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APPOINTMENTS

University of California—Berkeley, CA, USA
Associate Professor, School of Education — July 2021-Present
Assistant Professor, School of Education — 2016-2021

Tufts University, Medford, MA, USA
Assistant Professor, Department of Education — 2011-2015
Co-Director, STEM Education Graduate Program (2014-2015)

Northwestern University, Evanston, IL, USA
Graduate Student, Learning Sciences Program — 2005-2011
IES Multidisciplinary Fellow (2006-2010); Cognitive Science Research Fellow (2005-2006)

University of California—San Diego, CA, USA
Undergraduate Research Assistant, San Diego Supercomputer Center — 2003-2005

University of Oklahoma, Norman, OK, USA
Undergraduate Research Assistant, Human-Computer Interaction Center — 2003

EDUCATION

Northwestern University, Evanston, IL, USA
Ph.D. Learning Sciences — 2012

University of San Diego, San Diego, CA, USA
B. A. Mathematics; B. A. Diversified Liberal Arts (Elementary Education) — 2005
Summa Cum Laude, Phi Beta Kappa

PUBLICATIONS

(*students; ^partner teachers; ‡postdoc scholars; ♦shared first authorship. Most titles link to articles online.)

JOURNAL SPECIAL ISSUES & EDITED BOOKS

Wilkerson, M. H. & Polman, J. (Eds.) (2020). Situating data science: Exploring how relationships to data shape learning. [Special Issue] *Journal of the Learning Sciences*, *29*(1), 1-10. doi: 10.1080/10508406.2019.1705664

→ Reprinted as **Wilkerson, M. H.** & Polman, J. (Eds.) (2022). *Situating data science: Exploring how relationships to data shape learning.* New York, NY, USA: Routledge. doi: 10.4324/9781003165354

Wilkerson, M. H., D'Angelo, C., & Litts, B. (Eds.) (2020). Stories from the field: Locating and cultivating computational thinking in spaces of learning. [Special Issue] *Interactive Learning Environments*, *28*(3), 264-271. doi: 10.1080/10494820.2020.1711326

REFEREED JOURNAL ARTICLES

Reigh, E. ‡, Escudé, M.*, Bakal, M.*, Rivero, E.*, Wei, X.*, Roberto, C.*, Hernandez, D.*, Yada, A.*, **Wilkerson, M. H.**, & Gutierrez, K. G. (In Press). Mapping racespace: Data stories as a tool for environmental and spatial justice. In K. Lanouette & K. Headrick Taylor (Eds.), *Bank Street Occasional Paper Series #48: "Learning Within Socio-Political Landscapes: (Re)imagining Children's Geographies."*

Lee, V. ♦, **Wilkerson, M. H. ♦,** & Lanouette, K. ‡ (2021). A call for a humanistic stance toward K-12 data science education. *Educational Researcher, 50*(9), 664-672. doi: 10.3102/0013189X211048810

Wilkerson, M. H., Lanouette, K.‡, & Shareff, R. L.* (2021). Exploring variability during data preparation: A way to connect data, chance, and context when working with complex public datasets. Available online in *Mathematical Thinking and Learning.* doi: 10.1080/10986065.2021.1922838

Erickson, T., **Wilkerson, M. H.,** Finzer, W., & Reichsman, F. (2019). Data moves. *Technology Innovations in Statistics Education, 12*(1). https://escholarship.org/uc/item/0mg8m7g6

Quan, T., Bracho, C. A., **Wilkerson, M. H.**, & Clark, M. (2019). Empowerment and transformation: Integrating teacher identity, activism, and criticality across three teacher education programs. *Review of Education, Pedagogy, and Cultural Studies, 41*(4-5), 218-251. doi: 10.1080/10714413.2019.1684162

Shaban, Y.* & **Wilkerson, M. H.** (2019). The co-construction of epistemological framing in clinical interviews and implications for science education research. *International Journal of Science Education, 41*(12), 1579-1599. doi: 10.1080/09500693.2019.1620972

Wilkerson, M. H. & Laina, V.* (2018). Reasoning about data, context, and chance through storytelling with repurposed local data. *ZDM: International Journal on Mathematics Education, 50*(7), 1223-1235. doi: 10.1007/s11858-018-0974-9

Wilkerson, M. H., Shareff, R.*, Laina, V.*, & Gravel, B. E. (2018). Epistemic gameplay and discovery in computational model-based inquiry activities. *Instructional Science, 46*(1), 35-60. doi: 10.1007/s11251-017-9430-4

Wilkerson, M. H., Bautista, A., Tobin, R., Brizuela, B., & Cao, Y.* (2017). More than meets the eye: Patterns and shifts in what middle school mathematics teachers describe as models. *Journal of Mathematics Teacher Education*, *21*(1), 35-61. doi: 10.1007/s10857-016-9348-9

Wilkerson, M. H., Andrews, C.*, Shaban, Y.*, Laina, V.*, & Gravel, B. E. (2016). What's the technology for? Teacher attention and pedagogical goals in a modeling-focused professional development workshop. *Journal of Science Teacher Education, 27*(1), 11-33. doi: 10.1007/s10972-016-9453-8

Wilkerson-Jerde, M. H., Wagh, A., & Wilensky, U. (2015). Balancing curricular and pedagogical needs in the design of computational toolkits: Lessons from the DeltaTick Project. *Science Education, 99*(3), 465-499. doi: 10.1002/sce.21157

Wilkerson-Jerde, M. H. & Wilensky, U. (2015). Patterns, probabilities, and people: Making sense of quantitative change in complex systems. *Journal of the Learning Sciences, 24*(2), 204-251. doi: 10.1080/10508406.2014.976647

Wilkerson-Jerde, M. H., Gravel, B. E., & Macrander, C.* (2015). Exploring shifts in middle school learners' modeling activity while drawing, animating, and simulating molecular diffusion. *Journal of Science Education and Technology, 24*(2-3), 396-415. doi: 10.1007/s10956-014-9497-5

Wilkerson-Jerde, M. H. (2014). Construction, categorization, and consensus: student generated computational artifacts as a context for disciplinary reflection. *Educational Technology Research & Development, 62*(1), 99-121. doi: 10.1007/s11423-013-9327-0

Bautista, A., **Wilkerson-Jerde, M. H.**, Tobin, R., & Brizuela, B. M. (2014). Mathematics teachers' ideas about mathematical models: A diverse landscape. *PNA, 9*(1). doi: 10481/33231

Wilkerson-Jerde, M. & Wilensky, U. (2011). How do mathematicians learn math?: Resources and acts for constructing and understanding mathematics. *Educational Studies in Mathematics, 78*(1), 21-43. doi: 10.1007/s10649-011-9306-5

Wilkerson, M. (2009). Computer Math Snapshots. Agents with attitude: Exploring Coombs unfolding technique. *International Journal of Computers for Mathematical Learning, 14*(1), 51-60. doi: 10.1007/s10758-008-9142-6

BOOK CHAPTERS

Wilkerson, M. H., Shareff, R. L.*, & Laina, V.* (2022). Learning from "interpretations of innovation" in the co-design of digital tools. In M-C. Shanahan, B. Kim, M. A. Takeuchi, K. Koh, A. P. Preciado-Babb, & P. Sengupta (Eds.), *The Learning Sciences in Conversation: Theories, Methodologies, and Boundary Spaces.* Routledge.

