philosophy of Science Implementation, and the Experiences of Effective Science Teachers*. Submitted to Simpson College Interdisciplinary Research Grant. **Funded at \$2000.**

Wilcox, J. (PI) & Cummings, K. (Co-PI) (2019). *Embedding Inclusive Teaching Practices throughout Teacher Education*. Submitted to Simpson College Faculty Grants for Inclusive Teaching and Learning. **Funded at \$2000.**

Wilcox, J. (2019). *Improving Diversity and Inclusion in Biology through Historical Short Stories*. Submitted to Simpson College Faculty Grants for Inclusive Teaching and Learning. **Funded at \$750.**

Miller, S. & Wilcox, J. (2019). *Preservice Science Teachers as Science Education Researchers: Investigating participant perspectives*. Submitted to Simpson College Undergraduate Research Committee. **Funded at \$500.**

Wilcox, J. (PI). (2019-2020). *Exploring Mathematicians' Views of Nature of Mathematics*. Submitted to the Undergraduate Summer Research Project Carver Bridge to Success Program at Simpson College. **Funded at \$16,500.**

Cummings, K. (PI), Wilcox, J. (Co-PI), & Jermeland, L. (Co-PI) (2019-2020). *Reducing Stigma and Increasing Well-Being for Teachers*. Submitted to Faculty Development at Simpson College. **Funded at \$2,000.**

Wilcox, J. (PI). (2019-2020). *Exploring the Impacts of STEM Education Research Experience on Pre-service Teachers*. Submitted to Faculty Development at Simpson College. **Funded at \$2,000.**

Eisler, A. & Wilcox, J. (2018). *Exploring the Impact of STEM PD on Urban Elementary Teachers' Literacy Instruction*. Submitted to Drake University's DUSCI Program for Undergraduate Research Experience. **Funded at \$3500.**

Wilcox, J., Woods, J., Sudak- Allison, J., & Beck-Cross, C. (2015-2016). *Biannual Poster Symposium for Social Work, Human Services, Psychology, and Education (SHaPE)*. Submitted to Grand View Mini-Grant. **Funded at \$1000.**

### **Internal Grants Not Funded**

Cummings, K. (PI) & Wilcox, J. (Co-PI) (2020). *Learning How to Engage and Retain Diverse Preservice Teachers*. Submitted to Simpson College Faculty Grants for Inclusive Teaching and Learning. **Not Funded at \$2000.**

### **UNI Student Scholarships for Research**

**Total Funded: \$38,720**

**2021- Present**     UNI Biological Research Awards- **\$14,275**

**2022- Present**     Intercollegiate Academics Fund Committee- **\$6,045**

**2022- Present**     Summer Undergraduate Research Program in Biology- **\$18,400**

### **University Coursework Taught**

#### **University of Northern Iowa**

- Methods of Teaching Secondary Science (SCI ED 4800/5800)
- Undergraduate Research in Biology (BIOL 3190)
- Research in Science Education (SCI ED 6299)
- History, Philosophy, and Nature of Science (SCI ED 6700)
- Independent Study in Biology (BIOL 4198)
- Readings in Biology (BIOL 3185)
- Inquiry into Life Science (SCI ED 1200)
- General Biology Lab: Organismal Diversity (BIOL 2051)
- Teaching Elementary School Science (ELEMECML 3161)
- Trends and Issues in Science Education (SCI ED 6900)
- Practitioner Inquiry (BIOL 3159)

#### **Simpson College**

##### **Undergraduate**

- Elementary Science Methods
- Elementary Math Methods
- Physical and Earth Science
- Earth Science
- Advanced Physical Science
- Introduction to Physics

- Life Science
- STEM Methods
- Student Development and Learning
- Assessment, Planning, and Teaching
- Living a Life that Matters- Honors Program
- Honors Capstone
- Elementary Advanced Practicum I
- Elementary Advanced Practicum II

#### Undergraduate and Graduate

- Secondary Science Methods

#### Graduate

- Assessment, Planning, and Teaching for MAT students
- Secondary Education Methods
- Secondary Education Methods Practicum
- Student Teaching Supervision

### **Drake University**

#### Undergraduate

- Introduction to Education
- Human Development and Learning Theory
- History of Biology in France and England

#### Undergraduate and Graduate

- Educational Technology
- Integrated Science II
- Engineering and Technological Design
- Elementary Science Methods
- Secondary Science Methods
- Science Methods & the Nature of Science

#### Graduate

- Essentials of Effective Instruction
- Project-based Learning
- Inquiry Learning
- Effective Teaching II
- Culturally Proficient Capstone
- Critical Issues in Teacher Leadership
- Elementary STEM Teaching: Physical Science
- Elementary STEM Teaching: Life Science
- Elementary STEM Teaching: Earth Science
- STEM Mentorship and Coaching

