

Curriculum Vita

Notarization. I have read the following and certify that this *curriculum vita* is a current and accurate statement of my professional record.

Signature Doug Lombardi

Date 01/23/2023

I. **Personal Information**

I.A. Contact Information

Lombardi, Doug (UID: 117000665)
 Department of Human Development and Quantitative Methodology
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 University of Maryland
 College Park, MD 20742
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 Phone: 702-513-4415
 Website: <http://sciencelearning.net>

I.B. Academic Appointments at UMD

2019– Associate Professor, Department of Human Development and
 Quantitative Methodology
 2020–2022 Faculty Fellow, University Honors Program, Honors College

I.C. Other Employment

2018–2019 Associate Professor, Department of Teaching and Learning, Temple
 University
 2012–2018 Assistant Professor, Department of Teaching and Learning, Temple
 University
 2007–2012 Adjunct Faculty, University of Nevada, Las Vegas
 2006–2012 Project Facilitator, Program Evaluator, & Regional Science Education
 Trainer, Southern Nevada Regional Professional Development Program
 2004–2006 Education & Public Outreach Manager, NASA Phoenix Mars Mission,
 University of Arizona
 2003–2004 Astronomy/High School Program Coordinator, NASA Science,
 Engineering, Mathematics, & Aerospace Academy, Central Arizona
 College
 1999–2003 High School Science Teacher, Oak Ridge High School, Oak Ridge,
 Tennessee & Canyon del Oro High School, Tucson, Arizona
 1991–1999 Engineer/Research Associate, Oak Ridge National Laboratory, Oak
 Ridge, TN & American Bureau of Shipping, Knoxville, Tennessee
 1988–1991 Staff Weather Officer, United States Air Force

I.D. Educational Background

2012 Ph.D., Educational Psychology, University of Nevada, Las Vegas
 2000 M.S., Education, University of Tennessee, Knoxville

1996 M.S., Environmental Engineering, University of Tennessee
 1987 B.S., Mechanical Engineering, University of Colorado, Boulder

I.E. Professional Certifications and Licenses

2002–2022 Tennessee Professional Teaching Licenses: Physics & Mathematics
 2006–2015 Nevada License for Educational Personnel: Secondary Physical Science
 2003–2005 Arizona Department of Education Certificate: Secondary Physics & Mathematics

II. Research, Scholarly, Creative and/or Professional Activities

* = Student and/or Post-Doctoral Fellow Author

† = University of Maryland Co-Author

II.A. Books

II.A.1. Book Edited

1. Van Meter, P., List, A., Lombardi, D., & Kendeou, P. (Eds.) (2020). *Handbook of learning from multiple representations and perspectives* (ISBN 13: 978-0367001162). Routledge. <https://doi.org/10.4324/9780429443961>
 [contribution: 25% conceptualization, 25% methods & analyses; 25% writing]

II.B. Chapters

II.B.1. Books

1. Lombardi, D., & Bailey, J. M. (in press). Science learning and teaching. In P. Schutz, & K. R. Muis (Eds.), *Handbook of educational psychology*, 4th edition. Routledge, Taylor Francis.
 [contribution: 60% conceptualization, 65% methods & analyses; 60% writing]
2. Lombardi, D., & Danielson, R. W. (2022). On learning and teaching for conceptual change. In A. M. O'Donnell, N. Barnes, & J. Reeve (Eds.), *Oxford handbook of educational psychology* (pp. C20.S1–C20.S24). Oxford University Press.
<https://doi.org/10.1093/oxfordhb/9780199841332.013.20>
 [contribution: 50% conceptualization, 50% methods & analyses; 65% writing]
3. *†Matewos, A. M., Torsney, B. M., & Lombardi, D. (2022). Psychological perspectives of climate equity: Reducing abstraction and distance through engaged empathy. In E. M. Walsh (Ed.), *Equity and social justice in climate change education: Exploring social and ethical dimensions of environmental education* (pp. 71–97). Routledge, Taylor Francis. <http://doi.org/10.4324/9780429326011-4>
 [contribution: 40% conceptualization, 10% methods & analyses; 25% writing]
4. Lombardi, D., Heddy, B. C., & *†Matewos, A. M. (2020). Values, attitudes, and beliefs: Cognitive filters shaping integration of multiple representations and multiple perspectives. In Van Meter, P., List, A., Lombardi, D., & Kendeou, P. (Eds.), *Handbook of learning from multiple representations and perspectives* (pp. 329–345). Routledge. <https://doi.org/10.4324/9780429443961-20>
 [contribution: 50% conceptualization, 33% methods & analyses; 60% writing]

5. List, A., Van Meter, P., Lombardi, D., & Kendeou, P. (2020). Loggers and conservationists: Navigating the multiple resource forest through the trees. In Van Meter, P., List, A., Lombardi, D., & Kendeou, P. (Eds.), *Handbook of learning from multiple representations and perspectives* (pp. 1-14). Routledge.
<https://doi.org/10.4324/9780429443961-1>
[contribution: 25% conceptualization, 25% methods & analyses; 30% writing]
6. Van Meter, P., List, A., Kendeou, P., & Lombardi, D. (2020). The multiple resources learning framework: Learning from multiple representations and multiple perspectives. In Van Meter, P., List, A., Lombardi, D., & Kendeou, P. (Eds.), *Handbook of learning from multiple representations and perspectives* (pp. 557-588). Routledge. <https://doi.org/10.4324/9780429443961-31>
[contribution: 25% conceptualization, 25% methods & analyses; 15% writing]
7. Lombardi, D. & Bailey, J. M. (2020). Science strategy interventions. In Dinsmore, D. L., Fryer, L. K., & Parkinson, M. M. (Eds.), *Handbook of strategies and strategic processing: Conceptualization, intervention, measurement, and analysis* (pp. 177-194). Routledge. <https://doi.org/10.4324/9780429423635-11>
[contribution: 60% conceptualization, 70% methods & analyses; 65% writing]
8. Lombardi, D., & Sinatra, G. M. (2018). Don't believe everything you think: Reappraising judgments about conceptions. In T. G. Amin, & O. Levrini (Eds.), *Converging perspectives on conceptual change: Mapping a new paradigm in the learning sciences* (pp. 237-244). Routledge.
<https://doi.org/10.4324/9781315467139-28>
[contribution: 65% conceptualization, 50% methods & analyses; 75% writing]
9. Sinatra, G. M., Broughton, S. H., & Lombardi, D. (2014). Emotions in science education. In R. Pekrun & L. Linnenbrink-Garcia (Eds.), *International handbook of emotions in education* (pp. 415-436). Taylor & Francis.
<https://doi.org/10.4324/9780203148211.ch21>
[contribution: 33% conceptualization, 33% methods & analyses; 33% writing]

II.C.

Refereed Journals

II.C.1.

Refereed Journal Articles

1. Lombardi, D. (in press). On the horizon: The promise and power of higher order, critical, and critical analytical thinking, *Educational Psychology Review*.
[contribution: 100% conceptualization, 100% methods & analyses; 100% writing]
2. Christensen, D. M., & Lombardi, D. (2023). Biological evolution learning and computational thinking: Enhancing understanding through integration of disciplinary core knowledge and scientific practice, *International Journal of Science Education*, 1-23. <https://doi.org/10.1080/09500693.2022.2160221>
[contribution: 35% conceptualization, 35% methods & analyses; 35% writing]
3. *Herrick, I. R., Sinatra, G. M., & Lombardi D. (2023). How to Evaluate Scientific Evidence and Claims in a Post-Truth World, *The Science Teacher*, 58(5), 55-59.
[contribution: 40% conceptualization, 10% methods & analyses; 25% writing]
4. *Dobaria, A., Bailey, J. M., Klavon, T. G., & Lombardi, D. (2022). Students' scientific evaluation of astronomical origins, *Astronomy Education Journal*, 02(1), 1-16.
<https://doi.org/10.32374/AEJ.2022.2.1.032ra>
[contribution: 30% conceptualization, 30% methods & analyses; 10% writing]

5. *†Schoute, E. C., †Alexander, P. A., Lombardi, D., Loyens, S. M., & Paas, F. G. C. W. (2022). College students' perceptions of relevance, task value, and personal interest. *Journal of Experimental Education*.
<https://doi.org/10.1080/00220973.2022.2133075>
[contribution: 20% conceptualization, 10% methods & analyses; 10% writing]
6. Torsney, B. M., Burke, K. M., Lombardi, & Torsney, C. B. (2022). John Henryism, psychological labor, and control-value theory: Race, ethnicity, and situational coping for student success, *Frontiers in Education: Educational Psychology*.
<https://doi.org/10.3389/feduc.2022.1000920>
[contribution: 20% conceptualization, 10% methods & analyses; 10% writing]
7. Lombardi, D., Matewos, M. M., *†Jaffe, J., *†Zohery, V., *†Mohan, S., *†Bock, K., & *†Jamani, S. (2022). Discourse and agency during scaffolded middle school science instruction. *Discourse Processes*, 59(5/6), 379-400.
<https://doi.org/10.1080/0163853X.2022.2068317>
[contribution: 60% conceptualization, 25% methods & analyses; 75% writing]
8. Seyranian, V., Lombardi, D., Sinatra, G. M., & Crano, W. D. (2022). Optimizing climate change communication: Context comparison model method. *Frontiers in Psychology*, 13, 897460. <https://doi.org/10.3389/fpsyg.2022.897460>
[contribution: 40% conceptualization; 35% methods & analyses; 15% writing]
9. Heddy, B. C., Lombardi, D., & Danielson, R. W. (2022). The moral side of the climate crisis: The effect of moral conviction on learning about climate change. *Educational and Developmental Psychologist*, 39(1), 58-69.
<https://doi.org/10.1080/20590776.2021.2011203>
[contribution: 33% conceptualization, 33% methods & analyses; 33% writing]
10. Governor, D., Lombardi, D., & *Duffield, C. (2021). Negotiations in scientific argumentation: An interpersonal analysis. *Journal of Research in Science Teaching*, 58(9), 1389-1424. <https://doi.org/10.1002/TEA.21713>
[contribution: 45% conceptualization, 30% methods & analyses; 50% writing]
11. Lombardi, D., Shipley, T. F., Astronomy Team, Biology Team, Chemistry, Engineering Team, Geography Team, Geoscience Team, & Physics Team (2021). The curious construct of active learning. *Psychological Science in the Public Interest*, 22(1) 8-43. <https://doi.org/10.1177/1529100620973974>
[contribution: 40% conceptualization, 30% methods & analyses; 40% writing]
12. Ceyhan, G., Lombardi, D., & Saribaş, D. (2021). Probing into pre-service science teachers' practices of critical evaluation and decision-making on the topic of climate change. *Journal of Science Teacher Education*.
<https://doi.org/10.1080/1046560X.2021.1894762>
[contribution: 35% conceptualization, 30% methods & analyses; 33% writing]
13. Lombardi, D., *Uslu, B., & Bailey, J. M. (2020). Extreme weather events and the climate crisis: What is the connection? *The Earth Scientist*, 36(3), 22-26
[contribution: 80% conceptualization, 50% methods & analyses; 80% writing and note that *The Earth Scientist* is a peer-reviewed quarterly journal of the National Earth Science Teachers Association that does not issue DOIs]
14. *Christensen, D. M., & Lombardi, D. (2020). Understanding biological evolution through computational thinking: A K-12 learning progression. *Science & Education*, 29(4), 1035-1077. <https://doi.org/10.1007/s11191-020-00141-7>
[contribution: 35% conceptualization, 50% methods & analyses; 50% writing]