Wilkerson, M. H. & Gravel, B. (2020). Storytelling as a support for collaborative constructionist activity. In N. Holbert, M. Berland, & Y. Kafai (Eds.), *Designing Constructionist Futures: The Art, Theory, and Practice of Learning Designs* (pp. 213-225). Cambridge, MA: MIT Press.

Wilkerson, M. H. (2017a). Teachers, students, and after-school professionals as designers of digital tools for learning. In C. DiSalvo, B. DiSalvo, J. Yip, & E. Bonsignore (Eds.), *Participatory Design for Learning* (pp. 127-140). Taylor & Francis.

Gravel, B. & **Wilkerson, M. H.** (2017). Integrating computational artifacts into the multi-representational toolkit of physics education. In D. Treagust, R. Duit, & H. E. Fischer (Eds.), *Multiple Representations in Physics Education* (pp. 47-70). Springer.

Wilkerson, M. H. & Fenwick, M.^ (2017). The practice of using mathematics and computational thinking. In C. V. Schwarz, C. Passmore, & B. J. Reiser (Eds.), *Helping Students Make Sense of the World Using Next Generation Science and Engineering Practices* (pp. 181-204). Arlington, VA: National Science Teachers' Association Press.

Wilkerson, M. H. (2017b). DataSketch: A tool to turn student sketches into data-driven visualizations. In T. Hammond, A. Adler, & M. Prasad (Eds.), *Frontiers in pen and touch: Impact of pen and touch technology on education* (pp 227-234). Springer.

Stonedahl, F., **Wilkerson-Jerde, M**. & Wilensky, U. (2011). MAgICS: Toward a multi-agent introduction to computer science. In M. Beer, M. Fasli, and D. Richards (Eds.) *Multi-Agent Systems for Education and Interactive Entertainment: Design, Use and Experience* (pp. 1-25). IGI Global. doi: 10.4018/978-1-60960-080-8.ch001

INVITED ARTICLES AND REPORTS

Lee, H. S., **Wilkerson, M. H.**, Stokes, D., & Finzer, W. (2022) Data story bytes: Examining healthy food through data. *@Concord, 26*(1), 10-11.

Bristol, T. J., Cheung, R., & **Wilkerson, M.** (2021). Designing at the margins: How senior school district leaders of color learn to enact equitable policies and practices. IRLE Working Paper No. 103-21. http://irle.berkeley.edu/files/2021/05/Designing-at-the-margins.pdf

Finzer, W. & **Wilkerson, M.** (2020). Writing data stories. *@Concord*, *24*(1), 10-11. https://concord.org/newsletter/2020-spring/writing-data-stories

Wilkerson, M. H., Lee, V. L., Shinohara, M., Chaudhary, S.^, Brady, C., & Marin, A. (2018). *OpenSciEd design specification: Using computational and mathematical thinking and interpreting and analyzing data.* Curricular specifications for Carnegie Corp.'s OpenSciEd Initiative (Danny C. Edelson, Chair).

Lee, V. & **Wilkerson, M.** (2018). Data use by middle and secondary students in the digital age: A status report and future prospects. Commissioned report for the National Research Council study *Engaging Middle and High School Students in Science and Engineering: Investigations and Design*.

Berland, M. ♦, Halverson, E. ♦, Polman, J. ♦ & **Wilkerson, M.** ♦ (2017). Expressive construction: Enabling learners to represent powerful ideas. In J. Roschelle, W. Martin, J. Ahn, & P. Schank (Eds*.), Cyberlearning Community Report: The State of Cyberlearning and the Future of Learning with Technology* (pp. 17-24). Menlo Park CA: SRI International. [Authors contributed equally; listed in alphabetical order]

Wilkerson-Jerde, M. H. (2015). Open peer commentary: Locating the learner in collaborative constructionist design. *Constructivist Foundations, 10*(3), 315-316.

AWARDS AND SPONSORSHIPS

International Society for the Learning Sciences **Mid-Career Workshop**	2022
Journal of the Learning Sciences **Reviewer of the Year**	2021
AERA Division C **Jan Hawkins Award for Early Career Contributions to Humanistic Research & Scholarship in Learning Technologies**	2020
Arcadia University **Transformative Teacher Educator Fellowship**	2018
National Science Foundation **Faculty Early Career Development Program (CAREER) Award**	2014
International Conference for the Learning Sciences **Early Career Workshop**	2014
AERA Division C **New Faculty Mentoring Program**	2012
AERA Special Interest Group in Learning Sciences/Advanced Tech for Learning **Best Student Paper**	2010
Models in Developing Math Ed Conference **Student Travel Sponsorship**	2009
Northwestern University Graduate Travel Grants	2007-2010

GRANTS

EXTERNAL GRANTS – AWARDED/ACTIVE

PI, Google Computer Science Education Research Gift 2021-2023
Beyond CS for all and toward CS for racial justice: Youth historical reauthoring of computing artifacts
($55K; led by graduate student Collette Roberto)

PI, George Lucas Education Foundation Equity-Centered Learning Environments 2021-2023
The Computing as Multiliteracies Partnership (CaMP)
($200K; with Cherise McBride, Kris Gutierrez, Chris Hoadley, Jasmine Ma, Laura Ascenzi-Moreno, Sara Vogel)

PI, NSF STEM + Computing Partnerships Program 2019-2023
Writing Data Stories: Integrating Computational Data Investigations into the Middle School Science Classroom
(IIS-1900606, $2.4M; with Kris Gutierrez, William Finzer, Anthony Petrosino, Hollylynne Lee)

PI (subawardee), NSF Discovery Research K12 Level II 2020-2023
From Access to Sustainability: Investigating Ways to Foster Computational Modeling in K-12 Science Classrooms
(DRL-2010413, $57,000 subcontract with Teachers College Columbia University; $2M total)

EXTERNAL GRANTS – AWARDED/COMPLETED

PI, NSF Early CAREER Award 2014-2020
DataSketch: Exploring Computational Data Visualization Literacy in the Middle Grades
(IIS-1350282, $599,996.00)

PI (subawardee), NSF Cyberlearning Development and Implementation Plan 2015-2019
Data Science Games - Student Immersion in Data Science Using Games for Learning in the Common Online Data Analysis Platform
(IIS-1530578, $227,435 subcontract with Concord Consortium; $1,348,808 total)

PI, NSF Discovery Research K12 Exploratory Learning 2014-2018
CodeR4STATS: Code R for AP Statistics and Common Core Statistical Concepts
(DRL-1418163, $469,936; with Co-PI Eric Simoneau, Boston Latin School)

PI, NSF Cyberlearning Capacity-Building 2015-2017
Data Science, Learning and Youth: Connecting Research and Creating Frameworks
(IIS-1541676, $49,958; with Co-PIs Tapan Parikh, Joseph Polman, Victor Lee)

PI, NSF Cyberlearning Exploratory 2012-2017
SiMSAM: Bridging Student, Scientific, and Mathematical Models with Expressive Technologies
(IIS-1217100, $546,353; with Brian Gravel, Tufts University; transferred to Gravel upon move to UCB)

INTERNAL GRANTS

UC Berkeley Student Technology Fund ($5,000) Educational Robotics Library 2017

Tufts Faculty Research Fund ($3,599) Data Visualization for Middle School 2012

Northwestern Univ. Community Building Grant ($2,914, renewed for $1,500) 2009-2011
Constructing for Learning: An Open House for Technologies in Education

REFEREED CONFERENCE PROCEEDINGS

Wagh, A., Fuhrmann, T., Bumbacher, E., Eloy, A., Wolf, J., Blikstein, P., & **Wilkerson, M. H.** (2022). MoDa: Designing a tool to interweave computational modeling with real-world data analysis for science learning in middle school. In *Proceedings of Interaction Design and Children (IDC '22),* June 27-30, 2022, Braga, Portugal. ACM, New York, NY, USA, 9 pages. doi: 10.1145/3501712.3529723

Reigh, E.^, Escudé, M.*, McBride, C.^, Wei, C.*, Bakal, M.*, Roberto, C.*, Rivero, E.*, **Wilkerson, M. H.**, & Gutiérrez, K. (2022). Paths through data: Successes and future directions in supporting student reasoning

about environmental racism. Short paper to appear in *Proceedings of the 2022 Annual Meeting of the International Society for the Learning Sciences (ISLS 2022)*. ISLS: San Diego, CA.