### **Grand View University**

#### Undergraduate

- Engaging All Learners (Educational Psychology)
- Foundations of Education
- Middle School Methods
- Student Teaching and Practicum Supervision
- Student Teaching Seminar Elementary and Secondary
- Middle School Practicum Seminar
- Secondary Practicum Seminar

- Inquiry and the Nature of STEM
- Teaching Elementary Science
- Secondary Science Methods
- Physical Science
- How Life Works Lab (Non-majors)
- General Biology I Lab (Majors)
- Experiential STEM
- Engineering, Programming, and Design for Educators

#### Graduate Courses for In-service Teachers

- Learning Theory and School Improvement
- Mind, Brain, and Learning
- Leading for Change Capstone
- Elementary STEM Teaching: Earth Science
- Elementary STEM Teaching: Life Science
- Inquiry and the Nature of STEM
- Creating a Collaborative Culture

#### **Iowa State University (Graduate TA and Instructor)**

- Advanced Pedagogy
- Exploring Mathematics and Science Teaching
- Science in the Primary Grades (Early Childhood)
- Principles of Biology (Majors)
- Principles of Biology Laboratory I (Majors)
- Elementary Science Methods
- Secondary Science Methods I
- Secondary Science Methods II
- Nature of Science
- Restructuring Science Activities

#### **Teaching Assistants at UNI**

- Drew Kingery
- Hannah Huggins
- Emma Armstrong
- Caitie Lindley
- Allison Post
- Avere Kasik
- Cassidy Leadley
- Katharyn Gray
- Carly Troyna
- Samantha Nanke

#### **Research Students**

##### **University of Northern Iowa**

##### Doctoral Students

- Katie Borton
- Janell Wright

##### Undergraduate Research Students



- Billy Lange
- Molly Ramker
- Dori Clausen
- Sierra Breitsprecher
- Carson McClain
- Stephanie Zavalza Flores
- Abbie Morlan
- Gaby Rodriguez
- Bailey Carpenter
- Killian Hunt
- Hannah Bustamante
- Adalia Tate
- Lily Fettkether
- Owen Lerg
- Carly Troyna
- Katharyn Gray
- Cassidy Leadley
- Pranav Kota (Cedar Falls High School)
- Lydia James
- Calla Kerndt
- Halle Kilburg
- Carolyn Kress
- Avery Meier
- Lakota Morrissey
- Star Swain
- Sam Hiscocks
- Kiran Willis
- Marguerite Fakler
- Emma Bopp

## **Students Outside of UNI**

### Doctoral

- Joleen Henning

### Masters and Doctoral

- Hallie Edgerly
- Sarah Voss
- Jordan Holub
- Kean Roberts
- Neal Patel (Undergraduate, Master's, and Doctoral)
- Kayla Brauer (Undergraduate, Master's, and Doctoral)

### Masters

- Anna Bahnson
- Maryah Klapprodt
- Kysha Van Buskirk
- Erin Hollister
- Tim Schou
- Scott Decker
- Sarah Borzo
- Emily Henry
- Geoff Root
- Amy Root
- Scott Moore
- Lindsay Kasuga
- Erin McBroom
- Randi Lines
- Kaitlin Clough
- Katie Borton

### Undergraduate

- Alaina Lake
- Colin Seebach
- Lucas Menke
- Katherine Carman
- Ashley Farnsworth
- Mitch Schank
- Mitch Klocke
- Aaron Eisler
- Ren Daemicke
- Megan Wagner
- Logan Girhing
- Macy Carbajo
- Matt Moffitt
- Sarah Nolting
- Naryah Moore
- Mackenzie Grenko
- Haley Quick
- Courtney Reyna

- Katie Murano
- Abby Rose
- Alex Alberts
- Reade Reiter
- Cat Lucht
- Caitlyn Potter
- Abby Cozzoni
- Chalei Moir
- Meggie Rockwood
- Kyli Orr
- Nicole Ward
- Sarah Barry
- Ben Christensen
- Sara Lawson
- Shelby Miller
- Karissa Steinke
- Maizee Lindsey
- Alydia Montavon
- Shane Breheny
- Shawna Person
- Averi Peck
- Mackenzie Ritscher