15. Sinatra, G. M., & Lombardi, D. (2020). Evaluating sources of scientific evidence and claims in the post-truth era may require reappraising plausibility judgments. *Educational Psychologist*, 55(3), 120-131.
<https://doi.org/10.1080/00461520.2020.1730181>
[contribution: 50% conceptualization, 50% methods & analyses; 50% writing]
16. *†Medrano, J., *†Jaffe, J., Lombardi, D., Holzer, M. A., & Roemmele, C. (2020). Students' scientific evaluations of water resources. *Water*, 12(7), 2048.
<https://doi.org/10.3390/w12072048>
[contribution: 50% conceptualization, 30% methods & analyses; 33% writing]
17. *Duchi, L., Lombardi, D., Paas, F. G. C. W., & Loyens, S. M. (2020). How a growth mindset can change the climate: The power of implicit beliefs in influencing people's view and action. *Journal of Environmental Psychology*, 70, 101461.
<https://doi.org/10.1016/j.jenvp.2020.101461>
[contribution: 35% conceptualization, 20% methods & analyses; 30% writing]
18. Saribaş, D., *Ceyhan, G., & Lombardi, D. (2019). Zooming in on scientific practices and evidence-based explanations during teaching NOS: A study in pre-service teacher education program. *Elementary Education Online*, 18(1), 343-366.
<https://doi.org/10.17051/ilkonline.2019.527626>
[contribution: 33% conceptualization, 15% methods & analyses; 20% writing]
19. *Torsney, B. M., Lombardi, D., & *†Ponnock, A. R. (2019). The role of values in pre-service teachers' intentions for professional engagement. *Educational Psychology*, 39(1), 19-37. <https://doi.org/10.1080/01443410.2018.1504892>
[contribution: 25% conceptualization, 25% methods & analyses; 35% writing]
20. *†Ponnock, A. R., *Torsney, B. M., & Lombardi, D. (2018). Motivational differences throughout teachers' preparation and career. *New Waves Educational Research & Development*, 21(2), 26-45. <https://doi.org/10.1037/e511802017-001>
[contribution: 25% conceptualization, 25% methods & analyses; 25% writing]
21. *McLaughlin, J. A., Lombardi, D., Holzer, M. A., Hopkins, J. D., Davatzes, A., Jaeger, A. J., & Shipley, T. F. (2018). What's hidden beneath? Using spatial sketching and feedback to help deepen students' understanding of Earth's subsurface. *The Science Teacher*, 54(3), 54-60. https://doi.org/10.2505/4/tst18_086_04_54
[contribution: 40% conceptualization, 20% methods & analyses; 35% writing]
22. Lombardi, D., Bailey, J. M., Bickel, E. S., & *Burrell, S. (2018). Scaffolding scientific thinking: Students' evaluations and judgments during Earth science knowledge construction. *Contemporary Educational Psychology*, 54, 184-198.
<https://doi.org/10.1016/j.cedpsych.2018.06.008>
[contribution: 60% conceptualization, 40% methods & analyses; 65% writing]
23. Lombardi, D., *Bickel, E. S., Bailey, J. M., & *Burrell, S. (2018). High school students' evaluations, plausibility (re) appraisals, and knowledge about topics in Earth science. *Science Education*, 102(1), 153-177. <https://doi.org/10.1002/sce.21315>
[contribution: 60% conceptualization, 40% methods & analyses; 65% writing]
24. Bailey, J. M., Lombardi, D., Cordova, J. R., & Sinatra, G. M. (2017). Meeting students halfway: Increasing self-efficacy and promoting knowledge change in astronomy. *Physical Review Physics Education Research*, 13(2), 020140.
<https://doi.org/10.1103/PhysRevPhysEducRes.13>
[contribution: 50% conceptualization, 50% methods & analyses; 35% writing]

25. Lombardi, D., *Bickel, E. S., Brandt, C. B., & *Burg, C. (2017). Categorising students' evaluations of evidence and explanations about climate change. *International Journal of Global Warming*, 12(3/4), 313-330.
<https://doi.org/10.1504/IJGW.2017.10005879>
[contribution: 80% conceptualization, 50% methods & analyses; 75% writing]
26. *Torsney, B. M., *Ponnock, A., & Lombardi, D. (2017). The role of values in pre-service teachers' decision to teach. *The Teacher Educator*, 52(1), 39-56.
<https://doi.org/10.1080/08878730.2016.1196986>
[contribution: 25% conceptualization, 25% methods & analyses; 25% writing]
27. Lombardi, D. (2016). Beyond the controversy: Instructional scaffolds to promote critical evaluation and understanding of Earth science. *The Earth Scientist*, 32(2), 5-10.
[contribution: 100% conceptualization, 100% methods & analyses; 100% writing and note that *The Earth Scientist* is a peer-reviewed quarterly journal of the National Earth Science Teachers Association that does not issue DOIs]
28. Bailey, J. M., Girtain, C. M., & Lombardi, D. (2016). Understanding the formation of Earth's Moon. *The Earth Scientist*, 32(2), 11-16.
[contribution: 40% conceptualization, 20% methods & analyses; 25% writing and note that *The Earth Scientist* is a peer-reviewed quarterly journal of the National Earth Science Teachers Association that does not issue DOIs]
29. Holzer, M. A., Lombardi, D., & Bailey, J. M. (2016). Wetlands: Good or bad? Evaluating competing models. *The Earth Scientist*, 32(2), 17-21.
[contribution: 40% conceptualization, 20% methods & analyses; 25% writing and note that *The Earth Scientist* is a peer-reviewed quarterly journal of the National Earth Science Teachers Association that does not issue DOIs]
30. Hopkins, J. D., Crones, P., *Burrell, S. Bailey, J. M., & Lombardi, D. (2016). Evaluating the connections between fracking and earthquakes. *The Earth Scientist*, 32(2), 23-30.
[contribution: 40% conceptualization, 20% methods & analyses; 25% writing and note that *The Earth Scientist* is a peer-reviewed quarterly journal of the National Earth Science Teachers Association that does not issue DOIs]
31. *Bickel, E. S., & Lombardi, D. (2016). Assessing students' evaluations on the model-evidence link diagram. *The Earth Scientist*, 32(2), 31-36.
[contribution: 80% conceptualization, 30% methods & analyses; 50% writing and note that *The Earth Scientist* is a peer-reviewed quarterly journal of the National Earth Science Teachers Association that does not issue DOIs]
32. Lombardi, D., Brandt, C. B., *Bickel, E. S., & *Burg, C. (2016). Students' evaluations about climate change. *International Journal of Science Education*, 38(8), 1392-1414. <https://doi.org/10.1080/09500693.2016.1193912>
[contribution: 60% conceptualization, 40% methods & analyses; 60% writing]
33. Lombardi, D., Nussbaum, E. M., & Sinatra, G. M. (2016). Plausibility judgments in conceptual change and epistemic cognition. *Educational Psychologist*, 51(1), 35-56. <https://doi.org/10.1080/00461520.2015.1113134>
[contribution: 80% conceptualization, 80% methods & analyses; 85% writing]

34. Lombardi, D., *Danielson, R. W., & *Young, N. (2016). A plausible connection: Models examining the relations between evaluation, plausibility, and the refutation text effect. *Learning and Instruction*, 44, 74-86.
<https://doi.org/10.1016/j.learninstruc.2016.03.003>
[contribution: 80% conceptualization, 30% methods & analyses; 70% writing]
35. Bailey, J. M., & Lombardi, D. (2015). Blazing the trail for astronomy education research. *Journal of Astronomy and Earth Science Education*, 2(2), 77-87.
<https://doi.org/10.19030/jaese.v2i2.9512>
[contribution: 40% conceptualization, 50% methods & analyses; 40% writing]
36. *Danielson, R. W., & Lombardi, D. (2015). More money, less acceptance: The relationship between GDP, science literacy, and acceptance of human-induced climate change. *The International Journal of Climate Change: Impacts and Responses*, 7(4), 13-23. <https://doi.org/10.18848/1835-7156/cgp/v07i04/37252>
[contribution: 30% conceptualization, 30% methods & analyses; 35% writing]
37. Ryu, S., & Lombardi, D. (2015). Coding classroom interactions for collective and individual engagement. *Educational Psychologist*, 50(1), 70-83.
<https://doi.org/10.1080/00461520.2014.1001891>
[contribution: 35% conceptualization, 50% methods & analyses; 50% writing]
38. Sinatra, G. M., Heddy, B. C., & Lombardi, D. (2015). The challenges of defining and measuring student engagement in science. *Educational Psychologist*, 50(1), 1-13.
<https://doi.org/10.1080/00461520.2014.1002924>
[contribution: 33% conceptualization, 33% methods & analyses; 33% writing]
39. *Cordova, J. R., Sinatra, G. M., Broughton, S. H., Taasobshirazi, G., and Lombardi, D. (2014). Self-efficacy, interest, prior knowledge, and confidence in prior knowledge: Influences on conceptual change. *Contemporary Educational Psychology*, 39, 164-174. <https://doi.org/10.1016/j.cedpsych.2014.03.006>
[contribution: 10% conceptualization, 25% methods & analyses; 15% writing]
40. Lombardi, D., Seyranian, V., & Sinatra, G. M. (2014). Source effects and plausibility judgments when reading about climate change. *Discourse Processes*, 51(1/2), 75-92. <https://doi.org/10.1080/0163853X.2013.855049>
[contribution: 70% conceptualization, 70% methods & analyses; 65% writing]
41. *Beck, A., Sinatra, G. M., & Lombardi, D. (2013). Leveraging higher-education instructors in the climate literacy effort: Factors related to university faculty's propensity to teach climate change. *The International Journal of Climate Change: Impacts and Responses*, 4(4), 1-17. <https://doi.org/10.18848/1835-7156/cgp/v04i04/37181>
[contribution: 20% conceptualization, 60% methods & analyses; 25% writing]
42. Lombardi, D., Sibley, B., & Carroll, K. (2013). What's the alternative? Using model-evidence link diagrams to weigh alternative models in argumentation. *The Science Teacher*, 80(5), 36-41. https://doi.org/10.2505/4/tst13_080_05_50
[contribution: 80% conceptualization, 70% methods & analyses; 65% writing]
43. Lombardi, D., Sinatra, G. M., & Nussbaum, E. M. (2013). Plausibility reappraisals and shifts in middle school students' climate change conceptions. *Learning and Instruction*, 27, 50-62. <https://doi.org/10.1016/j.learninstruc.2013.03.001>
[contribution: 80% conceptualization, 80% methods & analyses; 85% writing]

44. Lombardi, D., & Sinatra, G. M. (2013). Emotions about teaching about human-induced climate change. *International Journal of Science Education*, 35, 167-191. <https://doi.org/10.1080/09500693.2012.738372>
[contribution: 80% conceptualization, 80% methods & analyses; 65% writing]
45. Lombardi, D., & Sinatra, G. M. (2012). College students' perceptions about the plausibility of human-induced climate change. *Research in Science Education*, 42, 201-217. <https://doi.org/10.1007/s11165-010-9196-z>
[contribution: 80% conceptualization, 80% methods & analyses; 55% writing]
46. Sinatra, G. M., Kardash, C. M., Taasoobshirazi, G., & Lombardi, D. (2012). Promoting attitude change and expressed willingness to take action toward climate change in college students. *Instructional Science*, 40, 1-17. <https://doi.org/10.1007/s11251-011-9166-5>
[contribution: 10% conceptualization, 25% methods & analyses; 15% writing]

II.C.2. Perspectives, Opinions, and Commentaries

1. Lombardi, D., & Busch, K. C. (2022). Call for papers: Special issue: Learning and teaching in times of science denial and disinformation. *Journal of Research in Science Teaching*, 1-4. <https://doi.org/10.1002/TEA.21813>
2. Lombardi, D. (2022). Climate crisis mitigation and adaptation: Educational and developmental psychology's responsibility in helping face this threat. *Educational and Developmental Psychologist*, 39(1), 1-4. <https://doi.org/10.1080/20590776.2021.2012834>
3. Lombardi, D. (2019, January). Thinking scientifically in a changing world. *Psychological Science Agenda*. <https://www.apa.org/science/about/psa/2019/01/changing-world> [re-posted on *Psych Learning Curve*, March 11, 2019, <http://psychlearningcurve.org/thinking-scientifically-in-a-changing-world/>]

