

# GOLNAZ ARASTOOPOUR IRGENS

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## EDUCATION

- 2017                      UNIVERSITY OF WISCONSIN-MADISON  
                                    Ph.D. Educational Psychology // Learning Sciences  
                                    Minor: Curriculum & Instruction  
                                    School of Education
- 2012                      UNIVERSITY OF WISCONSIN-MADISON  
                                    M.S. Educational Psychology // Learning Sciences  
                                    School of Education
- 2008                      COLUMBIA UNIVERSITY  
                                    M.A. Mathematics Education // 7-12 Mathematics Certification  
                                    Teachers College
- 2007                      UNIVERSITY OF ILLINOIS URBANA-CHAMPAIGN  
                                    B.S. Mechanical Engineering // Materials Science // Minor: Spanish  
                                    College of Engineering

## ACADEMIC APPOINTMENTS

- 2019 – Present            CLEMSON UNIVERSITY  
                                    Assistant Professor of Learning Sciences  
                                    Department of Education and Human Development  
                                    College of Education
- 2017 – 2019              NORTHWESTERN UNIVERSITY  
                                    Post-Doctoral Scholar  
                                    Department of Learning Sciences  
                                    School of Education and Social Policy

## SPECIAL APPOINTMENTS

- 2023 – Present            CLEMSON UNIVERSITY  
                                    Learning Sciences Ph.D. Program Coordinator

**PUBLICATIONS**

\* indicates publications with undergraduate/graduate students

\*\* indicates publications that have won awards

**PEER-REVIEWED JOURNAL ARTICLES**

1. Adisa, I.O.\*, Abimbade, O.\*, Herro, D., & **Arastoopour Irgens, G.** (under review). Engaging Elementary Students in Data Science Practices.
2. Adisa, I.O.\*, **Arastoopour Irgens, G.**, Bailey, C.\*, & Thompson, I.\* (under review). “It can not only just predict your future; it can also change it”: A Case of Two Children Creating Machine Learning Applications through a Sociopolitical Lens.
3. **Arastoopour Irgens, G.**, Herro, D., Adisa, I.O.\*, Abimbade, O.\*, & Fisher, A. (2023). Bop or Flop?: Integrating Music and Data Science in an Elementary Classroom. *Journal of Experimental Education*. <https://doi.org/10.1080/00220973.2023.2201570>
4. **Arastoopour Irgens, G.**, Hirsch, S., Herro, D., & Madison, M. (2023). Analyzing a teacher and researcher co-design partnership through the lens of communities of practice. *Teaching and Teacher Education*. 121(Jan 23). <https://doi.org/10.1016/j.tate.2022.103952>
5. Herro, D., Madison, M., **Arastoopour Irgens, G.**, Hirsch, S., Abimbade, O.\* & Adisa, I.O.\* (2022). Exploring Elementary Teachers’ Perceptions of Data Science and Curriculum Design through Professional Development. *Journal of Technology and Teacher Education*. 30(4). <https://www.learntechlib.org/primary/p/220700/>
6. **Arastoopour Irgens, G.**, Adisa, I.O.\*, Bailey, C.\*, & Vega, H.\* (2022). Designing with and for Youth: A Participatory Design Research Approach for Critical Machine Learning Education. *Education, Technology, & Society*, 25(4), 126-141. [https://drive.google.com/file/d/1WjQ7V9Sx\\_FVkB9nexasAFoyPrdTxTLsvV/view?usp=drivesdk](https://drive.google.com/file/d/1WjQ7V9Sx_FVkB9nexasAFoyPrdTxTLsvV/view?usp=drivesdk)
7. **Arastoopour Irgens, G.**, Vega, H.\*, Adisa, I.O.\*, & Bailey, C.\* (2022). Characterizing Children’s Conceptual Knowledge and Computational Practices in a Critical Machine Learning Educational Program. *International Journal of Child-Computer Interaction*. 34(Dec 22), <https://doi.org/10.1016/j.ijcci.2022.100541>
8. Thompson, J.\* & **Arastoopour Irgens, G.** (2022). Data Detectives: A Data Science Course for Middle Grade Students. *Journal of Statistics and Data Science Education*, 30(1), 29-38. <https://www.tandfonline.com/doi/full/10.1080/26939169.2022.2034489>
9. **Arastoopour Irgens, G.** (2022). Using Knowledgeable Agents of the Digital and Data

Feminism to Uncover Social Identities in the #blackgirlmagic Twitter Community. *Learning, Media and Technology*, 47(1), 79-94.  
<https://doi.org/10.1080/17439884.2021.2018608>