Roberto, C.*, Wei, C.*, Rivero, E.*, & **Wilkerson, M. H.** (2022). Student participation in sociocritical data literacy: Shapes, trends, and future directions from a middle school science unit. Short paper to appear in *Proceedings of the 2022 Annual Meeting of the International Society for the Learning Sciences (ISLS 2022)*. ISLS: San Diego, CA.

Wolf, J., Fuhrmann, T., Wagh, A., Eloy, A., Blikstein, P., & **Wilkerson, M. H.** (2022). After the study ends: Developing heuristics to design for sustainable use of learning technologies in classrooms. In *Proceedings of Interaction Design and Children (IDC '22),* June 27-30, 2022, Braga, Portugal. ACM, New York, NY, USA, 4 pages. doi: 10.1145/3501712.3529723

Wilkerson, M. H., Finzer, W., Erickson, T., & Hernandez, D.* (2021). Reflective data storytelling for youth: The CODAP Story Builder. Works-in-Progress paper in *Proceedings of the 20th ACM SIGCHI Interaction Design and Children Conference (IDC '21) (pp. 503-507)*. Athens, Greece, 24-30 June. doi: 10.1145/3459990.3465177

Lopez, M. L.*, Roberto, C.*, Rivero, E.*, **Wilkerson, M. H.**, Bakal, M.*, & Gutiérrez, K. (2021). Curricular reorganization in the third space: A case of consequential reasoning around data. Full paper in *Proceedings of the 15th International Conference of the Learning Sciences (ICLS 2021) (Vol. 1, pp. 466-473)*. Bochum, Germany: ISLS. LS Best Design Paper Award Nominee.

Erickson, T., Finzer, W. Reichsman, F., and **Wilkerson, M. H.** (2018). Data moves: One key to data science at the school level. In M. A. Sorto, A. White, & L. Guyot (Eds.), *Looking back, looking forward. Proceedings of the International Conference on Teaching Statistics (ICOTS-10)*, Kyoto, Japan. Voorburg, The Netherlands: International Statistical Institute. https://iase-web.org/icots/10/proceedings/pdfs/ICOTS10_9B3.pdf

Thoma, S.*, Deitick, E.*, & **Wilkerson, M. H.** (2018). "It didn't really go very well": Epistemological framing and the complexity of interdisciplinary computing activities. In J. Kay & R. Luckin (Eds.), *Rethinking learning in the digital age: Making the learning sciences count, Proceedings of the 13th International Conference for the Learning Sciences (ICLS 2018)* (Vol. 2, pp. 1121-1125). London, England: ISLS.

Wilkerson, M., Lanouette, K.*, Shareff, R. L.*, Erickson, T., Bulalacao, N.*, Heller, J., St. Clair, N., Finzer, W., & Reichsman, F. (2018). Data moves: Restructuring data for inquiry in a simulation and data analysis environment. Poster in J. Kay & R. Luckin (Eds.), *Rethinking learning in the digital age: Making the learning sciences count, Proceedings of the 13th International Conference for the Learning Sciences (ICLS 2018)* (Vol. 2, pp. 1383-1384). London, England: ISLS.

Deitrick, E.*, **Wilkerson, M.,** & Simoneau, E.^ (2017). Understanding student collaboration in interdisciplinary computing activities. In J. Tenenberg, D. Chinn, J. Sheard, & L. Malmi (Eds.), *Proceedings of the 13th Annual ACM International Computing Education Research Conference (ICER 2017)* (pp. 118-126). Tacoma, WA, USA. doi: 10.1145/3105726.3106193

Wilkerson, M., Shareff, B.*, Gravel, B., Shaban, Y.*, & Laina, V.* (2017). Exploring computational modeling environments as tools to structure classroom knowledge building. In B. K. Smith, M. Borge, E. Mercier, & K. Y. Lim (Eds.), *Proceedings of the 12th International Conference on Computer Supported Collaborative Learning* (CSCL 2017) (Vol. 1, pp. 447-454). ISLS: Philadelphia, PA.

Walkoe, J., **Wilkerson, M.**, & Elby, A. (2017). Technology-mediated teacher noticing: A goal for classroom practice, tool design, and professional development. In B. K. Smith, M. Borge, E. Mercier, & K. Y. Lim (Eds.), *Proceedings of the 12th International Conference on Computer Supported Collaborative Learning* (CSCL 2017) (Vol. 1, pp. 65-70). ISLS: Philadelphia, PA.

Wilkerson, M. & Laina, V.* (2017). Youth reasoning with interactive data visualizations: A preliminary study. In P. Blikstein & D. Abrahamson (Eds.), *Proceedings of the 16th Interaction Design and Children Conference (IDC 2017)* (pp. 411-416). Stanford, CA. doi: 10.1145/3078072.3084302

Laina, V.* & **Wilkerson, M.** (2016). Distributions, trends, and contradictions: A case study in sensemaking with interactive data visualizations. In C-K. Looi, J. Polman, U. Cress, & P. Reimann (Eds.), *Proceedings of the 11th International Conference of the Learning Sciences (ICLS 2016)* (Vol. 2, pp. 934-938). ISLS: Singapore.

Wilkerson, M. (2016). DataSketch: A tool to turn student sketches into data-driven visualizations. Short Emerging Technology Paper in *Proceedings of the 2016 Conference for Pen and Touch Technology in Education (CPTTE 2016)*. Providence, RI, USA.

Wilkerson-Jerde, M., Gravel, B. & Macrander, C.* (2013). SiMSAM: An Integrated Toolkit to Bridge Student, Scientific, and Mathematical Ideas Using Computational Media. Poster in *Proceedings of the 10th International Conference on Computer Supported Collaborative Learning* (CSCL2013; Vol. 2, pp. 379-381). ISLS: Madison, WI.

Bautista, A., **Wilkerson-Jerde, M.**, Tobin, R. & Brizuela, B. (2013). Diversity in middle school mathematics teachers' ideas about mathematical models: The role of educational background. In *Proceedings of the Eighth Congress of European Research in Mathematics Education* (CERME 8) (pp. 960-969). Middle East Technical University: Antalya, Turkey.

Wilkerson-Jerde, M. & Wilensky, U. (2011). Designed and emergent pedagogical supports for coordinating quantitative and agent-based descriptions of complex dynamic systems. In *Proceedings of the 2011 meeting of the Psychology of Mathematics Education – North American Chapter* (PME-NA) (pp. 2083-2087). Reno, NV.