II.D. Published Conference Proceedings

II.D.1. Refereed Conference Proceedings

1. *Herrick, I. R. N., *†Matewos, A. M., & Lombardi, D. (2020). Examining shared strategies for knowledge construction in NGSS-aligned instructional scaffold. *Proceedings of the 14th International Conference of the Learning Sciences-ICLS 2020 - Volume 2 (pp. 713-716)*. M. Gresalf & I. S. Horn (Eds.).
2. Lombardi, D. (2018). Developing scaffolds to promote geoscience thinking: The rigor and promise of systemic classroom-based research. *Geological Society of America Abstracts with Programs*, Vol. 50, No. 6. <https://doi.org/10.1130/abs/2018AM-320347>
3. Lombardi, D. (2018). Cultivating climate change literacy through scaffolded critique and evaluation. *Geological Society of America Abstracts with Programs*, Vol. 50, No. 6. <https://doi.org/10.1130/abs/2018AM-320472>
4. Myer, R. A., Jaeger, A. J., McLaughlin, J. A., Lombardi, D., Shipley, T., & Davatzes, A. K. (2017). Methods for improving students' spatial reasoning about earth's subsurface. *Geological Society of America Abstracts with Programs*. Vol. 49, No. 6 <https://doi.org/10.1130/abs/2017AM-299081>

5. *Burrell, S., & Lombardi, D. (2016). *The critical evaluation task (CET) as an instructional scaffold to support evidence-based reasoning: Analysis of student learning outcomes*. Geological Society of America *Abstracts with Programs*. Vol. 48, No. 7. <https://doi.org/10.1130/abs/2016AM-286541>
6. *Burrell, S., Lombardi, D., & Bailey, J. M. (2015). The effect of student-centered academic intervention of teacher practice in high school Earth science classrooms: A mixed-methods study. Geological Society of America *Abstracts with Programs*. Vol. 47, No. 7, p. 253.
7. *Burrell, S., Lombardi, D., & *Bickel, E. S. (2015). implementation of the model-evidence link (MEL) diagram in high school earth science classrooms: An educational strategy that promotes critical evaluation and evidence-based reasoning. Geological Society of America *Abstracts with Programs*. Vol. 47, No. 7, p. 554.
8. Lombardi, D., & Sinatra, G. M. (2010). Students' plausibility perceptions of human-induced climate change. *Proceedings of the 9th International Conference of the Learning Sciences-ICLS 2010- Volume 2* (pp. 276-277). K. Gomez, L. Lyons, L., & J. Radinsky (Eds.).

II.E. Conferences, Workshops, and Talks

II.E.1. Keynotes

1. Lombardi, D. (2021). *Scaffolding scientific reasoning and discourse*. Tom Trabasso Young Investigator Award Keynote presented virtually at the 31st Annual Meeting of the Society for Text & Discourse.

II.E.2. Invited Talks

1. Lombardi, D. (2023). Modeling science learning and learners: Advances in conceptual change research. Discussant for invited symposium to occur at the 20th Biennial European Association for Research on Learning and Instruction, Thessaloniki, Greece.
2. Lombardi, D. (2020). *Scaffolding scientific thinking*. Richard E. Snow Award for Early Contributions paper invited for presentation at the 128th Annual American Psychological Association Convention; this paper was presented virtually due to the COVID-19 outbreak.
3. Lombardi, D. (2019). *Think again: Shifting epistemic judgments toward the scientific*. Outstanding Early Career Scholar Award, Division C (Learning & Instruction) paper invited for presentation at the Annual Meeting of the American Educational Research Association, Toronto, ON.
4. Lombardi, D. (2018). *Think you know it? Well, think again: Reappraising plausibility judgments to facilitate knowledge reconstruction in science*. Paper presented as part of the invited symposium, "Changing how we think about knowledge: Exploring the relationships between epistemic cognition and conceptual change," 11th International Conference on Conceptual Change, Alpen-Adria-Universität, Klagenfurt, Austria.
5. Lombardi, D. (2018). *Facilitating students' critique, evaluation, and argument about freshwater resources*. Invited poster presentation at "Toward a national collaborative for food, energy, & water systems education (NC-FEW): Innovating teaching and learning in the food-energy-water-nexus," Arlington, VA, June.
6. Lombardi, D. (2016). *Understanding climate change: Challenges and opportunities for teaching and learning*. Paper invited for presentation at the 2016 Winter

National Meeting of the American Association of Physics Teachers, New Orleans, LA.

7. Lombardi, D. (2013). *Teaching astronomy as knowledge construction*. Paper invited for presentation at the 2013 Winter National Meeting of the American Association of Physics Teachers, New Orleans, LA.
8. Lombardi, D. (2012). *Constructing deep time knowledge*. Invited participant paper for the 2012 Teaching about Time Workshop, Tempe, AZ.
<http://serc.carleton.edu/NAGTWorkshops/time/workshop2012/essays/lombardi.html>
9. Lombardi, D. (2011). *Using critical evaluation to reappraise plausibility judgments: A critical cognitive component of conceptual change*. Paper invited for presentation at the Fall Meeting of the American Geophysical Union, San Francisco, CA.
10. Sinatra, G. M., & Lombardi, D. (2010). *It wasn't any colder when I was a kid: Heating up instruction on climate change*. Paper invited for presentation at the Nevada Climate Change Seminar Series, Las Vegas, NV.
11. Lombardi, D. (2010). *Ice core records: From volcanoes to stars*. Paper invited for presentation at the Arizona Science Teachers Association Area Conference, Mesa, AZ.
12. Young, D. L., & Lombardi, D. (2010). *Using variable star data in education/Science Olympiad*. Paper invited for presentation at the Fall 2010 Citizen Sky Workshop, San Francisco, CA.
13. Lombardi, D. (2009). *Pushing past Posner: Modern conceptual change theories*. Paper invited for presentation at the 2009 Winter National Meeting of the American Association of Physics Teachers, Chicago, IL.
14. Lombardi, D. (2005). *The Phoenix scout mission to Mars*. Paper invited for presentation at the American Institute of Aeronautics and Astronautics Passport to the Future Educator Workshop, Tucson, AZ.
15. Lombardi, D. (2005). *The Phoenix Mars mission's education and public outreach program focus on astrobiology themes*. Paper invited for presentation at the NASA Astrobiology Institute's Biennial Meeting. Boulder, CO.
16. Lombardi, D., Slater, T. F., & Prather, E. E. (2004). *Astronomy as a unifying theme for building a physics curriculum*. Paper invited for presentation at the 2004 Summer National Meeting of the American Association of Physics Teachers, Sacramento, CA.
17. Slater, T. F., Lombardi, D., & Prather, E. E. (2004). *Supplementing the physics curriculum with astronomy examples*. Paper invited for presentation at the 2014 Summer National Meeting of the American Association of Physics Teachers, Sacramento, CA.
18. Lombardi, D. (2003). *Student reactions to using Chandra data in the classroom*. Paper invited for presentation at the 2003 Summer National Meeting of the American Association of Physics Teachers, Madison, WI.

II.E.3. Refereed Presentations

1. Lombardi, D., *†Robertson, J. R., *†Gans, N., and *†Jaffe, J. (2023-submitted). *Scaffolded instruction to facilitate learning about the climate crisis and extreme weather*. Paper submitted as part of the symposium titled, "Climate change: Addressing knowledge, action and hope," for presentation to the

- 20th Biennial European Association for Research on Learning and Instruction, Thessaloniki, Greece.
2. *†Jaffe, J., *†Schoute, E., & Lombardi, D. (2023-submitted). *Checkmate: Examining chess masters' expertise in relation to interest and motivation*. Paper submitted for presentation to the 20th Biennial European Association for Research on Learning and Instruction, Thessaloniki, Greece.
 3. *†Klavon, T. G., *†Gans, N., Lombardi, D., & Bailey, J. M. (2022). *The predictive characteristic of students' evaluations of scientific plausibility judgments*. Paper presented at the 2022 National Consortium for Instruction and Cognition Annual Meeting, San Diego, CA.
 4. *†Jaffe, J. B., Lombardi, D., *†Mohan, S., & Matewos, M. M. (2022). *Students' engagement in scientific practices and agency during science learning: A social network analysis*. Paper presented at the 2022 National Consortium for Instruction and Cognition Annual Meeting, San Diego, CA.
[This paper received the 2022 Richard C. Anderson Outstanding Graduate Student Research Award]
 5. *†Schoute, E. C. & Lombardi, D. (2022). *Differential effects of autonomy-supportive scaffolding on secondary students' scientific evaluation and knowledge construction*. Paper presented as part of the symposium, "Focusing the analytic lens on evidence-based reasoning: Where we are and where we need to go" at the Annual Meeting of the American Educational Research Association, San Diego, CA.
 6. *†Zohery, V., Matewos, M. M., *Cabrera, L., & Lombardi, D. (2022). *Examining science engagement: epistemic operations and agentic practices during argumentation*. Paper presented virtually at the 2022 NARST Annual International Conference, Vancouver, BC.
 7. *†Matewos, A. M., Lombardi, D., & *Gates, A. (2021). *Affective engagement during science argumentation*. Paper presented virtually as part of the symposium, "Productive disciplinary engagement through textual practices" at the Annual Meeting of the American Educational Research Association.
 8. *†Matewos, A. M., Torsney, B. M., Lombardi, D. (2021). *Exploring the emotional pathways from cognition to action using the Survey of Environmental Actions (SEA)*. Paper presented virtually at the Annual Meeting of the American Educational Research Association.
 9. *†Matewos, A. M., Lombardi, D., Bailey, J. M., & *Herrick, I. R. N. (2020). *From science student to conceptual agent: Examining the individual shifts in engagement during scaffolded instruction*. Paper accepted for presentation at the Annual Meeting of the American Educational Research Association; however, this conference was cancelled due to the COVID-19 outbreak.
 10. *Klavon, T. G., Lombardi, D., Bailey, J. M., & *Dobaria, A. (2020). *Students' plausibility shifts and knowledge gains when evaluating competing explanatory models about freshwater resource availability*. Paper accepted for presentation at the 2020 NARST Annual International Conference; however, this conference was cancelled due to the COVID-19 outbreak.
 11. Lombardi, D., *Klavon, T. G., Holzer, M. A., & *Kendall, R. (2019). *Instructional scaffolds to shift students' epistemic evaluations toward the scientific*. Paper presented as part of the symposium, "Identifying literacies protective against misinformation and science skepticism," at the 18th Biannual Meeting of the

- European Association for Research on Learning and Instruction, Aachen, Germany.
12. Lombardi, D., *Klavon, T. G., Holzer, M. A., & *Kendall, R. (2019). *Evaluating explanations about water resources: Scaffolds to shift students' epistemic judgments and agency toward the scientific*. Paper presented as part of the symposium, "Investigating epistemic cognition in relation to food, water, and energy (FEW) issues," Annual Meeting of the American Educational Research Association, Toronto, ON.
 13. *Luccioni, N., Lombardi, D., & Bailey, J. M. (2019). *Measuring elementary students' perceptions of teacher self-efficacy, interest, and enjoyment in science and science teaching*. Paper presented at the 2019 National Consortium for Instruction and Cognition Annual Meeting, Toronto, ON.
 14. *Klavon, T. G., Bailey, J. M., Holzer, M. A., *Kendall, R., & Lombardi, D. (2019). *The impact of evidence choices on students' plausibility shifts*. Paper presented at the 2019 National Consortium for Instruction and Cognition Annual Meeting, Toronto, ON.
 15. *McLaughlin, J. A., Lombardi, D., Jaeger, A. J., & Shipley, T. F. (2018). *High school students' spatial reasoning about earth's subsurface*. Paper presented at the 2018 National Consortium for Instruction and Cognition Annual Meeting, New York, NY.
 16. *Kendall, R., Lombardi, D., *Burrell, S., *Klavon, T. G., *Uslu, B., & Bailey, J. M. (2018). *Crafting knowledge instruments to measure effectiveness of science instruction*. Paper presented at the 2018 National Consortium for Instruction and Cognition Annual Meeting, New York, NY.
 17. Davatzes, A. K., Shipley, T., LaDue, N., & Lombardi, D. (2017). *An interdisciplinary approach to building students' spatial thinking skills from high school through college*. Paper presented at the 2017 Goldschmidt Conference, Paris, France.
 18. *Burrell, S., & Lombardi, D. (2017). *Democracy and Earth science education: Instructional scaffolds that promote evidence-based reasoning and critical evaluation*. Paper presented at the 8th New DEEL [Democratic Ethical Educational Leadership] Conference, Philadelphia, PA.
 19. *Burrell, S., & Lombardi, D. (2017). *Understanding the relationship between teacher use of epistemic operations and complexity of students' explanations*. Paper presented at the 2017 National Consortium for Instruction and Cognition Annual Meeting, San Antonio, TX.
 20. *Ceyhan, G. D., Saribaş, D., & Lombardi, D. (2017). *Pre-service teachers' thinking about evidence and evaluations of trustworthiness of the claims in socio-scientific issues*. Paper presented at the National Association for Research in Science Teaching 2017 Annual International Meeting, San Antonio, TX.
 21. Saribaş, D., *Ceyhan, G. D., & Lombardi, D. (2017). *Pre-service teachers' preference to apply NOS aspects and evidence-based thinking in their teaching*. Paper submitted for presented at the National Association for Research in Science Teaching 2017 Annual International Meeting, San Antonio, TX.
 22. Bailey, J. M., Lombardi, D., *Bickel, E. S., & *Burrell, S. (2017). *Deepening high school students' knowledge about earth science topics through scientific evaluation and plausibility reappraisal*. Paper presented at the National Association for Research in Science Teaching 2017 Annual International Meeting, San Antonio, TX.

