

Dante Cisterna

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EDUCATION

- 2014 Ph.D. in Curriculum, Instruction, and Teacher Education. Michigan State University, East Lansing, MI.
Dissertation. Grounding formative assessment in high-school chemistry classrooms: Connections between professional development and teacher practice. <https://doi.org/doi:10.25335/2js3-vv14>
- 2009 M.A. in Education with a concentration in Educational Assessment. Pontificia Universidad Católica de Chile, Santiago, Chile.
- 2002 B.A. in Education with a concentration in Science and Biology Teaching. Pontificia Universidad Católica de Chile, Santiago, Chile.
- 2001 B.S. in Agronomy with a concentration in Crop Science. Pontificia Universidad Católica de Chile, Santiago, Chile.

PROFESSIONAL EXPERIENCE

- 2026- Assistant Director of Learning Maps. Accessible Teaching, Learning, and Assessment Systems (ATLAS), Achievement and Assessment Institute, University of Kansas.
- 2025-2026 Science Research Lead. Accessible Teaching, Learning, and Assessment Systems (ATLAS), Achievement and Assessment Institute, University of Kansas.
- 2022-2024 Research Scientist. ETS Research Institute. Educational Testing Service (ETS), Princeton, NJ.
- 2022 Research Developer. K-12 Teacher, Learning and Assessment Research Center. Division of Research and Development. Educational Testing Service (ETS), Princeton, NJ.
- 2018-2022 Associate Research Developer, Student and Teacher Research Center, Division of Research and Development, Educational Testing Service (ETS), Princeton, NJ.
- 2017-2018 Postdoctoral Research Associate, University of Nebraska-Lincoln, School of Natural Resources, USDA-NIFA funded UNICORN project, Lincoln, NE.
- 2015-2017 Postdoctoral Fellow, University of Missouri. College of Education and Physics & Astronomy. NSF-funded project Quality Elementary Science Teaching, Columbia, MO.
- 2014-2016 Assistant Professor, Department of Didactics, School of Education, Pontificia Universidad Católica de Chile, Santiago, Chile (On leave 2015-2016).
- 2009-2014 Graduate Research Assistant, Department of Teacher Education, Michigan State University, East Lansing, MI.
- 2008-2009 Teacher Performance Assessment Specialist, Chile's National Teacher Performance Assessment System, Santiago, Chile.
- 2004-2008 Science and Biology Teacher, Colegio de los SSCC Manquehue, Vitacura, Santiago, Chile. Grade levels 5-9.
- 2002-2004 Science and Biology Teacher, Colegio Santa Elena. Santiago, Chile. Grade levels 5-6, 11-12.

SCHOLARLY WORK

Refereed Journal Articles

- Cisterna, D.**, Mikeska, J. N., Castellano, K. E., & Lentini, J. (2025). Score reports for teacher educators: Informing assessment results for content knowledge for teaching. *Educational Assessment*, 30(1), 41-65. <https://doi.org/10.1080/10627197.2025.2456059>
- Jin, H., **Cisterna, D.**, Owens, D., Riordan, B. (2025). Collaboration with ChatGPT: Preservice Elementary teachers analyzing and interpreting student responses. *Disciplinary and Interdisciplinary Education Research*. <https://doi.org/10.1186/s43031-025-00146-8>
- Howell, H., Bhatia A., O'Dwyer, E., Kevelson, M., Mikeska, J. N., **Cisterna, D.** (2025). Designing performance based professional development: Stakeholder views on essential competencies and approaches. *Educational Sciences*, 15, 2(204). <https://doi.org/10.3390/educsci15020204>
- Jin, H., Shin, J.-H., & **Cisterna, D.** (2024). Systematic validation in science learning progression research. *International Journal of Science and Mathematics Education*. 22, 189-209. <https://link.springer.com/article/10.1007/s10763-023-10359-w>
- Baidoo-Anu, D., Liu, L., **Cisterna, D.** & Song, Y. (2024). Cultural validity: Promoting cultural responsiveness in classroom assessment. *Diaspora, Indigenous, and Minority Education*. 18(3), 160-181. <https://tandfonline.com/doi/full/10.1080/15595692.2023.2193883>
- Mikeska, J. N., **Cisterna, D.**, Lakhani, H., Bookbinder, A.K., Myers, D., & Vaval, L. (2023). Examining elementary science teachers' responses to assessment tasks designed to measure their content knowledge for teaching about matter and its interactions. *Science Education*, 107(3), 572-608. <http://doi.org/10.1002/sce.21779>
- Jin, H., Hokayem, H., & **Cisterna, D.** (2023). New aspects of working with scientific data: A study with practicing scientists and science teachers. *Research in Science and Technological Education*, 41(1), 306-325. <https://doi.org/10.1080/02635143.2021.1902977>
- Mikeska, J.N., Steinberg, J., Lottero-Perdue, P.S., **Cisterna, D.**, Kinsey, D., & Howell, H. (2023). Using simulated classrooms to examine elementary teachers' perceptions about, attention to, and use of formative feedback to improve their ability to facilitate science discussions. *Contemporary Issues in Technology and Teacher Education - Science*. <https://citejournal.org/volume-23/issue-1-23/science/using-simulated-classrooms-to-examine-elementary-teachers-perceptions-about-attention-to-and-use-of-formative-feedback-to-improve-their-ability-to-facilitate-science-discussions/>
- Cisterna, D.**, Bookbinder, A K., Mikeska, J., & Lakhani, H. (2022). Elementary pre-service teachers' perceptions of assessment tasks that measure content knowledge for teaching about matter. *Journal of Science Teacher Education*, 33(8), 910-937. <https://doi.org/10.1080/1046560X.2021.2015831>
- Gotwals, A.W., & **Cisterna, D.** (2022). Formative assessment practice progressions for teacher preparation: A framework and illustrative case. *Teaching and Teacher Education*, 110, 103601. <https://doi.org/10.1016/j.tate.2021.103601>
- Hanuscin, D., de Araujo, Z., **Cisterna, D.**, Lipsitz, K. & van Garderen, D. (2020). The re-novicing of Elementary Teachers in Science: Grade-level reassignment and teacher PCK. *Journal of Science Teacher Education*, 31(7), 780-801. <https://doi.org/10.1080/1046560X.2020.1778845>
- Cisterna, D.**, Forbes, C.T., Ingram, E., Bhattacharya, D., & Roy, R. (2020). Decoding the corn field: Building students' ideas about plant inheritance and variation. *Science and Children*, 58(2). <https://www.nsta.org/science-and-children/science-and-children-novemberdecember-2020/decoding-corn-field>
- Jin, H., Delgado, C., Bauer, M., Wylie, **Cisterna, D.**, & Llort, K. (2019). A Hypothetical Learning Progression for Quantifying Phenomena in Science. *Science & Education*, 28, 1181-1208. <https://doi.org/10.1007/s11191-019-00076-8>
- Cisterna, D.**, Forbes, C. T. & Roy, R. (2019). Model-Based teaching and learning about inheritance in third-grade science. *International Journal of Science Education*, 41(15), 2177-2199. <https://doi.org/10.1080/09500693.2019.1663561>
- King, K., Hanuscin, D., & **Cisterna, D.** (2019). What properties matter? Exploring essential properties of matter. *Science and Children*, 56(9) 44-49.