Lesh, R., Brady, C. & **Wilkerson-Jerde, M.** (2011). Models and Modeling Working Group. Workshop in *Proceedings of the 2011 meeting of the Psychology of Mathematics Education–North American Chapter* (PME-NA) (pp. 638-647). Reno, NV.

Wilkerson-Jerde, M. & Wilensky, U. (2010). NetLogo HotLink Replay: A tool for exploring, analyzing and interpreting mathematical change in complex systems. Poster in K. Gomez & J. Radinsky (Ed.), *Proceedings of the 9th International Conference of the Learning Sciences* (ICLS 2010) (Vol 2, pp. 374-375). Chicago, IL.

Wilkerson-Jerde, M. & Wilensky, U. (2010). Restructuring change, interpreting changes: The deltatick modeling and analysis toolkit. In J. Clayson & I. Kalas (Eds.), *Proceedings of Constructionism 2010* (p. 97-107). Paris, France.

Stonedahl, F., **Wilkerson-Jerde, M.** & Wilensky, U. (2009). Reconceiving introductory computer science curricula through agent based modeling. In *Proceedings of the Autonomous Agents and Multiagent Systems (AAMAS 2009) Workshop on Educational Uses of Multi-Agent Systems* (EduMAS '09) (pp. 63-70). Budapest, Hungary.

Wilkerson-Jerde, M. & Wilensky, U. (2009). Understanding proof: Tracking experts' developing understanding of an unfamiliar proof. In *Proceedings of the International Commission on Mathematical Instruction (ICMI) Study 19, Proof and proving in mathematics education* (Vol. 2, pp. 268-274). Taipei, Taiwan: National Taiwan Normal University.

Wilkerson, M. & Wilensky, U. (2008). How do mathematicians learn mathematics? In *Proceedings of the Joint Meeting of the International Group for the Psychology of Mathematics Education* (PME 32/PME-NA XXX) (Vol. 4, 409-416). Morelia, Mexico: PME.

Wilkerson, M., Sengupta, P., & Wilensky, U. (2008). Perceptual supports for sensemaking: A case study using multi agent based computational learning environments. Poster in *Proceedings of the 8th International Conference of the Learning Sciences* (ICLS 2008), (Vol. 3, pp. 151-152). Utrecht, The Netherlands: ICLS.

Denning, T., Griswold, W. G., Simon, B. & **Wilkerson, M.** (2006). Multimodal communication in the classroom: What does it mean for us? In *SIGCSE '06: Proceedings of the 37th SIGCSE technical symposium on computer science education* (pp. 219-223). Houston, TX: ACM Press.

Wilkerson, M., Griswold, W. G. & Simon, B. (2005). Ubiquitous presenter: Increasing student access and control in a digital lecturing environment. In *SIGCSE '05: Proceedings of the 36th SIGCSE technical symposium on computer science education* (pp. 116-120). St. Louis, MO: ACM Press.

ABSTRACT ONLY

Eloy, A., Wolf, J., Wagh, A., Fuhrmann, T., Bumbacher, E., **Wilkerson, M. H.**, & Blikstein, P. (2022). A2S: Designing an integrated platform for computational modeling & data analysis for sustained investigations in science classrooms. Interactive Workshop to appear in *Proceedings of the 2022 Annual Meeting of the International Society for the Learning Sciences (ISLS 2022)*. ISLS: Tokyo, Japan.

Wei, C.*, McBride, C.^, Bakal, M.*, Roberto, C.*, Bhargava, P., and **Wilkerson, M. H.** (2022). Storytelling with data: A syncretic approach that brings together social justice with middle school science. In J. Polman, I. Tabak, & T. Tran (Orgs.), Cultivating Critical, Justice-Oriented Data Literacies in a Post-Truth World. Structured poster session to appear in *Proceedings of the 2022 Annual Meeting of the International Society for the Learning Sciences (ISLS 2022)*. ISLS: San Diego, CA.

Wei, C.*, McBride, C.^, & **Wilkerson, M. H.** (2022). Storytelling with data in the third space: Leveraging students' syncretic literacies for scientific investigation and social change. In C. Matuk, A. Amato, & I. Davidesco (Orgs.), Data Storytelling in the Classroom. Structured poster session to appear in *Proceedings of the 2022 Annual Meeting of the International Society for the Learning Sciences (ISLS 2022)*. ISLS: San Diego, CA.

Wagh, A., Fuhrmann, T., Eloy, A., Wolf, J., Bumbacher, E., **Wilkerson, M. H.**, & Blikstein, P. (2022). Strategies towards designing for sustained engagement in computational modeling in science classrooms. Poster to appear in *Proceedings of the 2022 Annual Meeting of the International Society for the Learning Sciences (ISLS 2022)*. ISLS: San Diego, CA.

Wilkerson, M. H., Roberto, C.*, & Bulalacao, N.* (2020/conference online due to COVID-19). Debugging data: Diagnosing, evaluating, and repairing data for analysis. In Y. Kafai (Org.) & J. Danish (Disc.), Turning bugs into learning opportunities: Understanding debugging processes, perspectives and pedagogies. In *Proceedings of the 14th International Conference for the Learning Sciences (ICLS 2020)*. Nashville, TN, USA: ISLS.

Lanouette, K.‡, Rivero, E.*, Barton, J.*, Bulalacao, N.*, Lopez, M. L.*, Cortes, K.*, Roberto, C.*, Gutiérrez, K., **Wilkerson, M. H.**, Lee, H., Stokes, D.*, Finzer, W., Erickson, T., Petrosino, T., Haldar, L. (2020/conference online due to COVID-19). Writing data stories: Reauthoring scientific data through syncretic computational investigations in middle school science. In C. Matuk & S. Yoon (Orgs.) and J. Polman (Disc.), Data literacy for social justice. In *Proceedings of the 14th International Conference for the Learning Sciences (ICLS 2020).* Nashville, TN, USA: ISLS.

Lopez, M. L.*, **Wilkerson, M. H**., & Gutiérrez, K. (2020/conference online due to COVID-19). Contextualizing, historicizing, and re-authoring data-as-text in the middle school science classroom. In G. Arastoopour Irgens, S. Knight, & A. Wise (Org.) Data literacies and social justice: Exploring critical data literacies through sociocultural perspectives. In *Proceedings of the 14th International Conference for the Learning Sciences (ICLS 2020).* Nashville, TN, USA: ISLS.

Wilkerson-Jerde, M. & Wilensky, U. (2010). Seeing change in the world from different levels: Understanding the mathematics of complex systems. In M. Jacobson (Org.), U. Wilensky (Chair), and P. Reimann (Disc.), Learning about Complexity and Beyond: Theoretical and Methodological Implications for the Learning Sciences. In K. Gomez & J. Radinsky (Ed.), *Proceedings of the 9th International Conference of the Learning Sciences* (ICLS 2010) (Vol 2, pp. 187-194). Chicago, IL.

INVITED TALKS

ACADEMIC PRESENTATIONS

University of Paderborn Colloquium Series on Data Science and Artificial Intelligence in School (June 2022). A Framework for Exploring the Purposes and Processes of Data Wrangling in Complex Self-Directed Analysis Tasks. University of Paderborn, Germany. (Lecture delivered online)

BSCS Science Learning Seminar Series (May 2022). Learning through Data, Experience, and Histories in the Writing Data Stories Project. BSCS Science Learning, Colorado Springs, CO, USA. (Lecture delivered online)

2021 Jan Hawkins Award Address (April 2021). Learning from Youths' Resistance in the Design of Scientific Computing Activities. Annual Conference of the American Educational Research Association, Conference Online Only.