23. *Bickel, E. S., Lombardi, D., Bailey, J. M., & *Burrell, S. (2016). *Students' evaluations of opposing arguments*. Paper presented at the 2016 National Consortium for Instruction and Cognition Annual Meeting, Washington, DC.
24. *Halpern, M., Lombardi, D., & Bailey, J. M. (2016). *How do students co-construct knowledge when evaluating alternative models of climate change?* Paper presented at the 2016 National Consortium for Instruction and Cognition Annual Meeting, Washington, DC.
25. *Torsney, B. M., Lombardi, D., & Ponnock, A. (2016). *Motivational characteristics of K-12 teachers: Determining the values that influence pre-service teachers' decision to teach*. Paper presented at the 2016 National Consortium for Instruction and Cognition Annual Meeting, Washington, DC.
26. *Young, N., *Danielson, R., & Lombardi, D. (2015). *Measuring engagement with the potential consequences of climate change*. Paper presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA.
27. Lombardi, D., *Danielson, R. W., & *Young, N. (2015). *Exploring relationships between plausibility, critical evaluation, the refutation text effect, and students' climate change knowledge*. Round table paper presented at the Annual Meeting of the American Educational Research Association, Chicago, IL.
28. *Burrell, S., Lombardi, D., & Bailey, J. M. (2015). *The impact of implementation of model-evidence link (MEL) diagrams in high school science classrooms on critical evaluation and knowledge gains: A comparative study*. Paper presented at the 2015 National Consortium for Instruction and Cognition Annual Meeting, Chicago, IL.
29. *Young, T. K., Lombardi, D., & Bailey, J. M. (2015). *Understanding the roles of epistemic cognition and plausibility reappraisal in model-evidence link diagrams of Moon formation theories*. Paper presented at the 2015 National Consortium for Instruction and Cognition Annual Meeting, Chicago, IL.
30. *Torsney, B. M., & Lombardi, D. (2015). *Relationships among value judgments: Personal utility, social utility, and epistemic aims*. Paper presented at the 2015 National Consortium for Instruction and Cognition Annual Meeting, Chicago, IL.
31. Seyranian, V., *Hossepian, K., Lombardi, D., & Sinatra, G. M. (2014). *The context comparison model: Examining attitude change and the plausibility of global climate change*. Paper presented at the 122nd American Psychological Association Annual Convention, Washington, D.C.
32. Lombardi, D., Seyranian, V., & Sinatra, G. M. (2014). *Source validity and plausibility perceptions about climate change*. Paper presented at the Annual Meeting of the American Educational Research Association, Philadelphia, PA.
33. Lombardi, D., Sinatra, G. M., & Nussbaum, E. M. (2013). Bridging the plausibility gap in socio-scientific issues. In D. Kienhues (Chair), *Dealing with (socio-) scientific controversies: Epistemic, motivational, and cognitive dimensions*. Symposium paper presented at the 15th Biannual Meeting of the European Association for Research on Learning and Instruction, Munich, Germany.
34. Bailey, J. M., Lombardi, D., Sinatra, G. M., & *Cordova, J. R. (2013). *The impact of self-efficacy on conceptual change: A study in astronomy*. Paper presented at the 15th Biannual meeting of the European Association for Research on Learning and Instruction, Munich, Germany.

35. Broughton, S. H., Sinatra, G. M., & Lombardi, D. (2013). *Assessing topic emotions in science*. Paper presented as part of the symposium, "The intersect of social and emotional learning with academic achievement: Perspectives from research and practice" at the Annual Meeting of the American Educational Research Association, San Francisco, CA.
36. *Beck, A., Sinatra, G. M., Lombardi, D., Findlay, J., & Northrup, A. (2012). *Surveying perceptions of climate change in higher education: Professors' perspectives*. Paper presented at the Fourth International Conference on Climate Change, Seattle, WA.
37. Bailey, J. M., *Rehmat, A. P., Lombardi, D., & Keppelmann, E. (2012). *Developing science teacher leaders through long-term professional development: A cross-case analysis of four teachers*. Paper presented at the 85th International Conference of the National Association of Research in Science Teaching, Indianapolis, IN.
38. Bailey, J. M., Lombardi, D., & Sinatra, G. M. (2011). *Investigating college students' self-efficacy, interest, and conceptual change about stars*. Paper presented at the 84th International Conference of the National Association of Research in Science Teaching, Orlando, FL.
39. Lombardi, D., & Sinatra, G. M. (2010). *Students' understanding of weather and climate distinctions, deep time, and plausibility perceptions of human-induced climate change*. Paper presented at the National Consortium for Instruction and Cognition Annual Meeting, Denver, CO.
40. Lombardi, D. (2009). *Student perceptions about the plausibility of human-induced climate change*. Paper presented at the 2nd UNLV Urban Sustainability Initiative Conference-Education for a Global Future: 21st Century Challenges in Sustainability & Climate Change Education, Las Vegas, NV.
41. Schmidt, L. J., Smith, P. H., & Lombardi, D. (2006). *Mars 101: Linking educational content to mission purpose on the Phoenix Mars lander mission website*. Paper presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA.
42. *Shaner, A., Lara, M., Wilkins, K., Tidwell, L., & Lombardi, D. (2006). *Marsbots: A national robotics education learning module for grades 3 and 4*. Paper presented at the Annual Lunar and Planetary Science Conference, Houston, TX.
43. Lombardi, D., & Lombardi, E. A. (2001). *Starting the year with the Big Bang*. Paper presented at the 2001 Winter National Meeting of the American Association of Physics Teachers, San Diego, CA.

II.E.4.

Refereed Workshop Papers

1. Bailey, J. M., Lombardi, D., & *Klavon, T. G. (2020). *MEL2-Thinking scientifically in a changing world*. Virtual presentation at NSTA Engage: Fall 2020.
2. *Ceyhan, G. D., Muğaloğlu, E. Z., Lombardi, D., & Erduran, S. (2015). *Using the Model Evidence Link Diagram in Science Classrooms*. Workshop presentation at the International Conference of Educational Research, Istanbul, Turkey.
3. Bailey, J. M., & Lombardi, D. (2015). *Relating preservice teachers' knowledge of scientific practices, epistemic aims and values, and self-efficacy*. Paper presented at the National Association for Research in Science Teaching 2015 Annual International Meeting, Chicago, IL.

4. Lombardi, D., Holzer, M., Hopkins, J. D., Bailey, J. M., Girtain, C., & Crones, P. (2015). *Critical thinking in earth science: Using the model-evidence link diagram*. Workshop presented as a National Association for Research in Science Teaching (NARST)-sponsored session at the 2015 National Conference of the National Science Teachers Association, Chicago, IL.
5. Carroll, K., Lombardi, D., & Sibley, B. (2012). *MEL! We're not talking about the diner*. Workshop presented at the Southern Nevada Regional Mathematics and Science Conference, Las Vegas, NV.
6. Lombardi, D., & Young, D. L. (2011). *Decoding starlight: From pixels to images*. Workshop most recently presented at the National Science Teachers Association Area Conference, Seattle, WA.
7. Lombardi, D., & Young, D. L. (2011). *Ice core records: From volcanoes to stars*. Workshop most recently presented at the National Science Teachers Association Area Conference, Seattle, WA.
8. Lombardi, D., & Young, D. L. (2011). *NASA's high-energy vision: Chandra and the X-ray universe*. Workshop most recently presented at the National Science Teachers Association Area Conference, Seattle, WA.
9. Lombardi, D. (2011). *Stellar life cycles*. Workshop most recently presented at the National Science Teachers Association Area Conference, New Orleans, LA.
10. Perry, P., Young, D. L., & Lombardi, D. (2011). *The physics of supernovae*. Workshop most recently presented at the National Science Teachers Association National Conference, San Francisco, CA.
11. Lombardi, D. (2010). *Modeling the spectrum*. Workshop most recently presented at the National Science Teachers Association Area Conference, Nashville, TN.
12. Lombardi, D., & Young, D. L. (2007). *Recording the rhythms of stellar heartbeats*. Workshop presented at the National Science Teachers Association Area Conference, Birmingham, AL.
13. Lombardi, D., & Young, D. L. (2007). *Imaging the invisible*. Workshop most recently presented at the National Science Teachers Association Area Conference, Birmingham, AL.
14. Lombardi, D. & Young, D. L. (2007). *Electromagnetic pasta*. Workshop most recently presented at the National Science Teachers Association Area Conference, Denver, CO.
15. Lombardi, D., & Young, D. L. (2007). *Spectroscopy and supernovae remnants*. Workshop presented at the National Science Teachers Association Area Conference, Denver, CO.
16. Bailey, J. M., *Shaner, A., & Lombardi, D. (2005). *Project evaluation plans that really work*. Workshop presented at the Astronomical Society of the Pacific's Building Community: The Emerging EPO Profession Conference, Tucson, AZ.
17. *Shaner, A., Slater, T. F., & Lombardi, D. (2005). *Evaluating a goal-driven E/PO program: The Phoenix Mars scout mission*. Poster presented at the Astronomical Society of the Pacific's Building Community: The Emerging EPO Profession Conference, Tucson, AZ.
18. Lombardi, D. (2004). *Implementing a goal-driven education and public outreach program*. Poster presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA.

19. Lombardi, D., Adler, E. L., Young, D. L., Matilsky, T., & Lestition, K. (2003). *Imaging the X-ray universe*. Workshop presented at the 2003 Winter National Meeting of the American Association of Physics Teachers, Austin, TX.

II.E.5. Refereed Posters

1. *†Gans, N., *†Ahmed, A., & Lombardi, D. (2022). *Scaffolding students' scientific reasoning: Comparing virtual vs. pencil-paper format*. Poster presented at the 130th Annual American Psychological Association Convention, Minneapolis.
2. *†Ahmed, A., *†Gans, N., & Lombardi, D. (2022). *Promoting scientific reasoning via virtual instruction: Autonomy-supportive differences*. Poster presented at the 130th Annual American Psychological Association Convention, Minneapolis.
3. *†Zohery, V., *†Gans, N., & Lombardi, D. (2022). *Scientific reflection in writing tools*. Virtual poster presentation at the 32nd Annual Meeting of the Society for Text & Discourse.
4. *Cabrera, L., Matewos, M. M., *†Zohery, V., & Lombardi, D. (2022). *Student assertions in science discourse spaces*. Poster presented virtually at the 2022 NARST Annual International Conference, Vancouver, BC.
5. *Dobaria, A., Bailey, J. M., *†Mohan, S., *†Klavon, T. G., *†Medrano, J. R., *†Jaffe, J. B., & Lombardi, D. (2021). *Students' scientific evaluations of astronomy concepts*. Poster presented virtually at EARLI 2021—the 19th Biennial EARLI Conference.
6. *†Jamani, S., *†Mohan, S., *†Jaffe, J. B., Lombardi, D., & Bailey, J. M. (2021). *Climate crisis learning through scaffolded instructional tools*. Poster presented virtually at the 129th Annual American Psychological Association Convention. This poster was a finalist for the 2021 Outstanding Graduate Student Poster Award, APA Division 15 (Educational Psychology).
7. *†Stogianos, T., Lombardi, D., *†Mohan, S., *†Jaffe, J., & Governor, D. (2021). *Instructional scaffolds to facilitate scientific and critical comparisons of geological phenomena*. Poster presented virtually at the 31st Annual Meeting of the Society for Text & Discourse.
8. *†Medrano, J., *†Mohan, S., *†Jaffe, J., & Lombardi, D. (2021). *Executive function skills in making scientific evaluations and plausibility judgments*. Poster presented virtually at the 31st Annual Meeting of the Society for Text & Discourse.
9. Bailey, J. M., *†Klavon, T. G., *Dobaria, A., & Lombardi, D. (2021). *Comparing two scaffolds for evaluating scientific explanations*. Poster presented virtually at the 2021 Summer Meeting of the American Association of Physics Teachers.
10. Governor, D., & Lombardi, D. (2021). *Negotiation to consensus: Argumentation about climate change evidence and explanations*. Poster presented virtually at the 2021 NARST Annual International Conference.
11. *†Mohan, S., *†Jaffe, J., *†Medrano, J., & Lombardi, D. (2021). *Students' evaluations, plausibility perceptions, and knowledge shifts about climate change and water resources*. Poster presented virtually at the Annual Meeting of the American Educational Research Association.
12. *†Jaffe, J., *†Medrano, J., & Lombardi, D. (2020). *Promoting scientific plausibility and knowledge shifts through modeled evaluation activities*. Poster presented at the 128th Annual American Psychological Association Convention. Poster was selected as part of the APA Division 15 (Educational Psychology) Presidential Poster Session because it was recognized for its high quality research and this poster was presented virtually due to the COVID-19 outbreak.