- Forbes, C.T., **Cisterna, D.**, Bhattacharya, D., & Roy, R. (2019). Modeling elementary students' ideas about heredity: A comparison of a curricular intervention. *The American Biology Teacher*, 81(9), 626-635. <https://doi.org/10.1525/abt.2019.81.9.626>
- Saleh, A., Weiser, G., Rehmat, A., Housh, K.A., **Cisterna, D.**, Liu, L., & Hmelo-Silver, C. (2019). A call to action: A response to Osborne, Rafanelli, and Kind. *Journal of Research in Science Teaching*, 56(4), 526-528. <https://doi.org/10.1002/tea.21537>
- Cisterna, D.** & Gotwals, A. W. (2018). Enactment of ongoing formative assessment: Challenges and opportunities for professional development and practice. *Journal of Science Teacher Education*, 29(3), 220-222. <https://doi.org/10.1080/1046560X.2018.1432227>
- Cisterna, D.**, Lipsitz, K., Hanuscin, D., De Araujo, Z. & Van Garderen, D. (2018). Supporting science teachers in creating lessons with explicit conceptual storylines. *Innovations in Science Teacher Education*, 3(1). <https://innovations.theaste.org/supporting-science-teachers-in-creating-lessons-with-explicit-conceptual-storylines/>
- Ibourk, A., Williams, M., Opperman, A., **Cisterna, D.**, Restrepo-Nazar, C., & Xie, Y. (2018). Young students' understanding of the relationship between inheritance and variation of traits: Using structural equation modeling. *Science Education*, 102(6), 1201-1238. <https://doi.org/10.1002/sce.21470>
- Hanuscin, D., **Cisterna, D.**, Lipsitz, K. (2018). Elementary Teachers' PCK for Teaching the Structure and Properties of Matter. *Journal of Science Teacher Education*. 29(8), 665-692. <https://doi.org/10.1080/1046560X.2018.1488486>
- Lipsitz, K., **Cisterna, D.**, & Hanuscin, D. (2017). Methods and Strategies. The 5E Learning Cycle: What's the story? *Science and Children*, 55(4), 76-80. https://my.nsta.org/resource/?id=10.2505/4/sc17_055_04_76
- Hanuscin, D., Lipsitz, K., **Cisterna, D.**, Arnone, K. A, van Garderen, D., & de Araujo, Z. (2016). Developing coherent conceptual storylines: Two elementary challenges. *Journal of Science Teacher Education*, 27(4), 393-414. <http://doi.org/10.1007/s10972-016-9467-2>
- * Selected for the NSTA Annual 'Research Worth Reading' list
- Kintz, T., Lane, J., Gotwals, A., & **Cisterna, D.** (2015). Professional Development at the Local Level: Necessary and Sufficient Conditions for Critical Collegueship. *Teaching and Teacher Education*, 52, 121-136. <https://doi.org/10.1016/j.tate.2015.06.004>
- Gotwals, A. W., Philhower, J., **Cisterna, D.**, & Bennett, S. (2015). Using video to examine formative assessment practices as measures of expertise for mathematics and science teachers. *International Journal of Science and Mathematics Education*, 13(2), 405-423. <http://doi.org/10.1007/s10763-015-9623-8>
- Cisterna, D.**, Williams, M., & Merritt, J. D. (2013). Students' understanding of cells and heredity: Patterns of understanding in the context of a curriculum implementation in fifth and seventh grades. *The American Biology Teacher*. 75(3), 178-184. <https://doi.org/10.1525/abt.2013.75.3.6>
- Bonomelli, C., **Cisterna, D.** & Reciné, C. (2005). Effect of nitrogen fertilization on 'Echinacea purpurea L.' mineral composition. *Ciencia e Investigacion Agraria*. 32(2), 85-91.

Refereed Book Chapter

- Liu, L., **Cisterna, D.**, Kinsey, Y., Steimel, K. (2024). AI-based diagnosis of student reasoning patterns in NGSS assessments. In: X. Zhai & J. Krajcik (Eds.), *Uses of Artificial Intelligence in STEM Education*. p.165-178. Oxford University Press.
- Jin, H, **Cisterna, D.**, Shin, J-H, & Vonk, M. (2023). Mathematization: A crosscutting theme to enhance curricular coherence. In: *Quantitative Reasoning in Mathematics and Science Education*. Springer. https://doi.org/10.1007/978-3-031-14553-7_10
- Cisterna D.**, Gotwals, A.W., Kintz, T., Lane, J., & Roebert, E. (2016). Potentials and challenges of a situated professional development model. In: T. Petty, A. Good, M. Putnam (Eds.), *Handbook of Research on Professional Development for Quality Teaching and Learning*. p. 151-180. Hershey, PA, IGI Global. <https://www.igi-global.com/gateway/chapter/156785>
- *Republished in 2020: **Cisterna, D.**, Gotwals, A. W., Kintz, T. M., Lane, J., & Roebert, E. (2020). Potentials and Challenges of a Situated Professional Development Model. In Management Association, I. (Ed.), *Learning and Performance Assessment: Concepts*,

Methodologies, Tools, and Applications (pp. 20-49). IGI Global. <https://www.igi-global.com/gateway/chapter/237519>

Conference Proceedings

- Andrews-Todd, J., Lee, J., Song, Y., Ruan, C., **Cisterna, D.**, Forsyth, D., & Zapata-Rivera, D. (2026). From talk to evidence: Using conversation-based assessment to elicit scientific reasoning. In Litts, B.K., De Liema, D., Lee, C., Krist, S., Mawasi, A., Martin, L., & Kumpulainen, K. (Eds.), *Proceedings of the 20th International Conference of the Learning Sciences - ICLS 2026*, (pp. 1307-1311). Irvine, CA: International Society of the Learning Sciences.
- Andrews-Todd, J., Lee, J., **Cisterna, D.**, Song, Y., Graf, E.A., & Jiang, J. (2026) Design and perceptions of a science conversation-based assessment with AI agents. In Litts, B.K., De Liema, D., Lee, C., Krist, S., Mawasi, A., Martin, L., & Kumpulainen, K. (Eds.) *Proceedings of the 20th International Conference of the Learning Sciences - ICLS 2026*, (pp. 1377-1382). Irvine, CA: International Society of the Learning Sciences.
- Jorgenson, H., Mikeska, J. & **Cisterna, D.** (2025). Professional Learning Leaders' Perspectives on How Automated and Personalized Feedback Reports Can Support Teacher Learning. In Cohen, R. J. (Ed.), *Proceedings of Society for Information Technology & Teacher Education International Conference* (pp. 6138-6147). Orlando, FL, USA: Association for the Advancement of Computing in Education (AACE). <https://www.learntechlib.org/primary/p/226103/>.
- Liu, L., **Cisterna, D.**, Qi, Y., Kinsey, D., Chen, X., & Riordan, B. (2022). Machine Learning and Student Reasoning Patterns in NGSS Assessments. In Chinn, C., Tan, E., Chan, C., & Kali, Y. (Eds.), *Proceedings of the 16th International Conference of the Learning Sciences - ICLS 2022*, (pp. 1960-1961). Hiroshima, Japan: International Society of the Learning Sciences.
- Cisterna, D.**, Liu, L., Chen, S-K., van Rijn, P., Graf, A., Rehmat, A., Housh, K., & Hmelo-Silver, C. E. (2020). Students' Ideas about the NGSS Crosscutting Concept of System and System Models: Evidence from Parallel Assessments. In Gresalfi, M. and Horn, I. S. (Eds.), *The Interdisciplinarity of the Learning Sciences, 14th International Conference of the Learning Sciences (ICLS) 2020*, Volume 2 (pp. 829-830). Nashville, Tennessee: International Society of the Learning Sciences.
- Housh, K., Hmelo-Silver, C. E., Rehmat, A., **Cisterna, D.**, & Liu, L. (2020). The Impact of Scaffolding on Simulation Assessment Performance for Systems and Systems Models. In Gresalfi, M. and Horn, I. S. (Eds.), *The Interdisciplinarity of the Learning Sciences, 14th International Conference of the Learning Sciences (ICLS) 2020*, Volume 2 (pp. 901-902). Nashville, Tennessee: International Society of the Learning Sciences.
- Rehmat, A., Hmelo-Silver, C. E., Housh, K., Liu, L., & **Cisterna, D.** (2020). Assessing Systems Thinking Across Disciplines: A Learning Progression. In: Gresalfi, M. and Horn, I. S. (Eds.), *The Interdisciplinarity of the Learning Sciences, 14th International Conference of the Learning Sciences (ICLS) 2020*, Volume 2 (pp. 899-900). Nashville, Tennessee: International Society of the Learning Sciences.
- Housh, K., Rehmat, A., Hmelo-Silver, C. E., **Cisterna, D.**, & Liu, L. (2020). Evaluating Computer-based Science Assessments for Universal Design Learning Principles. In Gresalfi, M. and Horn, I. S. (Eds.), *The Interdisciplinarity of the Learning Sciences, 14th International Conference of the Learning Sciences (ICLS) 2020*, Volume 2 (1739-1740). Nashville, Tennessee: International Society of the Learning Sciences.
- Cisterna, D.**, Williams, M., & Merritt, J. (2012). Fifth and seventh graders' patterns of understanding about cells and heredity in a technology-enhanced curriculum. In: *The Future of Learning, 10th International Conference of the Learning Sciences (ICLS) 2012*, Volume 2 (pp 527-528). Sydney, Australia: International Society of the Learning Sciences.