Plenary at 2020 Online Seminar Series on Programming in Mathematics Education (July 2020). Computing with Data as a Window on the World. Western University, London, Ontario, Canada. (Lecture delivered online)

Keynote at 2019 Conference on Mathematics and its Connections to Arts and Science (May 2019). Putting Artistic and Mathematical Expression into Conversation Through Computing. McGill University, Quebec, Montreal, Canada.

Data Science Education Technology Webinar Series (November 2017). Data Moves and Data Stories. Concord Consortium, Concord, MA, USA. (Lecture delivered online)

Keynote at the Computational Thinking and Mathematics Education Symposium (October 2017). Computational Integration to Support Expression, Refinement, and Collective Knowledge in Classroom Communities. University of Ontario Institute of Technology, Ontario, Canada.

SRI International STEM Education Colloquium Series (May 2017). Tools to Support Scientific Expression, Exploration, and Progress in K-12 Classrooms. SRI International, Menlo Park, CA, USA.

Michigan State University CREATE for STEM Science Seminar Series (April 2017). Putting Student Ideas to Work: Tools to Support Scientific Expression and Progress in K-12 Classrooms. Michigan State University, East Lansing, MI.

Modeling and Model-Based Reasoning in STEM Conference (Aug 2016). Student Authorship and Computational Tools in K-12 Models-Based Education. Purdue University, IN.

California Academy of Sciences (July 2016). Supporting Data Visualization Literacy in Middle School. Teacher and Youth Engagement Team. San Francisco, CA.

Stanford University (April 2016). Classroom Computational Modeling Ecologies. Weiman & Schwartz Research Groups, Stanford, CA.

Gordon Research Conference on Visualization in Science and Education Plenary (August 2015). Expressive technologies and learning by building visualizations. Bates College, Lewiston, ME.

University of Maryland (March 2015). Coordinating mathematical, representational, and domain-specific knowledge in data visualization design. Center for Math Education Colloquium Series. College Park, MD.

Cyberlearning 2015: Connect, Collaborate, and Create the Future (January 2015). DataSketch: Exploring youths' data visualization competencies [Short Talk]. Washington, DC.

2014 Cyberlearning Summit (June 2014). Connecting young people's expressive activities with the tools of math and science. Wisconsin Union, University of Wisconsin-Madison, WI.

Massachusetts Bay Community College (October 2012). Speaking mathematically: Exploring how students align mathematical language with narrative description. Seminar for NSF STEP UP presentation series, Wellesley, MA.

University of New Hampshire (November 2011). Connecting mathematics to meaning: Examples from mathematicians and high school students. Seminar for STEM Education Colloquium series, Durham, NH.

Michigan State University (March 2011) The emergence of mathematical meaning: Coordinating individual and collective levels of description through computational modeling. College of Education, East Lansing, MI.

University of Akron (February 2011). The emergence of mathematical meaning: Coordinating individual and collective levels of description through computational modeling. College of Education, Akron, OH.

PRESS & PUBLIC OUTREACH

2022 NSF STEM for All Video Showcase. Wagh, A., Blikstein, P., Bumbacher, E., Eloy, A., Fuhrmann, T., Rosenbaum, L., Wilkerson, M. H., & Wolf, J. From Access to Sustainability: Investigating Ways to Foster Sustained Engagement in Computational Modeling in Middle School Classrooms. [Video]. Retrieved from https://videohall.com/p/2357

2016 NSF Advancing STEM Learning for All Video Showcase. Wilkerson, M. H. & Laina, V.* (2016). DataSketch: Exploring computational data visualization in the middle grades. [Video]. Retrieved from http://stemforall2016.videohall.com/presentations/683

2015 NSF Teaching and Learning Video Showcase. Wilkerson-Jerde, M. H., Andrews, C.*, Gravel, B. E., & Shaban, Y.* (2015). The SiMSAM project. [Video]. Retrieved from http://resourcecenters2015.videohall.com/presentations/566

WGBH Forum on Digital Media for STEM Learning. Wilkerson-Jerde, M. H. (2014). Connecting young people's expressive activities with the tools of math and science. WGBH Studios, Boston, MA. Video accessible from https://www.youtube.com/watch?v=5AK0hSbuHqI

New York Times Numberplay. My computational solution to Gary Antonik's August 2012 "Wolves and Sheep" puzzle was featured. Accessible at https://wordplay.blogs.nytimes.com/2012/09/10/numberplay-catbird-seat/

REFEREED CONFERENCE PRESENTATIONS

PAPER PRESENTATIONS

Foley, E.* & **Wilkerson, M. H.** (2022). Accessible DataLIT: Discovering the role teachers of the visually impaired play in data literacy development. Paper presented at the 2022 Annual Meeting of the American Educational Research Association, San Diego, CA, USA. SIG Learning Sciences/Advanced Technologies for Learning Best Student Paper Award.

Wagh, A., Fuhrmann, T., Eloy, A., Bumbacher, E., **Wilkerson, M. H.**, & Blikstein, P. (2022). Lessons from co-designing with science teachers to support sustained computational modeling in middle school classrooms. Roundtable paper presented at the 2022 Annual Meeting of the American Educational Research Association, San Diego, CA, USA.

Wilkerson, M. H. (2022). Writing our data stories: Repurposing scientific datasets to integrate students' perspectives. Short presentation at the Twelfth International Research Forum on Statistical Reasoning, Thinking, and Literacy (SRTL-12). Conference held online.

Chen, E.*, **Wilkerson, M. H.,** & Asta, M. (2021). Integrating Interactive Computing Experiences into Materials Science and Engineering Curricula Using Open-source Jupyter Authoring Tools. In Symposium BIO1: Developing an open-source introductory textbook for the materials community. To be presented at the 2021 Materials Research Society Fall Meeting & Exhibit. Boston, MA, USA, Nov 29-Dec 2.

Wilkerson, M. H., Laina, V*. (2020/conference cancelled due to COVID-19). Students' strategies for reasoning about complex systems using aggregate data sources. Paper in S. Levy (Org.) & M. Jacobson (Disc.), Restructuring concepts and tools through a complexity perspective. Symposium accepted at the 2020 Annual Meeting of the American Educational Research Association (AERA).

Lopez, L.*, Gutiérrez, K., & **Wilkerson, M. H.** (2020/conference cancelled due to COVID-19). Epistemic actors: Double binds and the negotiation of epistemic participation. Accepted as a roundtable paper at the 2020 Annual Meeting of the American Educational Research Association (AERA).

Wilkerson, M. H., Shareff, R. L.*, & Lanouette, K.* (2019). Learning to transform data: A longitudinal interview study. Long presentation at the Eleventh International Research Forum on Statistical Reasoning, Thinking, and Literacy (SRTL-11).

Lopez, L.*, **Wilkerson, M. H.**, & Laina, V.* (2019). Data as proxy: Sociomaterial supports and constraints on the use of data for epistemic agency. Paper presented at the 2019 Annual Meeting of the National Association for Research in Science Teaching (NARST).

Laina, V.*, & **Wilkerson, M. H.** (2019). Seeing things differently: A form and function analysis of student-generated dynamic data visualizations. Paper presented at the 2019 Annual Meeting of the American Educational Research Association (AERA).