13. *†Matewos, A. M., & Lombardi, D. (2020). *Examining engagement of a small-group discourse network during collaborative argumentation*. Poster presented at the 128th Annual American Psychological Association Convention; this poster was presented virtually due to the COVID-19 outbreak.
14. *†Medrano, J., *†Jaffe, J., & Lombardi, D. (2020). *Does the evidence support the model? Examining the effectiveness of two instructional scaffolds in science classrooms*. Poster presented at the 2020 Annual Meeting of the Society for Text & Discourse; this poster was presented virtually due to the COVID-19 outbreak.
15. Lombardi, D., & Bailey, J. M. (2020). *Science strategy interventions*. Poster accepted for presentation as part of the symposium, "Investigating strategies and strategy use: Where do we go from here?" at the Annual Meeting of the American Educational Research Association; however, this conference was cancelled due to the COVID-19 outbreak.
16. *Luccioni, N., Lombardi, D., & Bailey, J. M. (2020). *Predicting elementary student self-efficacy, interest, and enjoyment of science*. Poster accepted for presentation at the Annual Meeting of the American Educational Research Association; however, this conference was cancelled due to the COVID-19 outbreak.
17. *Luccioni, N. A., & Lombardi, D. (2018). *Elementary student perception of their teacher's self-efficacy, interest, and enjoyment in science and science teaching*. Poster presented at the National Association for Research in Science Teaching 2018 Annual International Meeting, Atlanta, GA.
18. *Burrell, S., Lombardi, D., Bickel, E. S., & Bailey, J. M. (2018). *Development of a model describing scientific thinking in Earth science students*. Poster presented at the National Association for Research in Science Teaching 2018 Annual International Meeting, Atlanta, GA.
19. Heddy, B. C., & Lombardi, D. (2017). *The morality of climate change: Students' perceptions of the morality and plausibility of climate change*. Poster presented at the 125th Annual American Psychological Association Convention, Washington, D.C.
20. Lombardi, D., Heddy, B. C., & *Chancey, J. B. (2017). *Evaluations about climate change: Relations between moral convictions, plausibility, attitudes, and knowledge*. Poster presented at the 2017 Annual Meeting of the Society for Text & Discourse, Philadelphia, Pennsylvania.
21. Torsney, B. M., Lombardi, D., & *Ponnock, A. (2017). *Changes in pre-service teachers' motivation throughout a teacher preparation program*. Poster presented at the Annual Meeting of the American Educational Research Association, San Antonio, TX.
22. *Halpern, M. R., Lombardi, D., & Bailey, J. M. (2017). *Students' informal reasoning, evaluations, and plausibility perceptions about climate change*. Poster presented at the Annual Meeting of the American Educational Research Association, San Antonio, TX.
23. Lombardi, D., & Bailey, J. M. (2016). *Developing critical evaluation as a scientific habit of mind: Instructional scaffolds for secondary Earth and space sciences*. Poster presented at the 2016 DR K-12 PI Meeting, Washington, DC.
24. *Burrell, S., Lombardi, D., & Bailey, J. M. (2016). *MEL diagrams: An instructional strategy that promotes scientific thinking and practice in Earth science students*. Poster presented at the National Association for Research in Science Teaching 2016 Annual International Meeting, Baltimore, MD.

25. *Young, T. K., Lombardi, D., & Bailey, J. M. (2016). *Understanding epistemological value judgments of plausibility through the introduction of falsifiability*. Poster presented at the Annual Meeting of the American Educational Research Association, Washington, DC.
26. *Torsney, B. M., Lombardi, D., Litchfield, B., & Hassel, L. (2016). *The motivational values of teachers: The effects of social utility value, personal utility value, and epistemic value on choosing to teach*. Poster presented at the Annual Meeting of the American Educational Research Association, Washington, DC.
27. *Tomaszewski, J., & Lombardi, D. (2016). *Increasing student confidence and conceptual change with demonstrations*. Poster presented at the 2016 Winter National Meeting of the American Association of Physics Teachers, New Orleans, LA.
28. Lombardi, D., & Bailey, J. M. (2015). *Promoting critical evaluation in the science classroom*. Poster presented at the 2015 Summer National Meeting of the American Association of Physics Teachers, College Park, MD.
29. *Danielson, R. W., *Young, N., & Lombardi, D. (2015). *A plausible model? Refutation texts foster the connection between critical evaluation, plausibility, and knowledge*. Poster presented at the National Association for Research in Science Teaching 2015 Annual International Meeting, Chicago, IL.
30. Lombardi, D., *Bickel, E. S., *Young, T. K., & Bailey, J. M. (2015). *Learning about the Moon: Results from a first-year pilot study*. Poster presented at the 2015 Winter National Meeting of the American Association of Physics Teachers, San Diego, CA.
31. Lombardi, D., Brandt, C. B., & *Burg, C. (2014). *The relationship between students' critical evaluation abilities and plausibility reappraisal of climate change*. Poster presented at the National Association for Research in Science Teaching 2014 Annual International Conference, Pittsburgh, PA.
32. Lombardi, D., & Bailey, J. M. (2014). *How did the Moon form? Evaluating alternative explanations*. Poster presented at the 2014 Winter National Meeting of the American Association of Physics Teachers, Orlando, FL.
33. *Young, N., *Danielson, R., & Lombardi, D. (2013). *Exploring undergraduate engagement with the consequences of climate change*. Poster presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA.
34. Niepold, F., Sinatra, G. M., & Lombardi, D. (2013). *Effective teacher practice on the plausibility of human-induced climate change*. Poster presented at the Fall Meeting of the American Geophysical Union, San Francisco, CA.
35. Lombardi, D., & Sinatra, G. M. (2011). *Teachers' emotions and plausibility perceptions of human-induced climate change*. Poster presented at the Biannual Meeting of the 14th European Association for Research on Learning and Instruction, Exeter, UK.
36. Lombardi, D., & Sinatra, G. M. (2011). *Emotions when teaching about human-induced climate change*. Poster presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA.
37. Lombardi, D., Perry, P. B., & Young, D. L. (2011). *Stellar bar codes*. Poster presented at the 2011 Summer National Meeting of the American Association of Physics Teachers, Omaha, NE.
38. Young, D. L., Lombardi, D., Perry, P. B., & Dreschhoff, G. A. M. (2011). *Evidence of historical supernovae in ice cores*. Poster presented at the 2011 Summer National Meeting of the American Astronomical Society, Boston, MA.

39. Lombardi, D., Young, D. L., & Perry, P. B. (2011). *Drilling for supernovae in ice cores*. Poster presented at the 2011 Winter National Meeting of the American Association of Physics Teachers Winter Meeting, Jacksonville, FL.
40. Lombardi, D., Taasobshirazi, G., Sinatra, G. M., & Kardash, C. M. (2009). *College students' understanding of and reactions to global warming*. Poster presented at the 13th Biannual Meeting of the European Association for Research on Learning and Instruction, Amsterdam, the Netherlands.
41. Keppelmann, E., Bailey, J. M., & Lombardi, D. (2009). *The Nevada Mathematics and Science Leadership Cadre: Bridging great distances with a small group of teachers*. Poster presented at the School Science and Mathematics Association Annual Convention, Reno, NV.
42. *Shaner, A., Slater, T. F., & Lombardi, D. (2006). *Year 1 evaluation results of the Phoenix Mars mission E/PO program*. Poster presented at the Astronomical Society of the Pacific's Engaging the EPO Community: Best Practices, New Approaches Conference, Baltimore, MD.

II.E.6. Refereed Panels

1. Lombardi, D. (2021). *Panel talk 4: Adaptive teaching in context*. Technology to Improve Learning: A Public Engagement Project, a joint venture by International Alliance to Advance Learning in the Digital and American Association for Advancement of Science.
2. Gray, D.L., Bae, C. L., & Lombardi, D. (2020). *Hitting the ground running with school-based research*. Invited panelist, Division 15 Early Career Session at the 128th Annual American Psychological Association Convention; this symposium was presented virtually due to the COVID-19 outbreak.
3. Sinatra, G. M., & Lombardi, D. (2018). *Learning and teaching about climate change: An educational psychology perspective*. Invited discussant presentation as part of the collaborative program symposium, "Psychology's role in addressing climate change—state of knowledge and a call for action," 126th Annual American Psychological Association Convention, San Francisco.

II.E.7. Symposia

1. Lombardi, D. (2022). *Taking actions against science denial: What are effective approaches?* Symposium discussant at the 130th Annual American Psychological Association Convention, Minneapolis.
2. Lombardi, D. (2020). *Multimethod approaches to understanding STEM outcomes: The Importance of scientific thinking, motivation, and engagement*. Symposium discussant at the Annual Meeting of the American Educational Research Association, virtual.
3. Lombardi, D. (2019). *Climate change teaching and learning in the post-truth era: Making valid inferences from scientific evidence*. Symposium discussant at the Annual Meeting of the American Educational Research Association, Toronto, ON.
4. Lombardi, D. (2019). *Measuring the impact of emotions in informal learning environments*. Symposium discussant at the Annual Meeting of the American Educational Research Association, Toronto, ON.
5. Lombardi, D., Sinatra, G. M., Seyranian, V., *Danielson, R., *Young, N., Beck, A., Stave, K., & Galvan, C. (2014). *Climate change education: Warm processes in learning about a hot topic*. Symposium presented at the Sixth International Conference on Climate: Impacts and Responses, Reykjavík, Iceland.

6. Lombardi, D. (2013). *Engagement in science learning: How do we know it when we see it?* Symposium session chair at the Annual Meeting of the American Educational Research Association, San Francisco, CA.
7. Lombardi, D. (2012). *Teaching and learning for the environment: Perspectives on understandings, values, and actions.* Session chair at the Annual Meeting of the American Educational Research Association, Vancouver, BC.