Other Publications: Professional Book Chapter for K-12 Teachers

- Cisterna, D.**, Hanuscin, D., & Lipsitz, K. (2020). Reframing Instruction with the 5E Learning Cycle. In: D. Hanuscin and D. van Garderen (Eds.), *Universal design for learning science: Reframing elementary instruction in physical science*. p. 3-20, Arlington, VA: NSTA Press. ISBN 9781681406954

Other Publications: Science Textbooks for Grade Levels 5-12

- Cisterna, D.**, Gajardo, J. P., Madrid, F., Rojas, M. (2009). *Ciencias Naturales 5*. Proyecto Bicentenario, guía para el profesor. Ediciones Santillana del Pacífico. Santiago, Chile.
- Cisterna, D.**, & Sepúlveda, N. (2009). *Ciencias Naturales 6*. Proyecto Bicentenario, guía para el profesor. Ediciones Santillana del Pacífico. Santiago, Chile.
- Atala, D., **Cisterna D.**, Cataldo F., & Silva, G., (2009) *Biología I° Educación Media*. Texto del estudiante y guía didáctica del docente. Ediciones Santillana del Pacífico. Santiago, Chile.
- Berríos, P., Cataldo, F., **Cisterna, D.**, Galindo, M. & Llanos, P. (2009). *Biología I°*. Proyecto Bicentenario. Ediciones Santillana del Pacífico. Santiago, Chile.
- Cisterna, D.**, Sepúlveda, M. & Trisotti, A. (2007). *Naturaleza 6*. Ediciones SM. Santiago, Chile.
- Aravena, J., **Cisterna, D.** & Mora, D. (2007). *Naturaleza 7*. Ediciones SM. Santiago, Chile.
- Bravo, M., Castañeda, P., **Cisterna, D.**, Flores, S., González, F., & Sánchez, T. (2007). *Manual de Biología I y II*. Ediciones Santillana del Pacífico. Santiago, Chile.

CONFERENCE PRESENTATIONS

Peer-refereed, National and International

- Cisterna, D.** (2026, April). Using learning maps for individualized instruction: Approaches for the inclusive classroom. Paper presented at the annual meeting of the National Science Teaching Association. Anaheim, CA.
- Cisterna, D.**, Liu, L., Song, Y., Watts, F., & Kinsey, D. (2025, April). *An automated annotation model for science argumentation and reasoning in written assessments*. E-board demonstration presented at the annual meeting of the National Council of Measurement in Education. Denver, CO.
- Andrews-Todd, J., Graf, E.A., Forsyth, C., **Cisterna, D.**, Song, Y., & Lee, J. (2025, April). *Showcasing a STEM Conversation-Based Assessment with AI Agents*. E-board demonstration presented at the annual meeting of the National Council of Measurement in Education. Denver, CO.
- Cisterna, D.**, Andrews-Todd, J., Graf, E. A., Song, Y., Lee, J., & Rice, J. (2024, September). *Practices for designing STEM Performance Assessments: The weather task*. Paper presented at the annual meeting of the International Association for Educational Assessment. Philadelphia, PA.
- Bhatia, A., Howell, H., O'Dwyer, E., Kvelson, M., **Cisterna, D.**, & Mikeska, J. N. (2024, September). *Determining Priority Teaching Competencies for Professional Development: A Rank Ordering Task Approach*. Paper presented at the annual meeting of the International Association for Educational Assessment. Philadelphia, PA.
- Cisterna, D.** & Lavigne, C. S. (2024, April). *Assessing misinformation in science: A framework and an illustrative task*. Poster presented at the annual meeting of the American Educational Research Association. Philadelphia, PA.
- Cisterna D.**, & Quintero, K. (2024, March). *Exploring the Intersection of Civic and Science Outcomes: The Heat Island Task*. Paper presented at the annual meeting of the National Association of Research in Science Teaching. Denver, CO.
- Cisterna, D.**, & Lavigne, C. (2024, March). *A framework to Conceptualize Misinformation Literacy in Science Tasks*. Poster presented at the annual meeting of the National Association of Research in Science Teaching. Denver, CO.
- Mikeska, J. N., **Cisterna, D.**, Hanuscin, D., & Melton, J., (2024, January). Exploring the use of an online assessment to measure elementary teachers' content for teaching about matter and its interactions. Paper presented at the annual meeting of the Association of Science Teacher Education. New Orleans, LA.
- Hanuscin, D., Melton, J., Mikeska, J., & **Cisterna, D.** (2024, January). Uncovering preservice teachers's CKT with formative assessment classroom tasks. Workshop presented at the annual meeting of the Association of Science Teacher Education. New Orleans, LA.