10. **Arastoopour Irgens, G.** (2021). Connected Design Rationale: A Model for Measuring Design Learning Using Epistemic Network Analysis. *Instructional Science*, 49(4), 561-587. <https://doi.org/10.1007/s11251-021-09551-8>.
11. **Arastoopour Irgens, G.**, Dabholkar, S.\*, Bain, C.\*, Woods, P.\*, Hall, K., Swanson, H., Horn, M., & Wilensky, U. (2020). Modeling and Measuring Students' Computational Thinking Practices in Science. *Journal of Science Education and Technology*, 29(1), 137-161. <https://doi.org/10.1007/s10956-020-09811-1>.
12. Siebert-Evenstone, A.L., **Arastoopour Irgens, G.**, Collier, W., Swiecki, Z., Ruis, A.R., & Shaffer, D.W. (2017). In search of conversational grain size: Modelling semantic structure using moving stanza windows. *Journal of Learning Analytics*, 4(3), 123-139. <https://doi.org/10.18608/jla.2017.43.7>.
13. Markovetz, M.R., Sullivan, S., Clark, R.M., Swiecki Z., **Arastoopour Irgens, G.**, Chesler, N.C., Shaffer, D.W., & Bodnar, C.A. (2017). A Grounded Qualitative Analysis of the Effect of a Focus Group on Design Process in a Virtual Internship. *International Journal of Engineering Education*, 33(6), 1834-1831.
14. **Arastoopour Irgens, G.**, Chesler, N.C., Linderoth, J., & Shaffer, D.W. (2017). Data-enabled Cognitive Modeling: Validating student engineers' fuzzy design-based decision-making. *Computer Applications in Engineering Education*, 25(6), 1001-1017. <https://doi.org/10.1002/cae.21851>
15. Markovetz, M.R., Clark, R.M., Swiecki, Z., **Arastoopour, G.**, Chesler, N.C., Shaffer D.W., & Bodnar, C.A. (2017). Influence of End Customer Exposure on Product Design within an Epistemic Game Environment. *Advances in Engineering Education*, 6(2), 1-22.
16. **Arastoopour, G.**, Shaffer, D.W., Swiecki, Z., Ruis, A.R., & Chesler, N.C. (2016). Teaching and Assessing Engineering Design Thinking with Virtual Internships and Epistemic Network Analysis. *International Journal of Engineering Education*, 32(3), 1492-1501.
17. Chesler, N., Ruis, A.R., Collier, W., Swiecki, Z., **Arastoopour, G.**, & Shaffer, D. (2015). A Novel Paradigm for Engineering Education: Virtual internships with individualized mentoring and assessment of engineering thinking. *Journal of Biomechanical Engineering*, 137(2). <https://doi.org/10.1115/1.4029235>
18. **Arastoopour, G.**, Chesler, N.C., & Shaffer, D.W. (2014). Epistemic Persistence: A Simulation-Based Approach to Retaining Women in Engineering. *Journal of Women*

*and Minorities in Science and Engineering*, 20(3), 211-234.  
<https://doi.org/10.1615/JWomenMinorScienEng.2014007317>

19. Chesler, N.C., **Arastoopour, G.**, D'Angelo, C.M., Bagley, E.A., & Shaffer, D.W. (2013). Design of a Professional Practice Simulator for Educating and Motivating First-Year Engineering Students. *Advances in Engineering Education*, 3(3), 1-29.

#### PEER-REVIEWED BOOK CHAPTERS

1. Reigh, E., **Arastoopour Irgens, G.**, McBride, C., Quiterio, A., & Wilkerson, M.H. (under review). Critical Data Literacies. In *Bloomsbury Encyclopedia of Social Justice in Education*. Language, Literacy, Youth and Culture.
2. **\*\*Arastoopour Irgens, G.** (2020). Facilitating a Sense of Belonging for Women of Color in Engineering: The Case for Virtual Internships. In Roscoe, R.D., Chiou, E.K., & Wooldridge, A.R. (Eds.), *Advancing Diversity, Inclusion, and Social Justice through Human Systems Engineering*. Boca Raton, FL: CRC Press.

*\*\*Winner of the "Outstanding Academic Title" recognition by Choice for the [2020 OAT Awards in the Diversity, Equity, and Inclusion Category](#).*

#### PEER-REVIEWED CONFERENCE PUBLICATIONS

1. Adisa, I.O.\*, Thompson, I.\*, Famaye, T.\*, Sistla, D.\*, Bailey, C.\*, Mulholland, K.\*, Fecher, A.\*, Lancaster, C.\*, & **Arastoopour Irgens, G.** (2023). S.P.O.T: A Game-Based Application for Fostering Critical ML Literacy Among Children. *Proceedings of the International Design for Children Conference (IDC) 2023*.
2. **Arastoopour Irgens, G.** & Herro, D. (2023). GROOVA: A Data Visualization Tool for Elementary School Students Co-Designed by Teachers and Researchers. *Proceedings of the 17th International Society of the Learning Sciences Conference (ISLS) 2023*.
3. Famaye, T.\*, Bailey, C.\*, Adisa, I.O.\*, & **Arastoopour Irgens, G.** (2023). The Design of a Critical Machine Learning Program for Young Learners. *Proceedings of the 17th International Society of the Learning Sciences Conference (ISLS) 2023*.
4. Vega, H., **Arastoopour Irgens, G.**, Famaye, T.\*, Adisa, I.O.\*, Lancaster, C.\* (2023). Connect: A Tool for Collaborative Interview Data Analysis. *Proceedings of the 17th International Society of the Learning Sciences Conference (ISLS) 2023*.
5. **Arastoopour Irgens, G.** & Eagan, B. (2022). Fundamentals and Foundations of Quantitative Ethnography. *Fourth International Conference, ICQE 2021*. Copenhagen, Denmark; International Society for Quantitative Ethnography.

6. Vega Quesada, H.\* & **Arastoopour Irgens, G.** (2021). Constructing Interpretations with Participants through Epistemic Network Analysis: Towards Participatory Approaches in Quantitative Ethnography. *Third International Conference, ICQE 2021*. Malibu, CA: International Society for Quantitative Ethnography.
7. **\*\*Adisa, I.O.\* & Arastoopour Irgens, G.** (2021). Whose Report? The Biases of Nigerian #EndSARS Protest Media Coverage. *Third International Conference, ICQE 2021*. Malibu, CA: International Society for Quantitative Ethnography.