Wilkerson, M. H. & Lanouette, K.* (2019). Making data useful: A longitudinal examination of young adults' developing data transformation processes. Poster presented at the 2019 Annual Meeting of the American Educational Research Association (AERA).

Lopez, M. L.*, Laina, V.*, & **Wilkerson, M. H.** (2019). Agentive use of public quantitative data in scientific argumentation: A case study. Roundtable paper presented at the 2019 Annual Meeting of the American Educational Research Association (AERA).

Shareff, R. L*. & **Wilkerson, M. H.** (2018). Grounding computational modeling experience in fertile soil: A design project with middle school science teachers and students. In A. Wagh (Org.) & J. Kolodner (Discussant), Bridging computational modeling tools & practices into the existing structures of k-16 environments in science education. Symposium to be presented at the 2018 Annual Meeting of the American Educational Research Association. New York, NY, USA, April 13-17.

Wilkerson, M. H. & Lanouette, K.* (2017). Connecting research and creating frameworks: A report from the youth, learning, and data science summit. Short presentation at SRTL-10: The Tenth International Research Forum on Statistical Reasoning, Thinking, and Literacy. Rotorua, New Zealand, July 2-8.

Laina, V.* & **Wilkerson, M. H.** (2017). Modeling data by visualizing it. Long presentation at SRTL-10: The Tenth International Research Forum on Statistical Reasoning, Thinking, and Literacy. Rotorua, New Zealand, July 2-8.

Wilkerson, M. H. & Laina, V.* (2017). Designing to support data visualizations as an exploratory tool in science. Paper to be presented as part of M. Gresalfi (Org.) and D. Clark (Chair), Designing digital environments to support mathematical and scientific reasoning: Theoretical and disciplinary perspectives. AERA 2017, San Antonio, TX.

Finzer, W., Erickson, T., & **Wilkerson, M**. (2016). Data Science Games—Rapid Iteration through Game, Data, Model. Annual meeting of the Center for Innovative Research in Cyberlearning, 2016.

Wilkerson, M. H. & Gravel, B. E. (2016). Tools, problem spaces, and epistemic games. In K. Chase & D. Abrahamson (Orgs.), Discovery-based learning 2.0: Are we there yet? Symposium presented at the 2016 Annual Meeting of the American Educational Research Association, Washington, DC.

Wilkerson-Jerde, M. H., Gravel, B. E., Andrews, C.*, & Shaban, Y.* (2015). Teacher attention and pedagogical goals in a computational modeling-focused professional development workshop. Presented at the 2015 Annual Meeting of the American Educational Research Association. Chicago, IL, April 16-20.

Wilkerson-Jerde, M. H. (2015). Stories of our city: Coordinating youths' mathematical, representational, and community knowledge through data visualization design. Presented at the 2015 Annual Meeting of the American Educational Research Association. Chicago, IL, Apr 16-20.

Wilkerson-Jerde, M. H., & Gravel, B. E. (2015). Mapping the influence of participant groups and contexts in participatory design-based research. To be presented as part of S. Grover (Org.), Design-based research for the learning sciences: A coming of age?. Symposium at the 2015 Annual Meeting of the American Educational Research Association. Chicago, IL, April 16-20.

Wilkerson-Jerde, M. H. & Head, E.^ (2015). Designing data visualizations to promote mathematics learning and identity development. Brief Research Report to be presented at the 2015 National Council of Teachers of Mathematics Research Presession, Boston, MA, April 15.

Wilkerson-Jerde, M. (2014). "Calculus lied to us!": Functional reasoning about complex systems. In C. Hagen (Org.) & M. Carlson (Discussant), Developing understandings of mathematical functions: perspectives on learning across the grades. Symposium at the 44th Annual Conference of the Jean Piaget Society, San Francisco, CA. May 24-27.

Wilkerson-Jerde, M., Gravel, B. & Macrander, C.* (2014). Exploring shifts in middle school learners' modeling activity while drawing, animating, and simulating molecular diffusion. Presented at the 2014 Annual Meeting of the American Educational Research Association. Philadelphia, PA, April 3-7.

Wilkerson-Jerde, M., Gravel, B., Macrander, C.*, Bell, A.*, & Krouwer, M.* (2013). Grain of sand strand: Developing SiMSAM, an integrated animation, simulation, and data analysis toolkit. Presented in Rick, J., Horn, M., & Martinez-Moldonado, R. (Orgs.) CSCL 2013 Pre-Conference Workshop Human-Computer Interaction and the Learning Sciences. Madison, WI. July 14.

Macrander, C.*, **Wilkerson-Jerde, M.** & Gravel, B. (2013). Nested framings and the pursuit of authentic scientific inquiry. Paper presented at the 43rd Annual Meeting of the Jean Piaget Society, Chicago, IL. June 7-9.

Wilkerson-Jerde, M. & Wilensky, U. (2011). Designing for multiple access points to powerful mathematics. In Veeragoudar Harrell, S. & **Wilkerson-Jerde, M.** (Chairs), Wilkerson-Jerde, M. & Veeragoudar Harrell, S. (Orgs.) & C. Lee (Disc.), Rethinking STEM Content, Access, and Agency for Broad Participation: A Designer/Practitioner Dialogue. Symposium and paper presented at the 2011 Annual Meeting of the American Educational Research Association, New Orleans, LA.

Wilkerson-Jerde, M. & Wilensky, U. (2011). New tools for modeling quantitative variation in complex systems: A design and preliminary classroom study. Paper presented at the 2011 Annual Meeting of the American Educational Research Association, New Orleans, LA. April 8-12.

Wilkerson-Jerde, M. & Wilensky, U. (2010). Qualitative calculus of systems: Exploring students' understanding of rate of change and accumulation in multiagent systems. Presented at the 2010 Annual Meeting of the American Educational Research Association, Denver, CO, April 30 - May 4. SIG Learning Sciences/Advanced Technologies for Learning Best Student Paper Award.

Wilkerson-Jerde, M. & Wilensky, U. (2010). Reflected abstraction and knowledge reconstruction in expertise: Tracking mathematicians' sensemaking around unfamiliar mathematical ideas. Presented at the 40th Annual Meeting of the Jean Piaget Society, St Louis, MO, June 3-5.

Wilkerson-Jerde, M. & Wilensky, U. (2010). Deltatick: Using agent-based modeling to learn the calculus of complex systems. In U. Wilensky (Chair). Small Steps for Agents… Giant Steps for Students?: Learning with Agent-Based Modeling. Presented at Constructionism 2010. Paris, France, Aug 16-20.

Wilkerson-Jerde, M. & Wilensky, U. (2009). Complementarity in equational and agent-based models: A pedagogical perspective. In M. Jacobson (Org.), Complexity, Learning, and Research: Under the Microscope, New Kinds of Microscopes, and Seeing Differently. Presented at the 2009 Annual Meeting of the American Educational Research Association, San Diego, CA, April 13-17.

Wilkerson, M. & Wilensky, U. (2008). Embedding environments as a mechanism for mathematical reasoning: An expert study. Presented at the 2008 Annual Meeting of the American Educational Research Association, New York, NY, March 24-28.

Sengupta, P., **Wilkerson, M.** & Wilensky, U. (2007). On the relationship between spatial knowledge and learning electricity: Comparative case studies of students using 2D and 3D emergent, computational learning environments. Presented at the 2007 Annual Meeting of the American Educational Research Association, Chicago, IL, April 9-13.