- Cisterna, D.**, Liu, L., Kinsey, D., Qu, Y., & Asmundson, V. (2023, November). *Using AI-Supported Feedback to Impact Student Reasoning*. Paper presented at the California Educational Research Conference. Anaheim, CA.
- Cisterna, D.**, Liu, L., & Asmundson, V., (2023, October). *An Automated Tool to Support Three-Dimensional Student Feedback and Instruction*. Paper presented at the California Science Education Conference. Palm Springs, CA.
- Cisterna, D.**, Liu, L., Baidoo-Anu, D., Kinsey, D., & Qi, Y., (2023, April). *Exploring Student Responses in the Context of Automated-Generated Feedback on Science Reasoning Patterns*. Paper presented at the annual meeting at the annual meeting of the National Science Teaching Association. Chicago, IL.
- Cisterna, D.** & Qureshi, F. (2023, April). *A Framework for K-12 Classroom-Based Opportunity to Learn in Science*. Poster presented at the annual meeting of the National Science Teaching Association. Chicago, IL.
- Cisterna D.**, Liu, L., & O'Dwyer, E. (2023, April). *Key Practices for Designing Classroom Assessments with Social and Cultural Considerations*. Paper presented at the annual meeting of the National Council of Measurement in Education. Chicago, IL.
- Baidoo-Anu, Liu, L., **Cisterna, D.**, & Song, Y., (2023, April). Cultural Validity: Promoting Cultural Responsiveness in Classroom Assessment. Paper presented at the annual meeting of the National Council of Measurement in Education. Chicago, IL.
- Liu, L., **Cisterna, D.**, Kinsey, D., and Qi, Y., (2023, April). Automated Diagnosis and Feedback on Three-dimensional Science Reasoning. Paper presented at the annual meeting of the National Council of Measurement in Education. Chicago, IL.
- Liu, L., **Cisterna, D.**, Qi, Y., & Asmundson, V. (2022, June). *Bringing AI into Student Sense Making of Science*. Paper presented at the annual meeting of the National Conference of Student Assessment, Council of State Schools Officers. Atlanta, GA.
- Liu, L., **Cisterna, D.**, Kinsey, D., & Qi, Y. (2022, May). *Automated Diagnosis of Student Reasoning Patterns in 3D Science Learning*. Paper presented at the International Conference of AI-based Assessment in STEM Atlanta, GA.
- Cisterna, D.**, Liu, L. & Song, Y. (2022, April). Development of a Collaborative Task that Integrates Science and Civic Learning. In G. Ling (Chair). *The Design of Collaborative Activities across Disciplines to Promote Student Learning and Agency*. Symposium presented at the annual meeting of the American Research Education Association. San Diego, CA.
- Liu, L., **Cisterna, D.**, Song, Y., Qureshi, F., (2022, April). Transforming Science Learning through Collaborative Argumentation on Civics Issues. In, L. Hamilton (Chair) *Advancing and Assessing Civic Learning to Promote Equity*. Symposium presented at the annual meeting of the National Council of Measurement in Education. San Diego, CA.
- Cisterna, D.**, Liu, L., Cahill, A., Kinsley, D., Chen, S., Qi, Y., & Yang, J. (2022, March). *Exploring Student Reasoning Patterns in the Context of an NGSS-Aligned Assessment Task: The Harvestmen Item*. Paper presented at the annual meeting of the National Association of Research in Science Teaching. Vancouver, BC.
- Mikeska, J., Lakhani, H. & **Cisterna, D.** (2022, March). *Exploring the Nature of Challenges Preservice Elementary Teachers Experience about Matter Content and Content Teaching*. Paper presented at the annual meeting of the National Association of Research in Science Teaching. Vancouver, BC.
- Mikeska, J., Steinberg, J., Lottero-Perdue, P., & **Cisterna, D.** (2022, March). *Using Simulated Classrooms to Examine How Formative Feedback Impacts Elementary Teachers' Ability to Facilitate Discussions* (2022, April). Paper presented at the annual meeting of the National Science Teaching Association. Vancouver, BC.
- Liu, L., **Cisterna, D.**, Kinsey, D., Qi, Y., & Asmundson, V. (2021 November). Automated diagnosis of student reasoning patterns in 3D science learning. Paper presentation at California Educational Research Association 2021 Annual Conference. Anaheim, CA.
- Cisterna, D.**, Hamilton, L., Wylie, C., Vafis, G., Liu, L. & Heck, T.J. (2021, October). *Using classroom assessment to promote civic learning*. Symposium presented at the fourth NCME classroom assessment conference. (virtual conference)

- Cisterna, D.**, Mikeska, J., Castellano, K., & Lentini, J., (2021, April). *Exploring science teacher educators' evaluation of a score report to support content knowledge for teaching*. Poster presented at the annual meeting of the National Association of Research in Science Teaching (virtual conference).
- Mikeska, J., Lottero-Perdue, P, Brockway, D., **Cisterna, D.**, Sackietey, S. & Ciofalo, J. (2021, April). *Teacher perceptions about an engineering argumentation discussion within a simulated classroom after feedback and practice*. Poster presented at the annual meeting of the National Association of Research in Science Teaching (virtual conference).
- Housh, K., Rehmat, A., Hmelo-Silver, C., **Cisterna, D.**, & Liu, L. (2021, April). *Rethinking assessment for systems*. Paper presented at the annual meeting of the National Association of Research in Science Teaching (virtual conference).
- Jin, H., Shin, H-J., & **Cisterna, D.**, (2021, April). Making learning progression-based test results meaningful for teachers. In: *Learning progression assessments and teachers' classroom enactments of curricula*. Symposium presented at the annual meeting of the National Association of Research in Science Teaching (virtual conference).
- Jin, H., Shin, H-J., & **Cisterna, D.**, (2021, April). Development and validation of a learning progression for mathematical thinking in science. In: *Tracing learning progressions/trajectories: Theoretical and methodological perspectives at the intersection of mathematics and Science*. Symposium presented at the annual meeting of the American Educational Research Association (virtual conference).
- Cisterna, D.**, Jin, H, & Shin, H-J. (2020, April). Assessing mathematization: Steps for making mathematical thinking visible in science tasks. Paper accepted at the annual meeting of the National Science Teaching Association. Boston, MA. (conference canceled).
- Cisterna, D.**, & Liu, L. (2020, March). Making assessments essential to elicit student thinking: Emphasis on crosscutting concepts. In M. Linn (chair), *Disrupting Science Education Across Contexts: K-12 Learning, Teaching & Local Communities*. Related paper-set accepted at the Annual Meeting of the National Association for Research in Science Teaching. Portland, OR. (conference canceled).
- Housh, K., Rehmat, A., Hmelo-Silver, C., **Cisterna, D.**, Liu, L. (2020, March). *Learning progressions in science assessments*. Paper accepted at the Annual Meeting of the National Association for Research in Science Teaching. Portland, OR. (conference canceled).
- Liu, L., **Cisterna, D.**, Rehmat, A., Housh, K., & Hmelo-Silver, C. (2020, March). *Designing crosscutting concepts assessments to support NGSS teaching and learning*. Paper accepted at the Annual Meeting of the National Association for Research in Science Teaching. Portland, OR. (conference canceled).
- Cisterna, D.**, Hin, J., & Shin, H. (2020, March). *Validating a learning progression for mathematization in science*. Paper accepted at the Annual Meeting of the National Association for Research in Science Teaching. Portland, OR. (conference canceled).
- Cisterna, D.**, Mikeska, J.N., Bookbinder, A.K., Myers, D.L., Lakhani, H., & Vaval, L. (2020, March). *Elementary pre-service teachers' perceptions of assessment tasks to measure content knowledge for teaching about matter*. Poster accepted at the Annual Meeting of the National Association for Research in Science Teaching. Portland, OR. (conference canceled).
- Mikeska, J.N., **Cisterna, D.**, Lakhani, H., Vaval, L., Bookbinder, A.K., & Myers, D. (2020, March). *Knowledge in use: Examining elementary teachers' content knowledge for teaching about matter using scenario-based assessments*. Paper accepted at the Annual Meeting of the National Association for Research in Science Teaching. Portland, OR. (conference canceled).
- Cisterna, D.**, Jin, H., Shin, H., (2020, January). Development of a learning progression of mathematization for diverse populations. In M. Bauer (Chair), *Measuring what's difficult to measure: Approaches for measuring complex constructs in diverse populations*. Breakout panel session presented at the IES Principal Investigators annual meeting. Washington DC.
- Mikeska, J., **Cisterna, D.**, Melton, D., Orlandi, L., Castellano, K., Hanuscin, D., & Borda, E., (2020, January). *Creating a summative assessment to measure elementary pre-service teachers' content knowledge for teaching about matter and its interactions*. Poster