**\*\*ICQE Best poster paper award**

8. Abimbade, O.\* & **Arastoopour Irgens, G.** (2021). Using Quantitative Ethnography to Understand Betsy DeVos's Relationship with The Press. *Third International Conference, ICQE 2021*. Malibu, CA: International Society for Quantitative Ethnography.
9. Bufford, S.\* & **Arastoopour Irgens, G.** (2021). Perpetuating the Cycle: The Difficulty of Talking about Equity in Mathematics Education. *Third International Conference, ICQE 2021*. Malibu, CA: International Society for Quantitative Ethnography.
10. Vega, H.\* & **Arastoopour Irgens, G.** (2021). Examining Teacher Reflection in a Multimodal Composition about Identity. In de Vries, E., Hod, Y., & Ahn, J. (Eds.), *Proceedings of the 15th International Conference of the Learning Sciences (ICLS) 2021*. (pp. 1117-1118). Bochum, Germany: International Society of the Learning Sciences.
11. Vega, H.\*, **Arastoopour Irgens, G.**, & Bailey, C.\* (2021). Negotiating Tensions: A Study of Pre-Service English as Foreign Language Teachers' Sense of Identity within their Community of Practice. In A.R. Ruis and S.B. Lee (Eds.), *Second International Conference, ICQE 2020*, (pp. 277 - 291). Malibu, CA: International Society for Quantitative Ethnography.
12. Kaliisa, R.\*, Misiejuk, K.\*, **Arastoopour Irgens, G.**, & Misfeldt, M. (2021). Scoping the Emerging Field of Quantitative Ethnography: Opportunities, Challenges & Future Directions. In A.R. Ruis and S.B. Lee (Eds.), *Second International Conference, ICQE 2020*, (pp. 3 - 17). Malibu, CA: International Society for Quantitative Ethnography.
13. **Arastoopour Irgens G.** & Thompson, J.\* (2020). "Would You Rather Have it be Accurate or Diverse?" How Male Middle-School Students Make Sense of Algorithm Bias and Racial/Gender Discrimination. In M. Gresalfi and I.S. Horn (Eds.), *The Interdisciplinarity of the Learning Sciences, 14th International Conference of the Learning Sciences (ICLS) 2020, Volume 2*. (pp. 751 - 752). Nashville, Tennessee: International Society of the Learning Sciences.
14. Vega, H.\* & **Arastoopour Irgens, G.** (2020). Identity Negotiation of Pre-service

- Teachers of English as a Foreign Language. In M. Gresalfi and I.S. Horn (Eds.), *The Interdisciplinarity of the Learning Sciences, 14th International Conference of the Learning Sciences (ICLS) 2020, Volume 4.* (pp. 1990 - 1997). Nashville, Tennessee: International Society of the Learning Sciences.
15. Dabholkar, S.\*, **Arastoopour Irgens, G.**, Horn, M., & Wilensky, U. (2020). Students' Epistemic Connections Between Science Inquiry Practices and Disciplinary Ideas in a Computational Science Unit. In M. Gresalfi and I.S. Horn (Eds.), *The Interdisciplinarity of the Learning Sciences, 14th International Conference of the Learning Sciences (ICLS) 2020, Volume 2.* (pp. 1141 - 1148). Nashville, Tennessee: International Society of the Learning Sciences.
  16. Swanson, H., **Arastoopour Irgens, G.**, Bain, C.\*, Hall, K., Woods, P.\*, Rogge, C.\*, Horn, M., Wilensky, U. (2018). Characterizing Computational Thinking in High School Science. In Kay, J. & Luckin, R. (Eds.), *Rethinking Learning in the Digital Age. Making the Learning Sciences Count: Proceedings of the 13th International Conference of the Learning Sciences Volume 2* (pp. 871-878). London, UK.
  17. Eagan, B. R., Rogers, B., Serlin, R., Ruis, A. R., **Arastoopour Irgens, G.**, Shaffer, D. W. (2017). Can We Rely on IRR? Testing the assumptions of inter-rater reliability. In Smith, B., Borge, M., Mercier, E., & Lim, K.Y. (Eds.), *Making a Difference: Prioritizing Equity and Access in CSCL: Proceedings of the 12th International Conference on Computer Supported Collaborative Learning Volume 1* (pp. 529 – 532). Philadelphia, PA.
  18. Eagan, B., Collier, W., **Arastoopour, G.**, Ruis, A., Evenstone, A., Swiecki, Z., & Shaffer, D.W. (2016) *Quantitative Ethnography*. In Learning Sciences Graduate Student Conference Proceedings, Chicago, IL.
  19. Siebert-Evenstone, A.L., **Arastoopour, G.**, & Shaffer, D.W. (2016). *The effects of local versus non-local place-based learning in virtual environmental education*. In Learning Sciences Graduate Student Conference Proceedings, Chicago, IL.
  20. **Arastoopour, G.** & Shaffer, D.W. (2016). *Connected Design Rationale: Measuring and Modeling Design Learning*. In Learning Sciences Graduate Student Conference Proceedings, Chicago, IL.
  21. \*\*Siebert-Evenstone, A.L., **Arastoopour, G.**, Collier, W., Swiecki, Z., Ruis, A.R., & Shaffer, D.W. (2016). In Search of Conversational Grain Size: Modeling Semantic Structure using Moving Stanza Windows. In Looi, C. K., Polman, J. L., Cress, U., and Reimann, P. (Eds.), *Transforming Learning, Empowering Learners: The International Conference of the Learning Sciences (ICLS) 2016, Volume 1* (pp. 631 – 638). Singapore.