## Professional Memberships

- 2005- Present** Member, National Science Teaching Association (NSTA)
- 2005- Present** Member, Iowa Academy of Science (IAS)
- 2009- Present** Member, Association for Science Teacher Education (ASTE)
- 2009- Present** Member, International History, Philosophy and Science Teaching (IHPST)
- 2011- Present** Member, North Central Association for Science Teacher Education (NC-ASTE)
- 2013- Present** Member, National Association for Research in Science Teaching (NARST)
- 2017- Present** Member, School Science and Mathematics Association (SSMA)

## Professional Activities and Service

- 2024- 2027** Board of Directors- Director, Professional Learning in Science Education, National Science Teaching Association (Elected Position)
- 2024-2026** Elections Committee, Association for Science Teacher Education (Elected Position)
- 2024- 2025 Co-chair (Elected Position)
  - 2025- 2026 Chair (Elected Position)
- 2021- Present** Author  
K-8 Experience Science Program  
Savvas Learning Company
- 2023- Present** Member of the State Science Leadership Team in Iowa
- Science Grading Subcommittee
  - Science Professional Learning Subcommittee
- 2022- Present** Co-planned and Co-taught 5<sup>th</sup> grade Science  
Southdale Elementary School, Cedar Falls, Iowa
- 2022- Present** Iowa Leadership in Engineering Design
- 2022 Instructor
  - 2022- Present Director of Iowa Leadership in Engineering Design
- 2018- 2024** Iowa Science Teachers Section Executive Committee
- 2019- 2022** Conference Chair, Iowa Science Teachers Section, Iowa Academy of Science

- 2018- 2022** Chair, Iowa Science Teachers Section of the Iowa Academy of Science (Elected Position)
- 2020- 2022 Past-Chair
  - 2019- 2020 Chair
  - 2018- 2019 Vice-Chair
- 2018- 2021** Director of Camp Invention in Des Moines  
National Inventors Hall of Fame
- 2015- Present** North-Central Association of Science Teacher Education Executive Committee
- 2018- 2025** Treasurer, North-Central Association for Science Teacher Education (Elected Position)
- 2017- Present** Historian, North-Central Association for Science Teacher Education
- 2020-2023** Association for Science Teacher Education Thread Coordinator, Educational Technology
- 2015- 2018** Professional Development Facilitator for the Des Moines area Math and Science Professional Development for Urban Elementary Educators. (11 courses).
- 2015- 2018** Director, North-Central Association for Science Teacher Education (Elected Position)
- 2017-2018 Past-Director
  - 2016-2017 Director
  - 2015-2016 Director-Elect
- 2021** Instructor for the Iowa Science Teaching Section Continuing Education and Graduate Credit Course.
- 2019** Content Editor of *STEM in the Greatest Sports Events* (5 books). Published in 2020 by North Star Editions.
- STEM in the Super Bowl
  - STEM in the Stanley Cup
  - STEM in the World Series
  - STEM in the Daytona 500
  - STEM in the World Cup
- 2018** Co-developer and Instructor of *Sensing Space*: A program for elementary students with visual impairments at the Science Center of Iowa, May 2018.  
Des Moines, Iowa
- 2022, 2016, 2014** Mentor for first time attendees at the Association for Science Teacher Education Conference
- 2011-2012** Associate Editor of the Iowa Science Teachers Journal, a journal of the Iowa Academy of Science

## Department and University Service

- 2022- Present**     UNI National Science Teaching Association Student Club Advisor
- 2023- Present**     Doctoral Committee Chair
- Janell Wright
- 2021- Present**     Master's Committee Chair
- Hughes, J. (2023). *Development and Implementation of a NGSS Curriculum Unit for Astronomy in Ninth-Grade Earth and Space Science* (Unpublished Non-Thesis Curriculum Development Project). University of Northern Iowa, Cedar Falls, Iowa.
  - Austin Read
  - Casey Giraud
  - Lee Christians
  - Hannah Bustamante
- 2023- Present**     Master's Committee Member
- Emily Gomez
  - Melanie Bouzek
  - Amber Sherwood
  - Madison Beeler
  - Cynthia Trettin
  - Brandon Pleasant
- 2024**                 Biology Department Head Search Committee Member  
University of Northern Iowa
- 2023**                 Collaborated with Katherine Hahn, Assistant Professor of Theater-Acting, and Marguerite Fakler, a science education student, to make a poster and interactive activities for the UNI play *Radium Girls*
- 2021- 2022**         Preservice Teacher in STEM Conference Steering Committee  
University of Northern Iowa
- 2021-2022**         Science Education Update Conference Planning Committee  
University of Northern Iowa
- 2022-2024**         Teachings Sessions at University of Northern Iowa
- Girl Scout Habitats Lesson (April, 2024)
  - Kindergarten and 1<sup>st</sup> grade STEAM Day at Prairie (March, 2024- 4 sessions)
  - 8th Grade Waterloo Life Lab field trip- Biology Department- Entomology (March, 2022- 3 sessions)
  - Boys and Girls Club- Socioscientific Issues (June, 2022)
- 2023- Present**     UNI Science Education and Bremwood's Woodhaven Shelter Partnership Coordinator
- 2022**                 UNI Science Education and Boys & Girls Club Partnership Coordinator