II.E.8. Colloquia

1. Lombardi, D. (2022). *Scaffolded instruction to facilitate students' learning and agency of socio-scientific topics.* Invited colloquium presentation for Ohio State University's Advanced Seminar on Classroom Learning and Instruction.
2. Lombardi, D. (2021). *Why mixed methods? My academic journey and present study.* Invited colloquium presentation for Virginia Commonwealth University's, Mixed Methods Educational Studies Course.
3. Lombardi, D. (2018). *Scaffolding scientific thinking to facilitate students' knowledge construction about Earth and space science topics.* Invited colloquium presentation for the Earth and Space Science Department Seminar Series, West Chester University, PA.
4. Lombardi, D. (2017). *Understanding climate change: Challenges and opportunities for learning and teaching.* Invited colloquium presentation at the Earth & Environmental Science Department Seminar, Temple University, Philadelphia, PA, April.
5. Lombardi, D. (2017). *Evaluation, plausibility, & knowledge: Braided constructs.* Invited colloquium presentation at the Proof Comprehension Research Group, Rutgers University, March.
6. Lombardi, D. (2017). *Students' plausibility (re) appraisals, and knowledge about climate change, fracking, wetlands, and Earth's Moon.* Invited colloquium presentation at the Rutgers University Graduate School of Education Learning Sciences Brown Bag Seminar, March.
7. Lombardi, D. (2014). *Promoting scientific thinking through instruction: Plausibility, critical evaluation and the MEL.* Invited colloquium presentation at the Temple University Spatial Intelligence and Learning Center Seminar, March.
8. Lombardi, D. (2014). *Source effects and plausibility judgments when reading about climate change.* Invited colloquium presentation at the Temple University Department of Teaching & Learning Brown Bag Seminar, February.
9. Lombardi, D. (2012). *Reconstructing conceptions of climate change: Plausibility, the MEL, and other tales.* Invited colloquium presentation at the Rutgers University Graduate School of Education Learning Sciences Brown Bag Seminar, October.
10. Lombardi, D. (2012). *Conceptions about climate change: Using critical evaluation to influence plausibility reappraisals and knowledge reconstruction.* Invited colloquium presentation at the University of Wyoming Science Education Online Video Conferencing Colloquium, September.

II.F. Professional and Extension Publications

II.F.1. Reports and Non-Refereed Monographs

1. Lewandowsky, S., Cook, J., Schmid, P., Holford, D. L., Finn, A., Leask, J., Thomson, A., Lombardi, D., Al-Rawi, A. K., Amazeen, M. A., Anderson, E. C., Armaos, K. D., Betsch, C., Bruns, H. H. B., Ecker, U. K. H., Gavaruzzi, T., Hahn, U., Herzog, S., Juanchich, M., Kendeou, P., Newman, E. J., Pennycook, G., Rapp, D. N., Sah, S., Sinatra, G. M., Tapper, K., Vraga, E. K (2021). *The COVID-19 vaccine communication handbook: A practical guide for improving vaccine communication and fighting misinformation*. Available at: <https://sks.to/c19vax>
2. Lewandowsky, S., Cook, J., Ecker, U. K. H., Albarracín, D., Amazeen, M. A., Kendeou, P., Lombardi, D., Newman, E. J., Pennycook, G., Porter, E. Rand, D. G., Rapp, D. N., Reifler, J., Roozenbeek, J., Schmid, P., Seifert, C. M., Sinatra, G. M., Swire-Thompson, B., van der Linden, S., Vraga, E. K., Wood, T. J., Zaragoza, M. S. (2020). *The Debunking Handbook 2020*. Available at <https://sks.to/db2020>. <http://doi.org/10.17910/b7.1182>
3. Lombardi, D., Smith, M. C., & Hanlon, W. R. (2012). *Southern Nevada Regional Professional Development Program 2011-2012 Self-evaluation*. North Las Vegas, NV. [Reports prepared annually from 2007-2012].
4. Lombardi, D. (2005). Water and life fact sheet, http://phoenix.lpl.arizona.edu/pdf/water_and_life.pdf. [link inactive as of 01/01/2021]

II.F.2. Non-Refereed Journal Articles

1. Bailey, J. M., & Lombardi, D. (2022). Astronomy activities for promoting scientific evaluation. *The Physics Teacher*, 60, 87-88. <https://doi.org/10.1119/10.0009695>
2. Whitmeyer, S., & Lombardi, D. (2017, February 28). Inquiry-focused exercises using digital technologies. *GET spatial learning blog: Postcards from the trading zone*, available online at <http://serc.carleton.edu/getspatial/blog/digitaltech.html>
3. Brudzinski, M., & Lombardi, D. (2016, December 1). Teaching geospatially in an online world. *GET spatial learning blog: Postcards from the trading zone*, available online at http://serc.carleton.edu/getspatial/blog/geospatial_online.html
4. Lombardi, D. (2012). Decoding starlight: From pixels to images. *The Earth Scientist*, 28, 7-11. [Published prior to journal instituting peer review]
5. Lombardi, D. (2012). Investigating supernova remnants. *The Earth Scientist*, 28, 27-31. [Published prior to journal instituting peer review]
6. Lombardi, D. (2012). Scientific questions. *Shop TALK*, 7(2), 15-16.
7. Lombardi, D. (2011). POE: Assessing for conceptual change in the science classroom. *Shop TALK*, 6(3), 6-7.
8. Lombardi, D., & Noland, T. (2011). New directions in science education standards: To the Common Core and beyond. *Shop TALK*, 6(2), 11-12.
9. Lombardi, D. (2010). Bridging the chasm. *Shop TALK*, 6(1), 7-8.
10. Marconi, E., & Lombardi, D. (2010). Everyone needs closure. *Shop TALK*, 5(3), 6-7.
11. Lombardi, D. (2010). The scientists' notebook. *Shop TALK*, 5(2), 12-13.
12. Lombardi, D. (2009). Science is a process. *Shop TALK*, 5(1), 8-9.
13. Lombardi, D. (2009). Getting students to think scientifically: Concept mapping and interactive notebooks. *Shop TALK*, 4(3), 21-22.

14. Marconi, E., Smith, C., & Lombardi, D. (2009). Depth of knowledge: An effective tool for educating students. *Shop TALK*, 4(2), 3-4.
 15. Lombardi, D. (2008). The myth about misconceptions. *Shop TALK*, 3(1), 8-9.
 16. Lombardi, D., Bailey, J. M., Bostic, J., & Sibley, B. (2007). Science high school proficiency exam: Basic exam design information. *Shop TALK*, 2(3), 16-17.
 17. Lombardi, D. (2007). Guided practice in inquiry. *Shop TALK*, 2(2), 16-17.
- II.F.3. Other [Non-Refereed K-12 Lessons, Teaching Materials, and Professional Development Resources]
1. Lombardi, D., et al. (2022). *Build-a-MEL instructional scaffolds and materials for Earth and space science*, available online at <https://sciencelearning.umd.edu/instructional-materials/>
 2. *McLaughlin, Jessica A., Lombardi, D., Davatzes, Alexandra, Jaeger, Allison, J., & Shipley, T. F. (2018). *Grand Canyon Cross Section Lab*. GET spatial learning: Teaching activities, available online at https://serc.carleton.edu/getspatial/activities/grand_canyon_lab.html
 3. Lombardi, D., Bailey, J. M., Holzer, M. A., Hopkins, J. D., Girtain, C., Crones, P., & Burrell, S. (2016). *Model-evidence link diagrams and materials for Earth and space science*, available online at https://serc.carleton.edu/mel/teaching_resources/index.html
 4. Dees, K., & Lombardi, D. (Eds.) (2011). *Workshop facilitator's guides for Common Core State Standards: Elementary mathematics*. Guides developed for counting & cardinality, K-2; fractions, 3-5; measurement, data, & geometry, K-2, 3-5; numbers & operations, K-2, 3-5; and operations & algebraic thinking, K-2, 3-5.
 5. Lara, M., Wilkins, K., Shaner, A., Tidwell, L., & Lombardi, D. (2006). *Marsbots: An integrated elementary school unit*, http://phoenix.lpl.arizona.edu/edu_robotics.php. [link inactive as of 01/01/2021]
 6. Lombardi, D. (2003). *Decoding starlight: From pixels to images*, available online at <http://chandra.harvard.edu/edu/formal/imaging/index.html>.
- II.G. Book Reviews, Notes, and Other Contributions
- II.G.1. Book Reviews
1. Sinatra, G. M., & Lombardi, D. (2013). The cognitive science of science: Explanation, discovery, and conceptual change [Review of the book *The cognitive science of science: Explanation, discovery, and conceptual change*, by P. Thagard]. *Science Education*, 97, 637-639. <https://doi.org/10.1002/sce.21062>
- II.G.2. Manuals
1. Lombardi, D., Bennett, J., Donahue, M., Schneider, N., & Voit, M. (2007). *Themes of the Times on astronomy* (1st & 2nd ed.), a collection of 50 astronomy articles from *The New York Times*, each with an introduction giving a context for that discovery and associated exercises for each chapter in the *Cosmic Perspectives* textbook (3rd ed.). Pearson Addison, Wesley.

II.H. Completed Creative Works and Scholarship

II.H.1. Datasets

1. Lombardi, D. (2021). MEL2 Project Year 5. *Databrary*.
<http://doi.org/10.17910/b7.1332>.
2. Lombardi, D. (2021). MEL2 Project Year 4. *Databrary*.
<http://doi.org/10.17910/b7.1331>
3. Lombardi, D. (2020). MEL2 Project Year 3. *Databrary*.
<http://doi.org/10.17910/b7.1053>
4. Nez, R. & Lombardi, D. (2019). MEL2 Project Year 2. *Databrary*.
<http://doi.org/10.17910/b7.860>
5. Sinatra, G. M., Kardash, C. M., Taasobshirazi, G., & Lombardi, D. (2012). Willingness to take action questionnaire. *PsycTESTS Database Record*.
<https://doi.org/10.1037/t40008-000>
6. Sinatra, G. M., Kardash, C. M., Taasobshirazi, G., & Lombardi, D. (2012). Attitudes about global warming measure. *PsycTESTS Database Record*.
<https://doi.org/10.1037/t39544-000>

II.H.2. Websites

1. McAuliffe, C., Lombardi, D., Bailey, J. M., Governor, D. Buxner, S., & Holzer, M. A. (Eds.) (2022). *Model-evidence link diagrams project*,
<https://serc.carleton.edu/mel/index.html>
2. Sibley, B., Bostic, J., Ebert, E., Lombardi, D., & Marconi, M. (Eds.) (2009). *Targeted interventions for proficiency in science*, http://rpd.net/sciencetips_v3/. [link inactive as of 01/01/2021]

II.I. Works in Progress

1. Christensen, D., & Lombardi, D. (2023, in review). Biological evolution learning and computational thinking: Enhancing understanding through the levels of biological organization and computational complexity, *CBE—Life Sciences Education*.
2. Torsney, B. M., Burke, K. M., Milidou, M., Lombardi, D., Symonds, J. E., Torsney, C. B., & James, S. A. (2023, in review). Beyond growth mindset: exploring John Henryism and academic task engagement in higher education, *Social Psychology of Education*.
3. *†Gans, N., *†Zohery, V., *†Jaffe, J. B., *†Ahmed, A., *†Kim, L., & Lombardi, D. (2023, in review). Fossil fuels and climate change: comparing in-person and virtual science learning during the COVID-19 pandemic, *Journal of Science Education and Technology*.
4. Klavon, T. G., *†Mohan, S., *†Jaffe, J. B., *†Stogianos, T., Lombardi, D., & Governor, D. (2023, in review). Scaffolding middle students' reasoning and learning about complex geoscience topics: Hydraulic fracturing and fossil evidence, *Journal of Geoscience Education*.