*\*\*ICLS Best student paper nominee*

22. **Arastoopour, G.**, & Shaffer, D. W. (2015). Epistemography and Professional CSCL Environment Design. In Lindwall, O., Häkkinen, P., Koschman, T. Tchounikine, P. & Ludvigsen, S. (Eds.) Exploring the Material Conditions of Learning: The Computer Supported Collaborative Learning (CSCL) Conference 2015, Volume 1 (pp. 204 - 211) Gothenburg, Sweden.
23. Knight, S., **Arastoopour, G.**, Shaffer, D. W., Shum, S. B., & Littleton, K. (2014). Epistemic networks for epistemic commitments. In Polman, J. L., Kyza, E. A., O'Neill, D. K., Tabak, I., Penuel, W. R., Jurow, A. S., O'Connor, K., Lee, T., and D'Amico, Learning and becoming in practice: The International Conference of the Learning Sciences (ICLS) 2014, Volume 1 (pp. 150 – 157). Boulder, CO
24. **Arastoopour, G.**, Chesler, N.C., & Shaffer, D.W. (2013). *A Simulation-Based Approach for Increasing Women in Engineering*. In Rummel, N., Kapur, M., Nathan, M., & Puntambekar, S. (Eds.), To See the World and a Grain of Sand: Learning across Levels of Space, Time, and Scale: CSCL 2013 Conference Proceedings Volume 1 (pp. 217 – 218). Madison, WI.
25. **Arastoopour, G.**, & Shaffer, D.W. (2013). Measuring Social Identity Development in Epistemic Games. In Rummel, N., Kapur, M., Naohan, M., & Puntambekar, S. (Eds.), To See the World and a Grain of Sand: Learning across Levels of Space, Time, and Scale: CSCL 2013 Conference Proceedings Volume 1 (pp. 42 – 48). Madison, WI.
26. D'Angelo, C.M., **Arastoopour, G.**, Chesler, N.C., & Shaffer D.W. (2011). *Collaborating in a Virtual Engineering Internship*. In Spada, H., Stahl, G., Miyake, N., Law, N. (Eds.), Connecting Computer-Supported Collaborative Learning to Policy and Practice: CSCL 2011 Conference Proceedings Volume I. Hong Kong, SAR. (pp. 626 – 630).

## PEER-REVIEWED CONFERENCE PRESENTATIONS

1. **Arastoopour Irgens, G.**, Herro, D., Adisa, I.O.\*, Abimbade, O.\*, & Fisher, A. “A Teacher Case Study on Integrating Music and Data Storytelling for Elementary School Students.” Paper presented at the 2023 annual meeting of the American Educational Research Association. Chicago, IL.
2. Bailey, C.\*, **Arastoopour Irgens, G.**, Famaye, T.\*, & Mulholland, K.\* “Using Iterative Participatory Design to Develop a Machine Learning Bias Program with Youth for Youth.” Paper presented at the 2023 annual meeting of the American Educational Research Association. Chicago, IL.
3. Herro, D., Abimbade, O.\*, Adisa, I.O.\*, **Arastoopour Irgens, G.**, Hirsch, S., & Madison, M. “Supporting Elementary Students Data Science Literacies through

- Interest-based Learning Activities.” Paper presented at the 2023 annual meeting of the American Educational Research Association. Chicago, IL.
4. Peel, A., & **Arastoopour Irgens, G.** (2022). “Scaffolding Secondary Students’ Natural Selection Transfer Through Computational Thinking.” Poster presented at the 2022 annual meeting of the American Educational Research Association. San Diego, CA.
  5. Bufford, S.\*, **Arastoopour Irgens, G.**, & Voigt, M. (2022, January) “Perpetuating the Cycle: The Difficulty of Talking about Equity in Mathematics Education.” Poster presented at the 2022 Southeastern STEM Education Research Conference. Murfreesboro, TN.
  6. Bailey, C. S.\*, Adisa, I.\*, Vega, H.\*, & **Arastoopour Irgens, G.** (2021, May). “Cognitive, Affective, and Politicized Trust in a Community Youth Program: A Participatory Design Research Project.” Poster presented at the 2021 RESPECT Virtual Conference.
  7. **Arastoopour Irgens, G.**, Dabholkar, S.\*, Chandra, S.\*, Horn, M., & Wilensky, U. (2019). *Classifying Emergent Student Learning in a High School Computational Chemistry Unit*. Paper presented at the 2019 annual meeting of the American Educational Research Association. Toronto, CA.
  8. Kulhanek, A. J., & Markovetz, M. R., & **Arastoopour Irgens, G.**, & Swiecki, Z. L., & Chesler, N. C., & Shaffer, D. W., & Bodnar, C. A. (2017, June), *Assessing the Effectiveness of Shah's Innovation Metrics for Measuring Innovative Design within a Virtual Design Space*. Paper presented at 2017 ASEE Annual Conference & Exposition, Columbus, Ohio. <https://peer.asee.org/27624>
  9. Quardokus Fisher, K., Hirshfield, L., Siebert-Evenstone, A., **Arastoopour Irgens, G.**, & Koretsky, M. (2016, June), *Network Analysis of Interactions between Students and an Instructor during Design Meetings*. Paper presented at 2016 ASEE Annual Conference & Exposition, New Orleans, Louisiana. 10.18260/p.25782
  10. Markovetz, M. R., Clark, R. M., **Arastoopour Irgens, G.**, & Swiecki, Z. L., & Shaffer, D. W., & Chesler, N. C., & Bodnar, C. A. (2016, June), *Innovative Design within the Context of Virtual Internships: How Can It Be Defined and How is It Related to the Student Design Process?* Paper presented at 2016 ASEE Annual Conference & Exposition, New Orleans, Louisiana. 10.18260/p.25721
  11. **Arastoopour, G.**, & Shaffer, D. W., & Chesler, N. C., & Collier, W., & Linderoth, J. (2015, June), *Measuring the Complexity of Simulated Engineering Design Problems*. Paper presented at 2015 ASEE Annual Conference & Exposition, Seattle, Washington. 10.18260/p.24477
  12. **Arastoopour, G.**, Chesler, N. C., Shaffer, D. W., & Swiecki, Z. (2015, June), *Epistemic Network Analysis as a Tool for Engineering Design Assessment*. Paper



presented at 2015 ASEE Annual Conference & Exposition, Seattle, Washington.  
10.18260/p.24016