- presented at the Association for Science Teacher Education annual meeting. San Antonio, TX.
- Siegel, M., Burcks, S., Du, A., Bowey, P., **Cisterna, D.**, Nuslu, N., Murakami, C., & Cite, S. (2020, January). *Experiences of teacher certification testing: Bias, resistance, and practical solutions*. Paper presented at the Association for Science Teacher Education annual meeting. San Antonio, TX.
- Rehmat, A. P., Saleh, A., Lui, L., Hmelo-Silver, C., Weiser, G., Housh, K. A., & **Cisterna, D.** (August 2019). Computer based science assessments for crosscutting concepts. ICT workshop presentation at European Association for Research on Learning and Instruction. Aachen, Germany.
- Jin, H., Delgado, C., Wylie, C., Butler, M., Lloret, K., & **Cisterna, D.** (2019, March). *Bases for developing a hypothetical LP for quantification in science*. Paper presented at the Annual Meeting of the National Association for Research in Science Teaching. Baltimore, MD.
- Siegel, M., **Cisterna, D.**, Burcks, S., Murakami, C., Cite, S., Nuslu, N., (2019, January) *Standardized spectacle: Teacher educators' views of the impact of a high-stakes science assessment initiated through state policy on teacher certification*. Paper presented at the Association for Science Teacher Education annual meeting. Savannah, GA.
- Cisterna, D.**, Burcks, S., Siegel, M., Murakami, C., Cite, S., Muslu, N. (2018, March). *Enhancing or degrading quality?: Teacher educators talk about a high-stakes science assessment for pre-service teachers*. Paper presented at the Annual Meeting of the National Association for Research in Science Teaching. Atlanta, GA.
- Birt, J., and **Cisterna, D.** (2018, March). *Developing practices in a 'CoLABorative' setting: Pre-service teachers' progress in noticing and interpreting student ideas*. Paper presented at the Annual Meeting of the National Association for Research in Science Teaching. Atlanta, GA.
- Hanuscin, D., **Cisterna, D.**, Lipsitz, K. (2018, March). *The consequences of grade-level reassignment for elementary science teacher professional development efforts: A case study*. Paper presented at the Annual Meeting of the National Association for Research in Science Teaching. Atlanta, GA.
- Bhattacharya, D., Forbes, C.T., Ingram, E., Hawley, L., Stevens, J. & **Cisterna, D.** (2018, March). *Developing 3rd grade students' understanding of inheritance using a model-based curriculum*. Paper presented at the annual meeting of the National Association of Research in Science Teaching (NARST), Atlanta, GA.
- Bhattacharya, D., Forbes, C.T., Ingram, E., Hawley, L., Stevens, J. & **Cisterna, D.** (2018, March). *Supporting scientific modeling practices in elementary science instruction about inheritance*. Poster presented at annual meeting of the National Association of Research in Science Teaching (NARST), Atlanta, GA.
- Bhattacharya, D., Ingram, E., Forbes, C., **Cisterna, D.** (2018, March). *Using agriculture as a context for teaching genetics in elementary classrooms: Insights from UniCORN* (Understanding Inheritance in CORN). Paper presented at the National Science Teachers Association annual meeting (NARST/NSTA sponsored session). Atlanta, GA.
- Cisterna, D.**, Birt, J., Yeo, S., & Hanuscin, D. (2018, January). *Learning to notice and respond to elementary students' ideas: Lessons learned from the CoLABorative field model*. Paper presented at the Association for Science Teacher Education annual meeting. Baltimore, MD.
- Hanuscin, D., **Cisterna, D.**, Lipsitz, K., & Ehlert, M., (2018, January). *Within-school churn and the re-novicing of elementary teachers in science*. Paper presented at the Association for Science Teacher Education annual meeting. Baltimore, MD.
- Hanuscin, D., de Araujo, Z., **Cisterna, D.**, & Lipsitz, K., (2017, April). *Quality elementary science teaching (QuEST): A university-based elementary summer science camp*. In S. Wilson (Chair), Examining the Impacts of Practicum-Based Professional Development. Symposium presented at the American Educational Research Association annual meeting. San Antonio, TX.
- Cisterna, D.** & Delen, I. (2017, April). Learning About Teaching Practices. *The importance of providing support structures in science professional development*. Poster presented at the National Association of Research in Science Teaching annual meeting. San Antonio, TX.

- Hanuscin, D., **Cisterna, D.**, & Lipsitz, K., (2017, April). *Characterizing Elementary Teachers' Initial PCK for Teaching Structure and Properties of Matter*. In P. Friedrichsen (Chair), Teachers' PCK for Structure and Properties of Matter: Methodological and Practical Considerations. Symposium presented at the National Association of Research in Science Teaching annual meeting. San Antonio, TX.
- Murakami, C.D., **Cisterna, D.**, Siegel, M.A., Burcks, S.M., Muslu, N., & Cite, S. (2017, April). *Using reflective soft-systems methodology to describe next generation assessment research practices*. Paper presented at the National Association of Research in Science Teaching annual meeting, San Antonio, TX
- Cisterna, D.** & Hanuscin, D. (2017, March). *Using formative assessment and UDL: Strategies to support all students' learning of properties of matter*. Paper presented at the National Science Teachers Association annual meeting. Los Angeles, CA.
- Lipsitz, K., Hanuscin, D., & **Cisterna, D.** (2017, March). *Crafting conceptual storylines: Lessons in designing lessons*. Paper presented at the National Science Teachers Association annual meeting (ASTE/NSTA sponsored session). Los Angeles, CA.
- Cisterna, D.**, Hanuscin, D., Lipsitz, K., & Van Garderen, D. (2017, January). *Impacts of a practicum-based professional development model on teacher and student learning*. Paper presented at the Association for Science Teacher Education annual meeting. Des Moines, IA.
- Cisterna, D.** & Gotwals, A. W. (2016, April). *Exploring science teachers' practices about formative assessment*. Paper presented at the National Association of Science Teaching annual meeting. Baltimore, MD.
- Hanuscin, D., Gillstrom, K., Arnone, K. & **Cisterna, D.** (2016, January). *Developing coherent conceptual storylines: Two elementary challenges*. Paper presented at the Association for Science Teaching Education annual meeting. Reno, NV.
- Cisterna, D.** (2015, June). *Tensions (or how to overcome them) when newly implementing formative assessment practices in a system focused on summative assessment*. Paper accepted at the National Conference on Student Assessment. San Diego, CA.
- Kintz, T., Lane, J., **Cisterna, D.**, Gotwals, A. W. (2015, April). *Professional development at the local level: Necessary and sufficient conditions for critical collegiality*. Paper presented at the American Educational Research Association annual meeting. Chicago, IL.
- Cisterna, D.** & Gotwals, A. W. (2015, April) *Embedding formative assessment in classroom practice: Connections between professional development and high-school chemistry classrooms*. Paper presented at the National Association of Research in Science Teaching annual meeting. Chicago, IL.
- Cisterna, D.** & Gotwals A. W. (2015, April). *Tensions in the enactment of formative assessment: A case study in a high-school chemistry classroom*. Poster presented at the National Association of Research in Science Teaching annual meeting. Chicago, IL.
- Gotwals, A.W., Bennett, S. & **Cisterna, D.** (2015, March). *FAST formative assessment for science teachers*. Paper presented at the National Science Teachers Association annual meeting. Chicago, IL.
- Cisterna, D.** (2014, April) *Teachers' practices about chemical Reactions: Enacting classroom formative assessment*. Poster presented at the National Association of Research in Science Teaching annual meeting. Pittsburgh, PA.
- Merritt, J., Opperman, A., **Cisterna, D.**, Ibourk, D., & Williams, M. (2014, April). *Cross-grade findings: Patterns of students' knowledge integration related to genetics*. Paper presented at the National Association of Research in Science Teaching annual meeting. Pittsburgh, PA
- Cisterna, D.**, Williams, M., Ibourk, A. & Frahm, A. (2014, April). *Learning about genetics in elementary classrooms: A comparison study*. Paper presented at the National Association of Research in Science Teaching annual meeting. Pittsburgh, PA
- Frasier, A.M.S., Bennett, S. **Cisterna, D.**, & Gotwals, A. W. (2014, April). *Policy churn and the micro-level implementation of a statewide professional development*. Paper presented at the American Educational Research Association annual meeting. Philadelphia, PA.