POSTERS & OTHER PRESENTATIONS

Leib, E.*, Massab, H., Hurney, R., **Wilkerson, M**., & Bunge, S. (2022). Evaluating a relational reasoning intervention for graph comprehension in middle school. Poster presented at the Biennial Conference of the Cognitive Development Society, April 21-23, Madison, WI, USA.

Escudé, M. E.*, Reigh, E. V.*, Bakal, M.*, Rivero, E.*, **Wilkerson, M. H.**, & Gutiérrez, K. (2022). Developing Spatial-Making Repertoires Through Sociocritical Data Stories. In Lee, S. (Chair), Designing for Dignity Affirming Experiences: Leveraging Embodied Learning Towards Equity in Interaction. Symposium to be presented at AERA 2022, San Diego, CA, USA.

Wilkerson, M. H., Stokes, D.*, Lee, H. S., Reigh, E. V.*, Escudé, M. E.*, Rivero, E.*, & Gutiérrez, K. (2022). A framework for exploring self, community, histories, and futures through data. In Miller, K., Yoon, S. (Chairs) & Rubin, A. (Discussant), Data Literacy in Context: Culturally Oriented and Place-Based Learning through Data. Symposium to be presented at AERA 2022, San Diego, CA, USA.

Koyuncu, B.* & **Wilkerson, M. H.** (2022). Examining the influence of tool selection on curriculum design for Data science education. Poster to be presented at the 2022 Annual Meeting of the American Educational Research Association, San Diego, CA, USA.

Rivero, E.*, Wei, X.*, **Wilkerson, M. H.**, Gutiérrez, K., Bhargava, P.*, & Zheng, H.* (2022). Syncretic data reasoning: Youth leveraging everyday knowledges to expand their reasoning around data. Poster to be presented at the 2022 Annual Meeting of the American Educational Research Association, San Diego, CA, USA.

Wagh, A., Kochevar, R., Louie, J., & **Wilkerson, M. H.** (2021). Exploring tools and strategies for advancing data literacy in K12 curricula. Panel presentation at the 2021 National Science Foundation DRK12 PI Meeting, June 17, Washington, DC, USA.

Jamarillo, J. *, **Wilkerson, M. H**., & Lopez, M. L. (2020/conference cancelled due to COVID-19). Overcoming the teacher-student script—student persistence in light of constraints on epistemic data agency. Interactive poster to be presented at the 2020 Annual Meeting of the National Association for Research on Science Teaching, Portland, OR, USA.

Wilkerson, M. H., Lopez, L.*, & Jamarillo, J.* (2020/conference cancelled due to COVID-19). Making "data claims" as an (inter)disciplinary practice in the science classroom. Poster in J. M. Rosenberg & B. Chen (Orgs.), V. Lee (Disc.), Exploring data science across the curriculum and across grade levels. Symposium to be presented at the 2020 Annual Meeting of the American Educational Research Association.

Wilkerson, M. H. (2019). First steps in research: Watching high-school students making data moves—and then what? In T. Erickson (Org.), Data science education at the school level. Invited panel presentation at the Joint Statistical Meeting (JSM 2019), Denver, CO, USA. July 27-August 1.

Wilkerson, M. H., Deitrick, E.*, & Simoneau, E.^ (2017). Integrating computational thinking in high school statistics through data modeling with R. In B. Litts & **M. Wilkerson** (Orgs.), Stories from the field: Integrating computational thinking across curricular domains. AERA 2017, San Antonio, TX, USA. April 27-May 1.

Wilkerson, M. H. (2017). Using a drawing, animation, and simulation sequence to scaffold student production of scientific models. In A. Karan & D. Clark (Orgs.), Supporting science as a modeling practice in the classroom through the lens of NGSS. Poster presented at AERA 2017, San Antonio, TX, USA. April 27-May 1.

Wilkerson, M. & Laina, V.* (2016). How do youth reason about dynamic data visualizations? A preliminary study. Poster presented at the Society for Research in Child Development Special Topic Meeting: Technology and Media in Children's Development, Irvine, CA, USA. October 27-30.

Laina, V.* & **Wilkerson, M.** (2016). DataSketch: A tool for youth to create dynamic data visualizations with ink sketches. Demonstration presented at the Society for Research in Child Development Special Topic Meeting: Technology and Media in Children's Development, Irvine, CA, USA. October 27-30.

Shaban, Y.* & **Wilkerson-Jerde, M.** (2016). Looking beyond cues in understanding the co-construction of epistemological framing during interviews: A case study. Poster presented at the 2016 Annual Meeting of the American Educational Research Association, Washington, DC, USA. April 8-12.

Walkoe, J., **Wilkerson-Jerde, M.**, & Elby, A. (2016). Technology-mediated teacher noticing: A goal for classroom practice, tool design, and professional development. Poster presented at the 2016 Annual Meeting of the American Educational Research Association, Washington, DC, USA. April 8-12.

Wilkerson-Jerde, M. & Maldonis, J.* (2013). Patterns in students' processes for representing quantitative change across multiple scenarios with multiple media. Poster presented at the 2013 Annual Meeting of the American Educational Research Association, San Francisco, CA, USA. May 24-27.

Wilkerson-Jerde, M., Bautista, A., Brizuela, B. & Tobin, R. (2013). "Because that word model is loaded": What count as models and modeling for middle school mathematics teachers. Poster presented at the 2013 National Council of Teachers of Mathematics (NCTM) Research Presession. Denver, CO, USA. April 15-17.

Wilkerson-Jerde, M. (2012). The Category Creator: An Interactive Online Gallery for Bridging Student-Generated Artifacts and Whole-Classroom Reflection. Poster presented at the 2012 Annual Meeting of the American Educational Research Association, Vancouver, BC. April 13-17.

Wilkerson-Jerde, M., Jacobs, A., & Wilensky, U. (2009). Getting the whole picture: Tracking expert learning over time with networks. Presented at the Annual Northwestern Institute on Complex Systems Complexity Conference, Evanston, IL, USA. September 2. Best Student Poster Award.

Jacobs, A.*, **Wilkerson-Jerde, M.**, Sengupta, P., & Wilensky, U. (2009). When does 3D visualization work?: In search of design principles for three-dimensional visuospatial agent-based models. Student poster presented at the Annual Meeting of the American Association for the Advancement of Science Southwestern and Rocky Mountain Division (AAAS-SWARM), March 29.

Wilkerson, M. (2004). Knot theory fashion: Brunnian style, infinite possibilities. Presented at Student Poster Session, Southern California & Nevada Section of the Mathematical Association of America, San Diego, CA, USA. March 6. Best Student Poster Award.

SOFTWARE PRODUCTS (open source code available for starred items)

DataSketch* (with Radiant Llama; Agile Global Solutions) 2014-2018

Data visualization toolkit; digital ink objects programmed to respond to live or archival datasets.

SiMSAM* (with Brian Gravel; Geisel Software) 2012-2017
Integrated stop-action moviemaking, simulation, and measurement toolkit for scientific modeling.

DeltaTick* (With Aditi Wagh and Uri Wilensky) 2010-2012
Domain-specific block-based programming interface for the NetLogo modeling environment.

Categorizer 2009-2011
Interactive online gallery to allow learners to share, classify & compare computational artifacts.

NetLogo Models Library Contributions* 2006-2011
Vee Flocking (with Forrest Stonedahl), 3D GasLab Suite, Chaos Suite, Surface Walking.