13. **Arastoopour, G.**, Chesler, N.C., D'Angelo, C.M., Opgenorth, J.W., Reardan, C.B., Haggerty N.P., Lepak, C.G., & Shaffer, D.W. (2013). *Epistemic Persistence: A Simulation-Based Approach for Increasing Women in Engineering*. Paper presented at the 2013 annual meeting of the American Educational Research Association. San Francisco, CA.
14. **Arastoopour, G.**, Chesler, N. C., D'Angelo, C. M., Shaffer, D. W., Opgenorth, J. W., Reardan, C. B., Haggerty, N. P., & Lepak, C. G. (2012, June), *Nephrotex: Measuring First-year Students' Ways of Professional Thinking in a Virtual Internship*. Paper presented at 2012 ASEE Annual Conference & Exposition, San Antonio, Texas. <https://peer.asee.org/21728>.
15. Chesler, N. C., D'Angelo, C. M., **Arastoopour, G.**, & Shaffer, D. W. (2011, June), *Use of a Professional Practice Simulation in a First-Year Introduction to Engineering Course*. Paper presented at 2011 ASEE Annual Conference & Exposition, Vancouver, BC. <https://peer.asee.org/18694>.
16. D'Angelo, C. M., Chesler, N. C., Shaffer, D. W., & **Arastoopour, G.** (2011, June), *Undergraduate Engineers Engaging and Reflecting in a Professional Practice Simulation*. Paper presented at 2011 ASEE Annual Conference & Exposition, Vancouver, BC.

#### PEER-REVIEWED WORKSHOPS AND SYMPOSIA

1. Tan, Y. & **Arastoopour Irgens, G.** (2021). Introduction to Epistemic Network Analysis (ENA). [Third International Conference, ICQE 2021](#). Malibu, CA: International Society for Quantitative Ethnography.
2. Buckingham Shum, S., **Arastoopour Irgens, G.**, Moots, H., Phillips, M., Shah, M., Vega Quesada, H.\*, & Wooldridge, A. (2021). Participatory Quantitative Ethnography. Third International Conference, ICQE 2021. Malibu, CA: International Society for Quantitative Ethnography.
3. **Arastoopour Irgens, G.**, Knight, S., & Wise, A. (2020). Data Literacies and Social Justice: Exploring Critical Data Literacies through Sociocultural Perspectives. In M. Gresalfi and I.S. Horn (Eds.), *The Interdisciplinarity of the Learning Sciences, 14th International Conference of the Learning Sciences (ICLS) 2020, Volume 1*. (pp. 406 - 413). Nashville, Tennessee: International Society of the Learning Sciences.
4. **Arastoopour Irgens, G.**, Hall, K., Dabholkar, S.\*, & Aslan, U.\* (2018). *CT-STEM: Integrating Computational Thinking into Science Curriculum*. Northwestern University 2018 STEM Summit. Evanston, IL.

5. Eagan, B., Swiecki, Z., **Arastoopour, G.**, & Shaffer, D.W. (2016). *Epistemic Network Analysis (ENA) Workshop*. In Learning Sciences Graduate Student Conference Proceedings, Chicago, IL.
6. **Arastoopour, G.** & Swiecki, Z. (2015). *Student-Centered & Simulation-Based Learning*. Teaching Improvement Program (TIP), UW-Madison School of Engineering. Madison, WI.
7. **Arastoopour, G.**, Knight, S., Shum, S.B., Shaffer, D.W., Collier, W., Wise, A.F., & Kirshner, P.A. (2014). *Analytics for Learning and Becoming in Practice*. In Polman, J. L., Kyza, E. A., O'Neill, D. K., Tabak, I., Penuel, W. R., Jurow, A. S., O'Connor, K., Lee, T., and D'Amico, Learning and becoming in practice: The International Conference of the Learning Sciences (ICLS) 2014, Volume 3 (pp. 1680 – 1683). Boulder, CO
8. Collier, W., Shaffer, D.W., Orrill, C., & **Arastoopour, G.**, (2014). *Tutorial on Epistemic Network Analysis*. Learning Analytics and Knowledge Proceedings, Indianapolis, IN.
9. Shaffer, D.W., Orrill, C., & **Arastoopour, G.** (2013). *Measuring Collaborative Thinking Using Epistemic Network Analysis*. In Rummel, N., Kapur, M., Nathan, M., & Puntambekar, S. (Eds.), *To See the World and a Grain of Sand: Learning across Levels of Space, Time, and Scale: CSCL 2013 Conference Proceedings Volume 2* (pp. 456 - 459), Madison, WI.

## SOFTWARE

1. **Arastoopour Irgens, G.** (2022). GROOVA. (Version 1.0).
2. Swiecki, Z., Marquart, C., West, D., Dumas, V., Tessman, M., **Arastoopour, G.**, & Shaffer, D. W. (2015). VIA: Virtual Internship Authoring tool (Version 1.0).
3. Borden, F., Collier, W., Marquart, C., **Arastoopour, G.**, Srinivasan, A., & Shaffer, D. W. (2014). Epistemic Network Analysis Webkit (Version 1.0).
4. Marquart, C., Dumas, V., Hatfield, D., Swiecki, Z., West, D., **Arastoopour, G.**, & Shaffer, D. W. (2013). WorkPro: A platform for hosting virtual internships (Version 2.0).
5. **Arastoopour, G.**, Tetrick, D. E., Kinley, H., & Shaffer, D. W. (2011). Rescushell: An engineering Virtual Internship (Version 1.0).