- Gotwals, A., **Cisterna, D.**, & Ezzo, D. (2014, April). *FAST Formative assessment for science teachers*. Paper presented at the National Science Teachers Association annual meeting. Boston, MA.
- Gotwals, A.W., Roeber, E., Kintz, T., **Cisterna, D.**, Ezzo, D. (2013, April). *Observation protocols for the formative assessment for Michigan educators' project*. Paper presented at the American Educational Research Association annual meeting. San Francisco, CA.
- Cisterna, D.**, & Naseem, S. (2013, April). *Middle-school science curriculum in Chile and Pakistan: Addressing issues of equity and social justice*. Poster presented at the National Association of Research in Science Teaching annual meeting. Rio Grande, Puerto Rico.
- Cisterna, D.**, & Gotwals, A. W. (2013, April). *Learning about formative assessment: Science teachers' experiences in a community-based professional development*. Paper presented at the National Association of Research in Science Teaching annual meeting. Rio Grande, Puerto Rico.
- Williams, M. & **Cisterna, D.** (2013, April). *Designing genetics curriculum materials for fifth-graders: Learning about trait variation*. Paper presented at the National Association of Research in Science Teaching conference. Rio Grande, Puerto Rico.
- Cisterna D.** & Baustista-Guerra, J. (2012, April). *Defying the track and pursuing the journey: A comparison of vocational-education policies in Chile and Colombia*. Paper presented at the Comparative and International Education Society annual meeting. San Juan, Puerto Rico.
- Cisterna, D.**, Lane, J., Gotwals, A. W. & Roeber, E. (2012, April). *Teacher learning in a team-based environment: Overview of the FAME professional model*. Paper presented at the American Educational Research Association annual meeting. Vancouver, BC.
- Kintz, T., **Cisterna, D.**, Gotwals A. W., & Roeber, E. (2012, April). *Communities of practice: Improving learning and teaching*. Paper presented at American Educational Research Association annual meeting, Vancouver, BC.
- Zhan, L., **Cisterna, D.**, & Anderson, C.W. (2012, March). *Students' learning performance and its relation to teaching practice*. Paper presented at the National Association of Research in Science Teaching annual meeting. Indianapolis, IN
- Jin, H., Zhan, L., **Cisterna D.**, & Anderson, C. W. (2012, March). *Analyzing students learning performances in terms of practices for developing accounts*. Paper presented at the National Association of Research in Science Teaching annual meeting. Indianapolis, IN
- Cisterna, D.**, Gotwals, A. W. & Roeber, E. (2011, April). *Impact of FAME PD on the formative-assessment knowledge and classroom practices of learning team members and coaches*. Paper presented at the American Educational Research Association annual meeting, New Orleans, LA.
- Zhan, L., **Cisterna, D.**, Doherty, C., Draney, K., Lee, Y. & Anderson, C. W. (2011, March). *The effects of teaching materials and teachers' approaches on student learning about carbon-transforming processes*. Paper presented at the National Association of Research in Science Teaching annual meeting, Orlando, FL.
- Cisterna, D.** (2010, November). *Chilean evaluated teachers give their opinions about the national teacher evaluation system*. Paper presented at the American Evaluation Association annual meeting, San Antonio, TX.
- Cisterna, D.** (2007, August). *Teachers' valuations on the report given by the national teacher performance evaluation system*. Paper presented at the 2nd International Conference of Teacher-Function Evaluation. Temuco, Chile.

Regional, Local, Non-Peer-Refereed

- Cisterna, D.**, (2026, October). *Science instructional resources to support teachers in inclusive or special ed classrooms*. Paper to be presented at the New Jersey Science Convention. Princeton, NJ.
- Mikeska, J.N., Iribarra, D.T., & **Cisterna, D.** (2023, December). *Using a validated instrument to assess elementary teachers' content knowledge for teaching about matter and its interactions*. Virtual Event. NARST, National Association for Research in Science Teacher.