## **Reviews**

- 2022-Present** Reviewer  
Science & Education Journal
- 2022** Presentation Proposal Reviewer  
School Science and Mathematics Association Conference
- 2022-2023** Reviewer  
Routledge Education
- STEM Road Map: Composting, Grade 5
  - STEM Road Map: Habitats in the US, Grade K
  - STEM Road Map: Habitats: Local and Far Away, Grade 1
- 2020- Present** Presentation Proposal Reviewer  
Association for Science Teacher Education Conference
- 2017- Present** Reviewer  
Hoosier Science Teacher Journal
- 2013** Proposal Reviewer  
International History, Philosophy, and Science Teaching Group

## **Other Professional Activities and Service**

- 2020- 2021** Library Advisory Committee  
Simpson College
- 2019- 2021** Institutional Review Board Member  
Simpson College
- 2019- 2021** Advisor of the Education Club  
Simpson College
- 2018- 2021** Teacher Education Advisory Council Member  
Simpson College
- 2018- 2021** Honors Advisory Council Member  
Simpson College
- 2018- 2021** Advisor and Founder of the Education Research Group  
Simpson College
- 2018- 2019** Teaching Demos at Simpson College
- Education Admissions Day
  - 4H RISE College Access Conference
  - Latinx Expo

- 2018- 2021** Co-chaired the Diversity and Inclusion Professional Development Sessions for Simpson Teacher Education Department and the Division of Teacher Education and Sports Science & Health Education  
Simpson College
- 2018- 2021** Carver Bridge to STEM Success Program Faculty Member  
Simpson College
- 2016- 2019** Doctoral Committee Member (2 students)  
Drake University
- Easter, J. M. (2019). The Impact of Epistemological Beliefs Curricular Materials on the Domain-general and Domain-specific Epistemological Beliefs of Middle School Science Students. (Unpublished doctoral dissertation). Drake University, Des Moines, IA.
  - Edgerly, H.S. (2019). Investigating Inservice Elementary Teachers' Nature of Science and Technology Implementation and Development of Nature of Science Views. (Unpublished doctoral dissertation). Drake University, Des Moines, IA.
- 2018** Co-instructor of *Teaching K-5 Science through Nature*. A partnership between the Polk County Conservation and Next Step Adventure.
- 2017- 2018** Faculty Advisory Board for the Drake Undergraduate Science Collaborative Institute (DUSCI)
- 2016- 2018** Communications Committee  
Drake University, School of Education
- 2015- 2018** HopeKids Junior Volunteer (children 2-3 years old) - Lutheran Church of Hope Ankeny, Iowa
- 2017** Taught middle school science and elementary at the Shijiazhuang Foreign Language School, Hebei Province, China
- 2015- 2016** Co-designed and implemented the Education Praxis Academic Support System (PASS) to improve student retention and assist students with passing the Praxis I & II tests.  
Grand View University
- 2015- 2016** Student Success Integration Committee Member  
Grand View University
- 2015** Grand View Visioning Team Member  
Grand View University
- 2014-2016** Education Department Advisory Board Member  
Grand View University
- 2014-2016** Liaison for Physical Science Adjuncts  
Supported and coached four adjuncts as they taught Physical Science  
Grand View University

- 2014- 2016**      Committee Member (6 faculty searches, 1 staff search)  
Grand View University
- 2013-2014**      Advisor: National Science Teachers Association- Iowa State Chapter  
Iowa State University
- 2013**              Volunteer  
International History, Philosophy, and Science Teaching Group
- 2013**              Committee Member (2 faculty searches, 1 construction committee)  
Iowa State University
- 2012**              Science Camp Counselor: Wide World of Science Camp  
Drake University
- 2007-2011**      Cooperating Teacher (10 practicum and 2 student teachers)  
Valley Southwoods Freshman High School
- 2007-2009**      Science Content Area Building on Inquiry Member  
Heartland Area Education Agency
- 2008-2009**      Building Leadership Team Member  
Valley Southwoods Freshman High School
- 2006-2009**      Student Council Supervisor  
Valley Southwoods Freshman High School
- 2007-2008**      New Science Teacher Academy  
National Science Teachers Association
- 2007-2008**      Research Experience for Teachers: Plant Pathology Researcher  
Iowa State University

## **References**

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