## ARASTOPOUR IRGENS

6. Bagley, E. A., Chesler, N., Hatfield, D., West, D., Brekenfeld, E., **Arastoopour, G.**, & Shaffer, D. W. (2010). Nephrotex: An engineering Virtual Internship (Version 1.0).
7. Hatfield, D., Bagley, E. A., **Arastoopour, G.**, & Shaffer, D. W. (2010). WorkPro: A platform for hosting virtual internships (Version 1.0).

## OTHER PUBLICATIONS

1. **Arastoopour Irgens, G.** (2017). *Connected design rationale: Modeling and measuring engineering design learning*. (Unpublished doctoral dissertation). University of Wisconsin-Madison. Madison, WI, USA.
2. Shaffer, D.W., Borden, F., Srinivasan, A., Saucerman, J., **Arastoopour, G.**, Collier, W., Ruis, A.R., & Frank, K.A. (2015). *The nCoder: A technique for improving the utility of inter-rater reliability statistics*. Epistemic Games Group Working Paper 2015-01. University of Wisconsin–Madison.
3. Saucerman, J. & **Arastoopour, G.** (2015). Guest Editor Preface: Special Issue on Epistemological Games. *International Journal of Gaming and Computer-Mediated Simulations*, 7(2), v-ix.
4. Shaffer, D. W., & **Arastoopour, G.** (2014). Guide to RSdata.csv sample ENA data set.
5. Chesler, N.C., **Arastoopour, G.**, D'Angelo, C., Bagley, E.A., Shaffer, D.W. (2013). Boost Their Game. *ASEE Prism*. 23(2), 53-53.

## OTHER PRESENTATIONS

1. **Arastoopour Irgens, G.** *Designing Critical Machine Learning Educational Programs with and for Children*. 2022 Clemson University Research Symposium. Clemson, SC.
2. Herro, D., Hirsch, S., & **Arastoopour Irgens, G.** *Pathways for their Futures: Engaging Rural Elementary Students in Authentic Data Science Practices*. 2022 Clemson University Research Symposium. Clemson, SC.
3. Howell, E., Wagner, R., & **Arastoopour Irgens, G.** *College of Education: Future of schooling*. 2022 Clemson University Research Symposium. Clemson, SC.
4. **Arastoopour Irgens, G.** *Critical Data Literacies*. 2021 Clemson University Research Symposium. Clemson, SC.
5. Herro, D., Hirsch, S. & **Arastoopour Irgens, G.** *Computational Thinking-STEM Pop-Ups for All: A Research-Practice Partnership for Agile Learning in Elementary*

*Schools*. 2021 Clemson University Research Symposium. Clemson, SC.

6. **Arastoopour Irgens, G.**, Shah, M., Espino, D., & Misiejuk, K.\* *Women in QE*. Panel. International Conference on Quantitative Ethnography 21. October 2021.

## INVITED TALKS

1. Invited Talk. (April 2023). *AI in K-12 Education*. Tigersphere: AI for Social Good. Office of Research Development. Clemson University. Clemson, SC.
2. Invited Keynote Talk. (February 2023). *Reimagining Educational Research: Conducting Research With and For All Stakeholders*. Clemson University. College of Education Graduate Student Research Conference. Clemson, SC.
3. Invited Talk. (March 2022). *Co-designing a critical machine learning educational program with and for children*. Northwestern University. CCL and TIDAL Labs. Evanston, IL.
4. Invited Talk. (March 2022). *Co-designing a critical machine learning educational program with and for children*. University of Wisconsin. Epistemic Analytics Lab. Madison, WI.
5. Invited Talk. (February 2022). *Co-designing a critical machine learning educational program with and for children*. GVU Center Brown Bag Series. Georgia Institute of Technology. Atlanta, GA.  
<https://www.gvu.gatech.edu/event/brown-bag-archive/co-designing-critical-machine-learning-educational-program-and-children>
6. Invited Talk. (February 2021). *Using participatory design to examine critical data literacies in informal spaces*. School of Education REAL Lunch Series. Clemson University. Clemson, SC.
7. Invited Talk. (February 2021). *Learning Analytics Program: Faculty Spotlight with Dr. Golnaz Arastoopour Irgens*. Master's in Learning Analytics Webinar Series. University of Wisconsin. Madison, WI.  
[https://mediaspace.wisc.edu/media/Master+of+Science+in+Educational+Psychology+A+Learning+Analytics+-+Faculty+Spotlight+with+Dr.+Golnaz+Arastoopour+Irgens/1\\_plfxrcjt](https://mediaspace.wisc.edu/media/Master+of+Science+in+Educational+Psychology+A+Learning+Analytics+-+Faculty+Spotlight+with+Dr.+Golnaz+Arastoopour+Irgens/1_plfxrcjt)
8. Invited Talk. (August 2020). *Using quantitative ethnography to tell stories that*

*have not been told before.* International Society for Quantitative Ethnography Webinar Series. <http://qesoc.org/webinar-archives/#webinar-4>.

9. Invited Keynote Talk. (October 2019). *Quantitative Ethnography Across Domains: Where we are and where we are going.* International Conference for Quantitative Ethnography. University of Wisconsin. Madison, WI.  
[https://mediaspace.wisc.edu/media/1\\_wc2vypki](https://mediaspace.wisc.edu/media/1_wc2vypki)
10. Invited Talk. (March 2019). *Integrating Computational Thinking in STEM Classrooms.* National Initiative for Cybersecurity Education (NICE) Webinar Series. National Institute of Standards and Technology.  
<https://www.nist.gov/news-events/events/2019/03/nice-webinar-computational-thinking-and-skills-foundation-stem-and>
11. Invited Talk. (March 2018). *Integrating Computational Thinking into the Science Classroom.* Learning Sciences Research Showcase. Northwestern University. Evanston, IL.