- Cisterna, D.**, Liu, L., & Asmundson, V. (2023, October). *An automated tool to support three-dimensional student feedback and instruction*. Paper presented at the California Science Education Conference. Palm Springs, CA.
- Liu, L., **Cisterna, D.**, Kinsey, D., Qi, Y., & Steimel, K. (2022, May). *AI-Supported Science Making of Science*. [Video presentation]. 2021 NSF STEM for All Video Showcase. <https://stemforall2022.videohall.com/presentations/2515>
- Cisterna, D** & Liu, L., (2021, October). *Integrating science competencies into science learning: Features of a climate change assessment task*. Paper presented at the New Jersey Science Teacher Convention. Princeton, NJ.
- Cisterna, D.**, Mikeska, J. N., Castellano, K., & Lentini, J. (2021, June). *Developing and Validating Assessments to Measure and Build Elementary Teachers' Content Knowledge for Teaching about Matter and Its Interactions within Teacher Education Settings*. Poster presented at the CADRE NSF DRK-12 PI Meeting. Virtual Conference.
- Liu, L. **Cisterna, D.**, Cahill, A., Kinsey, D., Qi, Y., & Johnson, M. (2021, May). *SPIN-NGSS: Student Reasoning Patterns in the NGSS Assessments*. [Video presentation]. 2021 NSF STEM for All Video Showcase. <https://stemforall2021.videohall.com/presentations/2043>
- Cisterna, D.**, & Liu, L. (2021, January). *Using NGSS-Aligned Assessments Across Science Disciplines: A Crosscutting Focus*. Paper presented at the 2020-21 New Jersey Science Teacher Convention.
- Liu, L. **Cisterna, D.**, Cahill, A., Kinsey, D., Qi, Y., & Johnson, M. (2021). *SPIN-NGSS: Student Reasoning Patterns in the NGSS Assessments*. [Video presentation]. 2021 NSF STEM Simulation for All Video Showcase. <https://stemforall2021.videohall.com/presentations/2043>
- Liu, L., Jin, H., & **Cisterna, D.**, (2021, January). *Learning Progressions in Science: Implications for Teaching, Learning, and Assessments*. Paper presented at the 2020-21 New Jersey Science Teacher Convention.
- Liu, L., **Cisterna, D.**, Cahill, A., & Johnson, M., (2020, December). *SPIN-NGSS: Student Reasoning Patterns in Next Generation Science Standards Assessment*. Poster presented at the CADRE NSF DRK-12 PI Meeting. Virtual Conference.
- Liu, L., Chen, S., **Cisterna, D.**, DeHont, R., & Jin, H. (2020). *Responsive Innovations in Assessment, Learning, and Teaching*. On-demand video at New Jersey Science Convention Virtual 2020. <https://vimeo.com/showcase/751101>
- Mikeska, J.N., Hanuscin, D., Borda, E., Hanley, D., Castellano, K., Cisterna, D., & Melton, J. (2020, May). *Developing tools to assess and build elementary pre-service teachers' content knowledge for teaching (CKT) about matter and its interactions*. [Video presentation] 2020 NSF STEM for All Video Showcase. <https://stemforall2020.videohall.com/presentations/1760>
- Cisterna, D.**, Ingram E., Kegley, M., Derowitsch, A., Bhattacharya, D., & Forbes, C. (2017, December) *Modeling Inheritance in Elementary Classrooms: Experiences from the UnICORN Curriculum*. Paper presented at the 2017 Nebraska K-12 Science Education Summit. Lincoln, NE.
- Liu, L., **Cisterna, D.**, Cahill, A., & Johnson, M., (2020, December). *SPIN-NGSS: Student Reasoning Patterns in Next Generation Science Standards Assessment*. Poster presented at the CADRE NSF DRK-12 PI Meeting. Virtual Conference.
- Ingram, E., Kegley, M., Derowitsch, A., Bhattacharya, D, Forbes, C. & **Cisterna, D.** (2017, September). *Using Corn as a Model Organism to Foster Elementary Students' Understanding of Core Concepts about Plant Life Cycle, Inheritance and Genetic Variation*. Paper presented at the Nebraska Association of Teachers of Science annual meeting. Kearney, NE.
- Siegel, M.A, Murakami, C., **Cisterna, D.**, Burcks, S. Muslu, N, & Cite, S. (2016, November). *Exploring the spectacle of a standardized teacher certification test in Missouri: Quality and consequences*. Poster presented at the Mizzou Ed Research Day. Columbia, MO.
- Hanuscin, D. & **Cisterna, D.** (2016, October). *Crafting Conceptual Storylines for Matter*. Paper presented at the Science Teachers Organization of Missouri Conference. Columbia, MO

- Cisterna, D.**, Hanuscin, D. & Weiss, D. (2016, June). *Practicum-based professional development models: considering impacts from multiple perspectives*. Paper presented at the CADRE NSF DRK-12 PI Meeting. Washington, DC.
- Cisterna, D.** & Hanuscin, D. (2016, January). *Formative Assessment and UDL (Universal Design for Learning)*. Paper presented at the Mizzou Council for Exceptional Children, Student Chapter Meeting. Columbia, MO.
- Philhower, J., Bennett, S., **Cisterna, D.**, & Gotwals, A. (2014, February). The Nature of Formative Assessment in Mathematics and Science Lessons. Poster presented at the annual CREATE for STEM MiniConference. East Lansing, MI.
- Gotwals, A. W., **Cisterna, D.** & Ezzo, D. (2013, May). *The Nature of Science Teachers' Learning about Formative Assessment in a Statewide Professional Development Program*. Poster presented at the annual CREATE for STEM MiniConference. East Lansing, MI.
- Williams, M., **Cisterna, D.**, Rucctinger, L., & Frahm, A. (2013, May). *Genetics Curriculum Materials for Fifth-Graders: Learning about Inheritance*. Poster presented at the annual CREATE for STEM MiniConference. East Lansing, MI.
- Williams, M., Merritt, J., Heck, T., & **Cisterna, D.** (2012, May). *Designing Innovative Genetics Curricula and Assessments for K-12 Education*. Poster presented at the annual CREATE for STEM MiniConference. East Lansing, MI.

GRANT ACTIVITY

- Co-Principal Investigator (07/2024 – 12/2024). Student Reasoning Patterns in Scientific Argumentation (Auto-SPIN-SA), Institute of Education Sciences. PI. Lei Liu, Co-PIs. Dante Cisterna, Yi Song, & Xiaoming Zhai. Total value of grant: \$1,999,682. <https://ies.ed.gov/use-work/awards/student-reasoning-patterns-science-spin-science>
- Co-Principal Investigator (07/2020 – 06/2022). Student Reasoning Patterns in Next Generation Science Standards Assessments. National Science Foundation EHR Core Research Program. PI. Lei Liu, Co-PIs. Dante Cisterna, Mathew Johnson, & Aioffe Cahill. Total value of grant: \$299,862. https://www.nsf.gov/awardsearch/show-award/?AWD_ID=2000492
- Principal Investigator (7/16-9/17). The CoLABorative Field Experience Model: Supporting Elementary Preservice Teachers in Mathematics and Science. Jump start program from the Re-STEM Institute, University of Missouri. Co-PIs: D. Hanuscin; Z. de Araujo; Z. Zhang. Total value of grant: \$7,423.

HONORS AND AWARDS

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| 2024 | ETS Spot Award for successful contributions to project accomplishments |
| 2024 | Selected to participate in the NSF funded conference "Culturally Sustaining Assessment". Philadelphia, PA, August 14-15. |
| 2015 | NARST International Travel Scholarship \$500. |
| 2014 | Dissertation Completion Fellowship, The Graduate School, Michigan State University, \$6,000. |
| 2013 | Clifford E. Erickson Memorial Scholarship, Michigan State University \$5,000. |
| 2013 | Sandra K. Abell Summer Research Institute for Doctoral Students in Science Education. |
| 2012 | Teacher Education Endowed Fellowship, College of Education, Michigan State University, \$3,500. |
| 2012 | International Travel Conference Funds, The Graduate School and Office of International Studies and Programs, Michigan State University \$700. |
| 2012 | Fellowship to Enhance Global Understanding. China Study Tour, Michigan State University and Southwest University (Chongqing, China). |
| 2010 | Summer Research Development Fellowship, Michigan State University, College of Education and The Graduate School, \$5,000. |
| 2009-13 | Chilean Government Fellowship for Graduate Studies. \$78,990. |
| 2002 | Facultad de Educación Honors Award, Pontificia Universidad Católica de Chile. |

- 2000 Scholarship for outstanding undergraduate students to pursue studies in education, Chilean Ministry of Education.
- 1995 Ruta Quetzal-Argentaria Fellowship. Program of student cultural exchange among Latin-American and European countries organized by the Spanish Ministry of Foreign Affairs and Cooperation and sponsored by UNESCO
- 1995 Ángel Faivovich Foundation Award, Santiago, Chile.