II.J. Sponsored Research and ProgramsII.J.1. Grants

1. Collaborative Research: Scaffolding Middle and High School Students' Scientific Evaluations of Sources and Alternative Claims in Earth and Environmental Sciences, D. Lombardi (PI), S. McGrew (Co-PI), J. M. Bailey (Co-PI), D. Governor (Co-PI), C. McAuliffe (Co-PI), S. A. Buxner (Co-PI), G. M. Sinatra (Co-PI), funded by the National Science Foundation, Discovery Research in K-12 Program, \$2,851,490 total (\$1,414,091 to the University of Maryland), September 1, 2022 to August 31, 2026.
2. INFEWS/T3 RCN: Cultivating a National Collaborative for Research on Food, Energy, and Water Education, C. Forbes (PI) and others; D. Lombardi (senior personnel), funded by the National Science Foundation, EHR Core Research (ECR) Program, \$374,982 total, funded September 1, 2019 to August 31, 2025.
3. Engaging Students in Scientific Practices: Evaluating Evidence and Explanation in Secondary Earth and Space Science, D. Lombardi (PI), J. M. Bailey (Co-PI), D. Governor (Co-PI), C. McAuliffe (Co-PI), S. A. Buxner (Co-PI), I. Han (Co-PI), funded by the National Science Foundation, Discovery Research in K-12 Program, \$2,326,662 total, \$1,501,288 transferred to University of Maryland when PI Lombardi began working there in the 2019-2020 academic year, funded September 1, 2017 to August 31, 2023.
4. Towards an Urban Geoscience Pedagogy that Promotes Student Interest, Critical Thinking, Academic Achievement, and Value Of Science Content—supplemental funding for a graduate student (S. Burrell) research project to the larger project titled, Developing Critical Evaluation as a Scientific Habit of Mind: Instructional Scaffolds for Secondary Earth Science, D. Lombardi (PI), J. M. Bailey (Co-PI), funded by the National Science Foundation, Discovery Research in K-12 Program, \$34,999 supplemental, funded September 1, 2017 to June 30, 2018.
5. Understanding and Promoting Spatial Learning Processes in the Geosciences, T. Shipley (PI), A. Devatzes, (Co-PI), D. Lombardi (Co-PI), N. LaDue (Co-PI), funded by the National Science Foundation, Science of Learning: Collaborative Networks (SL-CN) Program, \$749,711 total, funded September 1, 2016 to August 31, 2021.
6. Temple Teacher Residency Program, W. Brooks, (PI), J. Boyle (Co-PI), D. Lombardi (Co-PI), K. Newton (Co-PI), funded by the Teacher Quality Partnership Grant Program, U.S. Department of Education, Office of Innovation and Improvement, \$2,241,597 total, funded October 1, 2014 to September 30, 2019.
7. Developing Critical Evaluation as a Scientific Habit of Mind: Instructional Scaffolds for Secondary Earth Science, D. Lombardi (PI), J. M. Bailey (Co-PI), funded by the National Science Foundation, Discovery Research in K-12 Program, \$449,567 total, funded September 1, 2013 to June 30, 2018.
8. The Nevada Mathematics and Science Leadership Cadre, J. M. Bailey (PI), E. C. Keppelmann (Co-I), C. Hardy (Co-I), D. Lombardi (Co-I), D. Hepworth (Co-I), & J. Hopkins (Co-I), Nevada Mathematics & Science Partnership Program, \$461,929 total, funded March 1, 2008 to May 31, 2011.

II.K. Research Awards

1. Tom Trabasso Young Investigator Award, Society for Text & Discourse, 2020.
2. Honoree, Maryland Research Excellence Celebration, University of Maryland, College Park, 2020.

3. Richard E. Snow Award for Early Contributions, American Psychological Association, Division 15 (Educational Psychology), 2019.
4. Outstanding Early Career Scholar Award, Division C (Learning & Instruction), American Educational Research Association, 2018.
5. Early Career Research Award, NARST: A Worldwide Organization for Improving Science Teaching and Learning through Research, 2018.
6. Certificate for Highly Cited Research, *Learning and Instruction*, for the article "Plausibility reappraisals and shifts in middle school students' climate change conceptions," awarded December 2016.
7. Routledge Behavioral Science Journals #3 most highly cited article in 2015 for the paper, *The challenges of defining and measuring student engagement in science*.
8. *The International Journal of Climate Change: Impacts and Responses* International Award for Excellence for the article "Leveraging higher-education instructors in the climate literacy effort: Factors related to university faculty's propensity to teach climate change," 2013.

III. Teaching, Extension, Mentoring, and Advising

III.A. Courses Taught [Last Five Years]

III.A.1. Graduate Courses Taught Last Over Last Five Years

1. *Development of Achievement Motivation* (EDHD 835). Human Development and Quantitative Methodology Department, University of Maryland, College Park. Spring 2020, 5 students enrolled.
2. *Problem Solving and Reasoning in STEM Education* (EDUC 8504). Department of Teaching and Learning, Temple University, Philadelphia, PA. Spring 2019, 13 students enrolled.
3. *Teaching Science in the Middle Grades* (MGRE 5405). Department of Teaching and Learning, Temple University, Philadelphia, PA. Fall 2013, Fall 2017, 18 students enrolled.
4. *Child and Adolescent Development* (EDUC 5402). Department of Teaching and Learning, Temple University, Philadelphia, PA. Spring 2017, 29 students enrolled.

III.A.2. Undergraduate Courses Taught Last Over Last Five Years

1. *The Development of the Scientific Mind Across the Lifespan* (EDHD 414). Human Development and Quantitative Methodology Department, University of Maryland, College Park. Fall 2022, 38 students enrolled.
2. *Information Weaponization: Thinking Critically in a Changing World* (HNUH238Y). University Honors College, University of Maryland, College Park. Fall 2020, 19 students enrolled; Spring 2021, 20 students enrolled; Fall 2021, 19 students enrolled; Spring 2022, 20 students enrolled.
3. *Team Project Seminar* (GEMS 396, 397, 496, 497). Gemstone Honors Program, University of Maryland College Park. Fall 2019, 7 students enrolled; Spring 2020, 6 students enrolled; Fall 2020, 7 students enrolled; Spring 2021, 6 students enrolled.
4. *Teaching and Learning Science in the Middle Grades* (MGRE 4108). Department of Teaching and Learning, Temple University, Philadelphia, PA. Spring 2017, 14 students enrolled.

III.B. Teaching Innovations

III.B.1. Major Programs Established

1. *Education PhD*. Program Development Committee Member, College of Education, Temple University, Philadelphia, PA, 2018-2019.

III.B.2. Course or Curriculum Development

1. *Information Weaponization: Thinking Critically in a Changing World* (HNUH238Y). University Honors College, University of Maryland, College Park.
2. *Problem Solving and Reasoning in STEM Education* (EDUC 8504). Department of Teaching and Learning, Temple University, Philadelphia, PA.
3. *Philosophical Foundations of Educational Research* (EDUC 8401). College of Education, Temple University, Philadelphia, PA.

III.C. Advising

III.C.1. Undergraduate

1. Luke Kim, Department of Human Development and Quantitative Methodology, University of Maryland, College Park; Student Employee, Summer 2022; Research Assistant, Fall 2022.
2. Anissa Ahmed, Department of Human Development and Quantitative Methodology, University of Maryland, College Park; Research Assistant, Fall 2021, Spring 2022.
3. Thalia Stogianos, Department of Human Development and Quantitative Methodology, University of Maryland, College Park; Research Assistant, Spring 2021.
4. Kellyann M. Bock, Department of Human Development and Quantitative Methodology, University of Maryland, College Park; Student Employee, Spring 2021, Summer 2021.
5. Reed Kendall, College of Education, Temple University, Philadelphia, PA; Research Assistant, Spring 2018, Summer 2018.
6. Elliot S. Bickel, B.S., College of Science and Technology, Temple University, Philadelphia, PA, Philadelphia, PA, Research Assistant; Fall 2014-Spring 2016.
7. Colin Burg, B.S., College of Education, Temple University, Philadelphia, PA, Philadelphia, PA, Research Assistant, Fall 2013, Spring, 2014.

III.C.2. Master's

1. Svetha Mohan, Department of Human Development and Quantitative Methodology, University of Maryland, College Park; Research Assistant, Fall 2020, Spring 2021, Summer 2021.

III.C.3. Doctoral Committee Chair

1. Dana Christensen, Ph.D. College of Education, Temple University, Philadelphia, PA. Advisor. Dissertation: *Learning biological evolution through computational thinking*, defense passed on June 19, 2020.
[I was Dana's Committee Chair until I transferred to the University of Maryland in August 2019 and served as her primary advisor through her dissertation completion]
2. Shondricka Burrell, Ph.D., College of Education, Temple University, Philadelphia, PA. Committee Chair. Dissertation: *Towards a geoscience pedagogy: A socio-cognitive model*, defense passed on December 7, 2018.

3. Noelle Luccioni, Ph.D., College of Education, Temple University, Philadelphia, PA. Committee Chair. Dissertation: *Elementary student perceptions of their teachers' self-efficacy, interest, and enjoyment of science and science teaching*, defense passed on December 4, 2018.
4. Jeremy Tomaszewski, Ph.D., College of Education, Temple University, Philadelphia, PA. Committee Chair. Dissertation: *Understanding the role of confidence when targeting naïve conceptions of force and motion using demonstrations*, defense passed on June 10, 2016.

III.C.4. Doctoral Research Supervision

[The following are doctoral students for whom I have provided funding via external or internal projects, and supervised for research, above and beyond their coursework]

1. John Robertson, Department of Human Development and Quantitative Methodology, University of Maryland, College Park; Research Assistant, Fall 2022, Spring 2023, Summer, 2023.
2. Alex Glass, Department of Teaching, Learning, Policy, and Leadership, University of Maryland, College Park; Research Assistant, Fall 2022, Spring 2023, Summer, 2023.
3. Christine Hirst Bernhardt, Department of Teaching, Learning, Policy, and Leadership, University of Maryland, College Park; Research Assistant, Fall 2022, Spring 2023, Summer, 2023.
4. Nancy Gans, Department of Human Development and Quantitative Methodology, University of Maryland, College Park; Research Assistant, Summer 2021-Summer 2022.
5. Eric Schoute, Department of Human Development and Quantitative Methodology, University of Maryland, College Park; Research Assistant, Spring, 2020, Fall 2021, Summer 2022.
6. Joshua Jaffe, Department of Human Development and Quantitative Methodology, University of Maryland, College Park; Research Assistant, Fall 2019, Spring 2021, Summer, 2022.
7. Josh Medrano, Department of Human Development and Quantitative Methodology, University of Maryland, College Park; Research Assistant, Fall 2019, Spring 2020.
8. Archana Dobaria, College of Education, Temple University, Philadelphia, PA; Research Assistant, Fall 2018-Spring 2022.
9. Timothy G. Klavon, College of Education, Temple University, Philadelphia, PA; Research Assistant, Fall 2017-Spring 2020.
10. Shondricka Burrell, College of Education, Temple University, Philadelphia, PA; Fall 2014-Spring 2018.
11. Gerardine Jean-Louis, College of Education, Temple University, Philadelphia, PA. Research Assistant, Fall 2012-Spring 2014.

III.C.5. Doctoral Committee

1. Büşra Uslu, Ph.D., College of Education, Temple University, Philadelphia, PA, 2021.
2. Hongyang Zhao, Ph.D., Human Development and Quantitative Methodology Department, University of Maryland, College Park, 2021.
3. Svetha Mohan, M.A., Human Development and Quantitative Methodology Department, University of Maryland, College Park, 2021.

4. Peter Baggetta, Ph.D., Human Development and Quantitative Methodology Department, University of Maryland, College Park, 2019.
5. Dana Miller-Cotto, Ph.D., College of Education, Temple University, Philadelphia, PA, 2017.
6. Steven K. Peterson, Ph.D., College of Education, Temple University, Philadelphia, PA, Philadelphia, PA, 2016.
7. Ryan Hassler, Ph.D., College of Education, Temple University, Philadelphia, PA, Philadelphia, PA, 2016.
8. Kayla Heffernan, Ph.D., College of Education, Temple University, Philadelphia, PA, Philadelphia, PA, defense passed on March 30, 2016.
9. Maggie Helene Pedone, Ph.D. College of Education, Temple University, Philadelphia, PA, Philadelphia, PA, 2016.
10. Benjamin M. Torsney, Ph.D., College of Education, Temple University, Philadelphia, PA, Philadelphia, PA, 2016.
11. Margaret A. Holzer, Ph.D. Graduate School of Education, Rutgers University, 2016.
12. Catherine Willard, Ph.D., College of Education, Temple University, Philadelphia, PA, Philadelphia, PA, 2015.
13. Gerardine Jean-Louis, Ph.D., College of Education, Temple University, Philadelphia, PA, Philadelphia, PA, 2014.
14. Ting Dai, Ph.D., College of Education, Temple University, Philadelphia, PA, Philadelphia, PA, 2014.
15. John D. Yoder, Jr., Ph.D., College of Education, Temple University, Philadelphia, PA, Philadelphia, PA, 2014.
16. Matthew F. Hartwell, Ph.D., College of Education, Temple University, Philadelphia, PA, Philadelphia, PA, 2014.
17. Kamala Kandi, Ph.D., College of Education, Temple University, Philadelphia, PA, Philadelphia, PA, 2013.