## GRANTS

Total: \$2,856,320

- |             |   |
|-------------|---|
| 2023 - 2028 | <i>CAREER: CritComp Pop-ups: Co-designing critical machine learning educational programs with and for elementary school students.</i> <b>Golnaz Arastoopour Irgens, PI.</b> National Science Foundation. (NSF) \$1,473,336.   |
| 2023        | <i>Fifth International Conference on Quantitative Ethnography (ICQE23).</i> <b>Golnaz Arastoopour Irgens, PI.</b> National Science Foundation. (NSF). \$50,000.   |
| 2022        | <i>Project SUNDAYS: Engaging Rural African American Religious and Spiritual Leaders on Advance Care Planning.</i> Tracy Fasolino, PI, John Coggeshall, Co-PI, Michelle Smith Co-PI, Janice Lanham, Co-PI, Lori Pindar, Co-PI, Eunice Lehmacher, Co-PI, William McCoy, Co-PI, <b>Arastoopour Irgens, Golnaz, Co-PI.</b> Rita and Alex Hillman Foundation (RAHF). \$48,410. |
| 2021 - 2022 | <i>Using Participatory Design to Design a Critical Machine Learning Educational Program with and for Children.</i> <b>Golnaz Arastoopour Irgens, PI.</b> Clemson College of Education Associate Dean of Research (ADR) Grant. \$12,912.   |

## ARASTOPOUR IRGENS

- 2020 - 2024 *CT-STEM Pop-Ups4All: An RPP for Agile Learning*. Danielle Herro, PI, **Golnaz Arastoopour Irgens, Co-PI**, Shanna Hirsch, Co-PI, Matthew Madison, Co-PI. National Science Foundation (NSF). \$948,551.
- 2020 - 2023 *BCSER: Modeling and measuring critical data literacies in informal learning environments*. **Golnaz Arastoopour Irgens, PI**. National Science Foundation (NSF). \$314,271.
- 2019 - 2020 *Inclusive Computational Education and Design (ICED)*. **Golnaz Arastoopour Irgens, PI**. Clemson College of Education Associate Dean of Research (ADR) Grant. \$8,840.
- 2018 *Integrating Computational Thinking in High School Science and Mathematics*. **Golnaz Arastoopour Irgens, PI**. Northwestern University Office of Undergraduate Research. \$3,500.

## AWARDS

- 2023 Clemson College of Education Junior Researcher of the Year
- 2023 Clemson College of Education Grant Fellow
- 2021 ICQE 21 Best Poster Paper Award
- 2020 Outstanding Academic Title Winner by Choice in the Diversity, Equity, and Inclusion Category
- 2018, 2019 Northwestern Post-Doctoral Travel Award
- 2017 Honorable Mention for UW Peer Mentor Award
- 2017 Mellon-Wisconsin Dissertation Writing Program Awardee
- 2016 ICLS Best Student Paper Nominee
- 2016 UW-Madison Student Research Travel Grant
- 2011 UW-Madison Doctoral Research Program Fellowship
- 2007 Columbia University Mathematics Education Department Scholarship

## TEACHING

- 2019 – Present CLEMSON UNIVERSITY
- Quantitative Ethnography // Graduate
  - Design of Digital Learning Environments // Graduate
  - Qualitative Research // Graduate
  - Theoretical Bases of Instruction // Graduate
  - Foundations of Digital Media and Learning // Undergraduate

## ARASTOPOUR IRGENS

2015, 2017	UNIVERSITY OF WISCONSIN-MADISON How People Learn // Undergraduate
2009 – 2010	AURORA UNIVERSITY Technology in the Mathematics Classroom // Graduate
2008 – 2010	ORR ACADEMY HIGH SCHOOL Algebra // Grade 9 Geometry // Grade 10 Service Learning // Grade 12
2005 – 2007	CAMPUS MIDDLE SCHOOL FOR GIRLS Computer Science // Grade 7

**STUDENT SUPERVISION**

## PHD COMMITTEE CHAIR

Hazel Vega Quesada, Learning Sciences, Clemson University  
 Cinamon Bailey, Learning Sciences, Clemson University  
 Ibrahim Oluwajoba Adisa, Learning Sciences, Clemson University  
 Katherine Mulholland, Learning Sciences, Clemson University

## PHD COMMITTEE MEMBER

Abby Baker, Learning Sciences, Clemson University  
 Anne Marie Rogers, Education Systems Improvement Science, Clemson University  
 JaCoya Thompson, Computer Science, Northwestern University  
 Keri Crist-Wagner, Learning Sciences, Clemson University  
 Oluwadara Abimbade, Learning Sciences, Clemson University  
 Sandy Phillips-Long, Healthcare Genetics, Clemson University  
 Penny Edwards, Learning Sciences, Clemson University  
 Jennifer Goyea, Teaching and Learning, Clemson University  
 Jennifer Kornell, Teaching and Learning, Clemson University  
 Mya Kelley, Special Education, Clemson University  
 Alex Denison, Learning Sciences, Clemson University  
 Jennifer Bateman, Teaching and Learning, Clemson University  
 Randi Sims, Engineering and Science Education, Clemson University  
 Laura Roach, Teaching and Learning, Clemson University  
 Caitlin Lancaster, Human Centered Computing, Clemson Uni

ARASTOOPOUR IRGENS

MASTER'S THESIS COMMITTEE MEMBER

Lauren Toler, Graphic Communications, Clemson University

**PROFESSIONAL AFFILIATIONS**

International Society of the Learning Sciences (ISLS)  
 International Society for Quantitative Ethnography (ISQE)  
 American Education Research Association (AERA)  
 Society of Learning Analytics Research (SoLAR)