TALKS AND PRESENTATIONS

- Cisterna, D.** (2025, March). Exploring learning maps and practice progressions. Research Presentation to graduate students. College of Education, Texas Christian University.
- Mikeska, J., Castellano, K. E., **Cisterna, D.**, & Torres Iribarra, D. (2024, January). Putting research into the world: An example of translating a research instrument into a public tool. Turnbull Hall Lunch and Learn Series. Educational Testing Service.
- Cisterna, D.**, Kinsey, D., Yi, Q., & Liu, L. (2023, July). An automated annotation tool to provide feedback on student science reasoning patterns. Turnbull Hall Lunch and Learn Series. Educational Testing Service.
- Cisterna, D.**, Liu, L., O'Dwyer, E., & Baidoo-Anu, D. (2022, June). Sociocultural Considerations in Classroom Assessments: Implications for Assessment Design and Practitioners. Socioculturally Responsive Assessment Brown Bag Series. Educational Testing Service.
- Cisterna, D.** & Hanuscin, D. (2017, February). *Supporting Elementary Pre-service teachers in Science and Mathematics Partnerships*. Research presentation organized by the Re-STEM Institute. University of Missouri.
- Cisterna, D.** (2016, April). *Using Cultural-Historical Activity Theory (CHAT) to explain changes in teachers' science classroom practices*. Workshop presented at the Qualitative Research Consortium, College of Education, University of Missouri
- Cisterna, D.** (2015, November). *Developing Scientific Skills in the Science Classroom*. Workshop organized by the Panamanian National Service of Science and Technology (SENACYT), Panama City, Panama.
- Cisterna, D.** (2014, October). *Desarrollando prácticas de evaluación formativa en clases de química: Conexiones entre desarrollo profesional y práctica docente*. Third workshop for science teacher Education, Universidad Diego Portales, Santiago, Chile.
- Cisterna, D.** & Kintz, T. (2012, May). *Student engagement: Conceptual understanding and practical applications*. Southwest University School of Education. Chongqing, China.

UNIVERSITY TEACHING

- University of Missouri-Columbia (2016)
LTC 4280: Teaching Science in Elementary Schools (3cr.) Fs16
- Pontificia Universidad Católica de Chile (2006, 2014-2015)
EDU 179 Secondary Biology Teaching Methods I (8cr.) Ss15
EDU 199 Secondary Biology Teaching Methods II (8cr.) Fs14
EDU 207 Research Seminar in Education (3cr.) Fs14
EDU 336 Elementary Science Teaching Methods I (3cr.) Ss15
EDU 339 Elementary Science Teaching Methods III (3cr.) Fs15
FEL1300 Curriculum and Educational assessment (2cr.) Ss06
- Universidad Gabriela Mistral (Santiago, Chile)
Educational Assessment (3cr.) Ss09
- Universidad Católica Silva Henríquez (Santiago, Chile)
Assessment for Learning (3cr.) Fs07

CONSULTING

- 2018 Assessment design specifications' team member for the Open Science Education project.
- 2015-18 Evaluation of research grants and publications. Universidad Católica Silva Henríquez, Santiago, Chile.
- 2015 Professional development design and implementation for science teachers. Mirador Interactive Museum, Santiago, Chile.
- 2014 Workshop design for the Ecuadorian Ministry of Education about new trends in science education.
- 2006/08 Professional development and curriculum/assessment design. Eduinnova: Transformando la sala de clases, Santiago, Chile.
- 2004-07 Assessment construction for teacher assessment. Chilean National Teacher Performance Assessment System. Santiago, Chile.
- 2002-03 Test developer for SIMCE, Chilean student achievement and testing system. Santiago, Chile.

PROFESSIONAL MEMBERSHIPS

- National Association of Research in Science Teaching (NARST), 2010-present
- National Science Teachers Association (NSTA), 2015-present
- American Educational Research Association (AERA), 2011-2013 and 2017-present
- Association for Science Teacher Education (ASTE), 2016- present
- New Jersey Science Teachers Association (NJSTA), 2020- present
- Science Teachers of Missouri Association (STOM), 2015- 2017
- Nebraska Association of Teachers of Science (NATS), 2017-2018
- National Center for Faculty Development and Diversity, 2015-2016

EDITORIAL AND REVIEW WORK

Peer-refereed Journals

- Editorial Review Board member. *Science and Children* (2024-2028)
- Editorial Review Board member. *Journal of Science Teacher Education* (2017-2025)
- Ad Hoc Journal Manuscript Reviewer. *International Journal of Science Education* (2020, 2021, 2025)
- Ad Hoc Journal Manuscript Reviewer. *EURASIA Journal of Mathematics, Science and Technology Education* (2017-18)
- Ad Hoc Journal Manuscript Reviewer. *Journal of Teacher Education* (2017)
- Ad Hoc Journal Manuscript Reviewer. *Science Education* (2017, 2023)
- Ad Hoc Journal Manuscript Reviewer. *Journal of Research in Science Teaching* (2016, 2020, 2022)
- Ad Hoc Journal Manuscript Reviewer. *The Curriculum Journal* (2024)

Conference Proposal Reviewer

- NCME Artificial Intelligence in Measurement and Education Conference, AIME-Con (2026)
- Annual Meeting of the International Society of the Learning Sciences (2025, 2026)
- Annual Meeting of the National Association of Research in Science Teaching (2013-2024)
- Annual Meeting of the American Educational Research Association (2012, 2013, 2020)
- Annual Meeting of the National Council of Measurement in Education (2024)

Annual Meeting of the Association for Science Teacher Education (2017)

Annual Meeting of the National Science Teachers Association—ASTE-sponsored sessions (2017, 2018)

SERVICE

National

Review Panel member, NSF Division of Technology, Innovation and Partnerships (TIP) (2024)

Review Panel member, NSF Division of Education and Human Resources (EHR) (2017, 2019)

Professional Organizations

Publications Advisory Committee member. National Association of Research in Science Teaching – NARST (2020-2023). Co-chair, 2021-2022, Chair 2022-2023.

Professional Development Committee member. Association for Science Teacher Education – ASTE (2018-2021)

International Committee member. National Association of Research in Science Teaching – NARST (2016-2019)

Co-coordinator of Strand 4. Science Teaching-Middle and High School (Grades 5-12): Characteristics and Strategies. National Association of Research in Science Teaching – NARST (2014-2016)

At Educational Testing Service (ETS)

Member of the Institutional Review Board committee (2019-2024)

Mentor of ETS undergraduate (2022-2024) and graduate interns (2022-2024).

University Service

University of Missouri

2016 Steering Committee member, Mizzou Ed Camp

Pontificia Universidad Católica de Chile

2015 Coordinator, Biology teaching methods courses redesign, College of Education Teacher Preparation Program

2015 Coordinator, Elementary science program, College of Education Teacher Preparation Program

2014-2015 Member of Doctoral Committee, School of Education

Michigan State University

2012-2013 Student Representative at the Council of Graduate Students (MSU COGS). Michigan State University

2013 International Student Representative in “Bolder by Design”, MSU’s strategic framework design team

2012-2013 Student Representative in the Science Education Faculty Search Committee. Department of Teacher Education, Michigan State University

2012-2016 Member of Research Practicum Committees. Department of Teacher Education, Michigan State University

2012-2013 Graduate Mentor for students from Southwest University (China). Partnership between Michigan State University and Southwest University

2010-2013 Board member. MSU Latin-American Community. Michigan State University student organization

2012 Judge for conference presentations. MSU Graduate Academic Conference. MSU Council of Graduate Students (COGS)