III.C.6. Post-doctoral

[The following are post-doctoral fellows funded via my externally funded research projects]

1. Timothy G. Klavon, Department of Human Development and Quantitative Methodology, University of Maryland, College Park, Fall 2021.
2. Ananya M. Matewos, Department of Human Development and Quantitative Methodology, University of Maryland, College Park, and College of Education, Temple University, Philadelphia, PA, Fall 2018-Spring 2020.

III.D. Advising: Other than Directed Research

III.D.1. Master's

1. Anderson Laventure, ED.M., Student Teaching Supervision, College of Education, Temple University, Philadelphia, PA, Philadelphia, 2018.
2. Sedric Bearden, ED.M., Student Teaching Supervision, College of Education, Temple University, Philadelphia, PA, 2016.
3. Chelsea Steven, ED.M., Student Teaching Supervision, College of Education, Temple University, Philadelphia, PA, 2016.
4. Shawn Tavernia, ED.M., Student Teaching Supervision, College of Education, Temple University, Philadelphia, PA, 2016.

5. Michele Davis, B.S., Student Teaching Supervision, College of Education, Temple University, Philadelphia, PA., 2015.
6. Syretta Thomas, B.S., Student Teaching Supervision, College of Education, Temple University, Philadelphia, PA., 2015.

III.E. Teaching Awards

1. Temple University College of Education Undergraduate Teaching Award for Tenure-Track Faculty, 2014-2015.

IV. Service and Outreach

IV.A. Editorships, Editorial Boards, and Reviewing Activities

IV.A.1. Editorships

1. *Journal for Research in Science Teaching*, Associate Editor, 2019-2025.
2. Lombardi, D., & Busch, K. C. (Eds.) (2023). Learning and teaching in times of science denial and disinformation [Special Issue]. *Journal of Research in Science Teaching*.
3. †Alexander, P. A., & Lombardi, D. (Eds.) (2023). Higher order, critical, and critical analytical thinking [Special Issue]. *Educational Psychology Review*.
4. Lombardi, D. (Ed.) (2022). Climate crisis [Special Issue]. *The Educational and Developmental Psychologist*, 39(1).
5. *Journal of Educational Psychology*, Guest Editor, 2020-2022.
6. *Contemporary Educational Psychology*, Associate Editor, 2018-2022.
7. Sinatra, G. M., & Lombardi, D. (Eds.) (2015). Engagement in the context of science learning [Special Issue]. *Educational Psychologist*, 50(1).

IV.A.2. Editorial Boards

1. *International Journal of Science Education*, Editorial Board, 2022-present
2. *Journal of Educational Psychology*, Consulting Editor, 2020-2025.
3. *Educational and Developmental Psychologist*, Editorial Board, 2021-2023.
4. *Review of Educational Research*, Editorial Board, 2018-present.
5. *Contemporary Educational Psychology*, Editorial Board, 2014-2018.
6. *The Journal of Experimental Education*, Consulting Editor, 2014-2018.
7. *Journal of Astronomy & Earth Sciences Education*, Editorial Advisory Board, 2015-2017.
8. *Physical Review-Physics Education Research*, Editorial Advisory Board, Focused Collection on Astronomy Education Research, 2016-2017.

IV.A.3. Reviewing Activities for Journals

1. *AERA Open*, 2021.
2. *American Educational Research Journal*, 2010.
3. *Cognition and Instruction*, 2016.
4. *Contemporary Educational Psychology*, 2013.
5. *Discourse Processes*, 2013, 2015-2017.
6. *Educational Psychologist*, 2013-2016.
7. *Educational Psychology Review*, 2016-2022.
8. *Educational Researcher*, 2017-2018.
9. *Eurasia Journal of Mathematics, Science and Technology Education*, 2015.

10. *Global and Planetary Change*, 2017.
11. *International Journal of Science Education*, 2012-2022.
12. *International Perspectives in Psychology: Research, Practice, Consultation*, 2012.
13. *Journal of Applied Research in Memory and Cognition*, 2022.
14. *Journal of Experimental Psychology: Applied*, 2021.
15. *Journal of Research in Reading*, 2013.
16. *Journal of Research in Science Teaching*, 2013, 2014, 2017.
17. *Learning and Instruction*, 2012-2013, 2015-2016, 2018.
18. *Nature Climate Change*, 2014.
19. *Physical Review-Physics Education Research*, 2017.
20. *Research in Science Education*, 2011-2014.
21. *Science and Education*, 2018-2019, 2021.
22. *Science Education*, 2011, 2013, 2015, 2017, 2019.
23. *Studies in Science Education*, 2021.
24. *Thinking and Reasoning*, 2021.

IV.A.4. Reviewing Activities for Agencies and Foundations

1. Bridging Science Education and Psychology Perspectives to Support Science Literacy Theory and Instruction, J. Dauer (PI), funded by the National Science Foundation, EHR Core Research (ECR): Building Capacity in STEM Education Research Program, \$349,836 total, funded January 1, 2020 to December 31, 2021, Advisory Board Member.
2. The Value of Click-on-Diagram Questions in Geoscience, N. LaDue (PI), T. F. Shipley (Co-PI), funded by the National Science Foundation, Improving Undergraduate STEM Education Program, \$300,000 total, funded October 1, 2018 to September 30, 2021, Advisory Board Member.

IV.B. Committees, Professional & Campus Service

IV.B.1. Campus Service – Department

1. Human Development Graduate Program Director, Department of Human Development and Quantitative Methodology, University of Maryland, College Park, 2022-2025.
2. Executive Committee, Department of Human Development and Quantitative Methodology, University of Maryland, College Park, 2021-2025.
3. Anti-Racism Committee, Department of Human Development and Quantitative Methodology, University of Maryland, College Park, 2020-2022.
4. Fellowships and Awards Committee, Department of Human Development and Quantitative Methodology, University of Maryland, College Park, 2019-2021.
5. Recruitment Day Committee, Human Development Program, Department of Human Development and Quantitative Methodology, University of Maryland, College Park, 2019-2020.
6. Middle Grades Education Program Committee, Department of Teaching and Learning, Temple University, Philadelphia, PA, 2014-2019.
7. Mathematics and Science Education Concentration Area Interest Group, Department of Teaching and Learning, Temple University, Philadelphia, PA, 2012-2019.

8. PECT PreK-4 Test Preparation Workshop (Focus on Module 3: Science), leader of a 5-day workshop in May 2014, with two 3-hour workshops, Department of Teaching and Learning, Temple University, Philadelphia, PA, conducted in Spring 2013 and Spring 2014.
 9. Graduate Certification Committee, Department of Teaching and Learning, Temple University, Philadelphia, PA, 2013-2014.
- IV.B.2. Campus Service – College
1. College of Education Senate Chair, University of Maryland, 2021-2022; College of Education Senate, University of Maryland, College Park, 2019-2021.
 2. Council on Racial Equity and Justice (COREJ), College of Education, University of Maryland, College Park, 2020-2022.
 3. College of Education, Ph.D. Committee, Temple University, Philadelphia, PA, 2018-2019.
 4. Teacher Education Coordinating Committee Member, Department of Teaching and Learning, 2016-present; College of Education, Temple University, Philadelphia, PA, 2014-2015.
 5. College of Education Ph.D. Program Restructuring Working Group, Temple University, Philadelphia, PA, Summer 2016.
 6. College of Education Curriculum Committee Member, Temple University, Philadelphia, PA, Fall 2016.
- IV.B.3. Campus Service – University
1. Graduate Board, Temple University, 2016-2019.
 2. Steering Committee, College of Education Representative, Temple University Faculty Senate, Temple University, Philadelphia, PA, 2019
 3. College of Education Representative, Temple University Faculty Senate, Temple University, Philadelphia, PA, 2015-2018.
 4. College of Education Undergraduate Research Faculty Liaison, Temple University, Philadelphia, PA, 2015.
 5. Discussion leader: *Best practices in science education with Nobel Laureate Carl Weiman*. Teaching & Learning Center, Temple University, Philadelphia, PA, 2014.
- IV.B.4. Campus Service – Search Committees
1. Member, Director of Marketing and Communications Search Committee, College of Education, University of Maryland, 2022.
 2. Member, Grant Proposal Writer Search Committee, College of Education, University of Maryland, 2021.
 3. Member, Urban Education Faculty, Tenure-Track, Search Committee, College of Education, Temple University, 2017.
 4. Member, Instructional Learning and Technology Faculty, Tenure-Track, Search Committee, College of Education, Temple University, 2016.
 5. Member, Mathematics Education Faculty, Tenure-Track, Search Committee, College of Education, Temple University, 2015.
- IV.B.5. Offices and Committee Memberships
1. American Psychological Association, Division 15 (Educational Psychology), Past-Treasurer, 2022-2023.
 2. American Psychological Association, Division 15 (Educational Psychology), Treasurer, 2021-2022.

3. Maryland Collaborative for Research in Urban STEM Education, STEM Fellow, 2021-2022.
4. American Psychological Association, Division 15 (Educational Psychology), Treasurer-Elect, 2020-2021.
5. National Consortium for Instruction & Cognition; Incoming Chair, 2022; Board Member, 2015-2021; Newsletter Editor, 2011-2013.
6. National Earth Science Teachers Association, Director at Large, 2018-2020.
7. Pennsylvania Science Teachers Association, Board of Directors: Recording Secretary, 2015-2017, and Eastern College Representative, 2014-2015.
8. Pennsylvania Department of Education Committee, Science Education Framework Developer, 2013.
9. Nevada STEM Education Stakeholders Committee, 2011-2012.
10. Nevada STEM Education Coalition, 2011-2012.
11. Southern Nevada Section, American Association of Physics Teachers; Co-Founder with Dr. Janelle Bailey and Dr. John Farley; First Vice President, 2009-2010; President, 2010-2011; Past President, 2011-2012
12. Southern Nevada Science Teachers Association; Vice President, 2008-2009; President, 2009-2010; Past President, 2010-2012.
13. Committee on Space Science & Astronomy, American Association of Physics Teachers; Chair, 2010-2011; Member, 2008-2010.
14. Nevada State Science Education Committee, 2006-2012.
15. Education Committee for the American Association of Variable Star Observers, 2006-2010.
16. Arizona Section, American Association of Physics Teachers, Section Representative, 2004-2006.

IV.B.6. Leadership Roles in Meetings and Conferences

1. American Educational Research Association, Division C, Section 1d: Science Program Co-Chair, 2017-2019.
2. American Educational Research Association, Division C, Graduate Student Research Excellence Award Co-Chair, 2019.
3. Southern Nevada Regional Mathematics & Science Conference Organizing Committee; Conference Co-Chair, 2007-2010; Science Program Chair, 2010-2012.

IV.B.7. Other Non-University Panels

1. Public Attitudes, Knowledge, and Interest Expert Panel, National Center for Science and Engineering Statistics, 2021-2024.
2. Methodological Trends in Educational Psychology, Panelist, part of the Motivation Monday Series, Graduate Student Committee, Motivation in Education, Special Interest Group, American Educational Research Association, 2022
3. Advanced Informal STEM Learning Proposal Review Panel, National Science Foundation, 2022.
4. EHR Core Research Proposal Review Panel, National Science Foundation, 2022.
5. Public Engagement Panel on Situated Learning Across Contexts, International Alliance to Advance Education in a Digital Era, 2021.

6. Discovery Research K-12 Proposal Review Panel, National Science Foundation, 2019.

IV.C. Media Contributions

IV.C.1. Internet

1. Twitter: @lombardi_learn, 1,550 followers as of August 17, 2022

IV.D. Service Awards and Honors

1. Outstanding Reviewer, *Review of Educational Research*, American Educational Research Association, awarded twice in 2018 & 2021.
2. Reviewer of Excellence, *International Journal of Science Education*, Routledge, Taylor & Francis Group, 2020.
3. Thomas B. Ervin Distinguished Service Award, National Earth Science Teachers Association, 2020.
4. Certificate of Appreciation, Office of the Governor, State of Nevada and Keys to the City/Honorary Citizen of Carson City, NV, proclamation by Robert L. Cromwell, Mayor; both for service rendered in writing Nevada's Race to the Top Grant Application, 2011.