**PROFESSIONAL SERVICE**

BOARD MEMBER

2020 – Present      Vice President // International Society for Quantitative Ethnography (ISQE)

EDITORIAL BOARDS

2019                      Consulting Editor // Journal of Experimental Education  
 2015                      Associate Editor // Journal of Gaming and Computer-Mediated Simulations

ADVISORY BOARDS

2022                      Advisory Board Member // National Science Foundation: ECR, *Trans-Modal Analysis (TMA): A Mathematical and Computational Framework for Equitable Assessment of Multimodal STEM Learning*

2021 – 2023            Advisory Board Member // National Science Foundation: EEC, *Understanding of Engineering Core Concepts Contextualized in Domain-Specific Settings Through Active Exploration*

INVITED PANEL OR WORKSHOP

2023                      Lead facilitator of the QE Fellows Program // University of Wisconsin NSF BCSER funded project

2023                      AI in Education, College of Education REAL Meal Series, Clemson University. Clemson, SC.

2022                      Equity Informed Research and Scholarship, College of Education REAL Meal Series, Clemson University. Clemson, SC.

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## ARASTOPOUR IRGENS

2022	Experiences with ADR Grants and Grant Fellows, College of Education REAL Meal Series. Clemson University. Clemson, SC.
2021	Clemson AIRISE <i>Coded Bias</i> Film Screening Discussion Panel
2020	State of South Carolina Science Education Standards Writing Committee
2020	LiveWell Greenville Early Childhood Education Workshop <i>Debunking Screen Time Myths: How to Effectively and Responsibly Engage Children with Digital Media</i>
2019	State of South Carolina Science Education Standards Review Panel
2016	UW Expanding Your Horizons: Young Woman Exploring Math & Science
2015	Wisconsin Center for Academically Talented Youth Assessment

## GRANT REVIEW PANEL

2021	National Science Foundation Grant Review Panel
2020, 2021	Spencer Foundation Grant Review Panel
2015	National Science Foundation Grant Review Panel

## CONSULTING

2021 – Present	Gates Foundation // Collaborating with <i>Striving to Thriving</i> author, Michaela Leslie-Rule, to use Quantitative Ethnography on focus group data exploring Black and Latinx youth in poverty's mindset related to education and careers
2020 – 2023	Sun Prairie, WI School District // Collaborating with administrators and teachers to develop and implement Computer Technical Education curricula for grades 6 - 8

## CONFERENCE SERVICE

2023	Program Chair // International Conference on Quantitative Ethnography (ICQE)
2023	Program Committee Member // ACM Interaction Design and Children (IDC) Conference Symposium on Learning, Design, and Technology
2022	Program Committee Member // International Conference on Quantitative Ethnography (ICQE)
2021	Faculty Mentor, Expertise Exchange // International Conference on Quantitative Ethnography (ICQE)
2020	Program Committee Member // International Conference on Quantitative Ethnography (ICQE)
2019	Co-Chair, Doctoral Consortium // International Conference on Quantitative Ethnography (ICQE)

## ARASTOPOUR IRGENS

2019 Faculty Mentor, Coffee with a Proffie // International Conference on Quantitative Ethnography (ICQE)

## COMMITTEES

2023 Chair // Data Science 4 Everyone Assessment Working Group  
 2020, 2021, 2022 International Society for Quantitative Ethnography (ISQE) COVID-19 Data Challenge Mentor  
 2020 International Society for Quantitative Ethnography (ISQE) COVID-19 Data Challenge Planning Committee  
 2018 – 2019 Society of Learning Analytics Research (SoLAR) Inclusion Committee  
 2013 Computer Supported Collaborative Learning (CSCL) Conference  
 2012 Doctoral Research Program (DRP) Educational Research Conference  
 2012 Games Learning Society Educator Symposium (GLSES)

## CLEMSON UNIVERSITY SERVICE

2023 Member // College of Education Director of Inclusive Excellent Search Committee  
 2022 Member // EOLD P-20 Search Committee  
 2022 Member // EOLD P-12 Search Committee  
 2021 – Present Member // College of Education Inclusive Excellence Implementation Task Force  
 2021 – Present Member // Community & Diversity Committee  
 2021 – Present Member // College of Education Curriculum Committee  
 2021 – Present Member // Education and Human Development Curriculum Committee  
 2021 – Present Member // Artificial Intelligence Research Institute for Science and Engineering (AIRISE) AI Bias Interest Group  
 2021 – Present Member // Artificial Intelligence Research Institute for Science and Engineering (AIRISE)  
 2021 – 2023 Member (alternate) // Faculty Senate  
 2021 – 2022 Member // Graduate School Curriculum Committee  
 2021 Member // Learning Sciences Search Committee  
 2019 – 2020 Member // Human Capital Education & Development Program Committee  
 2019 – 2020 Member // Graduate Admissions & Continuing Enrollment Appeals

## AD-HOC REVIEWER

American Education Research Association Conference  
 American Society for Engineering Education Conference  
 Communications of the ACM (Association for Computing Machinery)  
 Computer Science Education  
 Computer Supported Collaborative Learning Conference  
 Computers & Education

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## ARASTOOPOUR IRGENS

Digital Games Research Association Conference  
Education Technology & Society  
Information and Learning Sciences  
Interaction Design and Children (IDC)  
International Conference of the Learning Sciences  
Journal of Computer Assisted Learning  
Journal of Computers and Education  
Journal of Engineering Education  
Journal of Experimental Education  
Journal of Information and Learning Sciences  
Journal of Learning Analytics  
MIT Press  
Science Education  
Social Sciences  
Teaching and Teacher Education