Ubiquitous Presenter (with Beth Simon and William Griswold) 2004-2005
Tablet-based slide annotation and student response tool for large lecture-based classrooms.

TEACHING

COURSES

EDUC 209 (formerly 223B): CoRE Writing Support (New Course)	FA17; SP18; every semester Sp19-Present
UGIS/EDUC c122: Rsch Meth for K12 Math and Sci Teachers (CalTeach)	SP20; FA20; FA21 (50%)
EDUC 150/170: K-12 Computing and Data Science Education (New Course)	FA20; SP21
EDUC 295B: Technology, Curriculum, and Instruction (Course Redesign x2)	SP17; SP19; SP20; SP21 (50%)
EDUC 223B: STEM Education Support Seminar (New Course)	FA19; SP20
EDUC 223B: CoRE Research Group	SP16; FA16; SP17; FA17; SP18; SP19
EDUC 293V: Video Analysis Methods (Course Redesign)	SP18
EDUC 290C/235A: Scientific Thinking and Learning (Course Redesign)	FA16; FA17
SESAME 210: Practicum in Science and Math Education (Co-taught with Lloyd Goldwasser)	FA16
EDUC 290C: Epistemic Forms, Games, and Fluency (New Course)	SP16

At Tufts

ED130: Introduction to Human Development and Learning	FA15
ED112: Mathematics Learning Environments	FA12; FA13; FA14; FA15
Co-taught with Judah Schwartz	FA11
ED222/223: STEM Ed Graduate Program Seminar	2012-2013; 2013-2014
Co-taught with Bárbara Brizuela	2011-2012
ED291: Intro. to Educational Design and Design-Based Research (New Course)	SP12; FA14
ED121/122/125: The Practice of Teaching: Science, Mathematics, and Engineering	
Co-taught with Brian Gravel	SP13
Co-taught with Mary Caddle and Brian Gravel	SP12

WORKSHOPS AND TUTORIALS

DataBytes and Data Stories in Your Classroom 2022
Eight-hour professional learning workshop for 50+ K12 teachers.

DataBytes Professional Learning Summer Workshop 2022
Two hour professional learning workshop for CUNY Computing Integrated Teacher Education program.

Telling Stories with Data: Strategies and Tools for Building Data Fluency. 2022
One hour online webinar to introduce and model DataBytes curriculum. 50+ participants.

Writing Data Stories Professional Learning Summer Workshop 2020
2-day online seminar + asynchronous modules for in-service middle school teachers. 15 participants.

Data Science Education Webinar Series 2017
Data Moves and Data Stories. Webinar series sponsored by Concord Consortium.

DataSketch Teacher Professional Development Workshop 2017
Three day workshop on data analysis in science for in-service teachers. Attended by 21 participants.

Participatory Design and Technology in Schools 2016
One and a half hour workshop on participatory design methods for school leaders visiting Berkeley as part of the BI Norway exchange.

Data Science Games Teacher Professional Development Workshop 2016
With William Finzer, Tim Erickson. San Francisco Unified School District workshop on NGSS alignment, data analysis, and visualization technologies.

What is Data Science? 2016
With William Finzer, Tim Erickson. Cyberlearning 2016 Expertise Exchange. Washington, DC.

Social Justice & Youth in STEM 2015
With Tamara Clegg. Cyberlearning 2015 Envisioning Group. Washington, DC.

SiMSAM Teacher Professional Development Workshop 2013, 2014
With Brian Gravel. Tufts University STEM Elementary Education Module.

Finding Evidence of Student Thinking 2013
Leader with Poincaré Institute members. Poincaré (Mathematics Professional Development Program) Cohort 2 Course 2 Kickoff Workshop.

What Are My Students Thinking? And, Modeling Data with Functions 2012
With Poincaré Institute members. Poincaré Cohort 1 Course 3 Kickoff Workshops.

NetLogo Demo and Professional Development Session 2010
Virtual School Symposium, Intern'tl Assoc. for K-12 Online Learning (iNACOL), Glendale, AZ.

Agent-Based Modeling with NetLogo: Exploring, Designing, and Building 2010
With members of the Center for Connected Learning. Constructionism 2010. Paris, France.

NetLogo Workshops at Northwestern University 2010
Led 3 workshops for curriculum designers, teachers, complexity science researchers.

MENTORING AND ADVISING

POSTDOCTORAL SCHOLARS

Dr. Emily Reigh	Jun 2022 – Present
Dr. Cherise McBride	Oct 2021 – Present
Dr. Kathryn Lanouette	Sep 2019 – Jun 2020

DOCTORAL STUDENTS

Tyler Graff (LEAD); Brendan Henrique (EDUC w/ Hull)	2021 – Present
Andrew Phuong (EDUC w/ Fuller)	2020 – Present
Jacob Barton (EDUC); Erin Foley (SPED w/ Siu); Lisette Lopez (LLC w/ Gutiérrez)	2019 – Present
Collette Roberto (EDUC)	2018 – Present
Nicole Bulalacao (EMST)	2017 – Present
Vasiliki Laina (SME)	2016 – Present
Becca Shareff (DMS)	Graduated 2020

MASTERS STUDENTS

Sheila Afnan, Luis Hernández, Sean Li, Alex Paauwe, Jane Sadetsky, Yixiao Zhang (MACSME)	2019
Jim Han, Alyssa Kehlenbach, Annie Lu, Nathan Usselman (MACSME)	2018
Sydney Aardhal, Eugenia Clark, Tarah Kirnan, Sierra Flynn, Sierra Reyburn (MACSME)	2017

Katrina Halle (MACSME) 2016

UNDERGRADUATE MENTEES

Diana Campos, Brandon Fong (EDUC c122; McBride Postdoc); 2021-2022
Victor Gaona (EDUC c122; Roberto GSR); Jenny Ye (URAP, Roberto GSR);
Amanda Gonzaga (Honors Thesis; Laina GSR)
Zaynad At-Taras, Meshan Khosla, Ruben Pulido, Ashish Shrestha, Aidan Tan (URAP; Roberto GSR); 2020-2021
Maya Ito (McNair Scholar; Roberto GSR);
Dylan Fryer, Mikaela Kupfer (EDUC c122)
Ashley Quiterio (CalNERDS Program); Julio Jamarillo (CalTeach) 2019-2021
William McEachen (URAP; Laina GSR) 2017-2019
Prathyusha Charagondla, Thuyvi Nguyen, Lakshmi Ramesh, Shuya Zhan (URAP; Laina GSR) 2017-2018
Asami Takagi, Pranay Singal, Georgia Calhoun (URAP; Laina GSR) 2016-2017

COMMITTEES

Dissertation
Elena Duran (SME); Elena Leib (Psychology); Anna Zarkh (SME); Deniz Dogruer (SME); Ongoing
Allison Bradford (EDUC)
Leah Rosenbaum (EDUC) 2021
Emily Harrison (SME); Korah Wiley (SME) 2020
Kathryn Lanouette (HD) 2019
Sara Tischhauser (SME), Beth McBride (SME), Erin Palmer (SME), Thomas Reinhardt (LEEP) 2018
Bona Kang (DMS) 2017
Jennifer King Chen (SME), Anna Casey (HD) 2016

Outside Member, Dissertation
Caroline Hagen (Tufts) 2020
Elise Deitrick (Tufts), Yara Shaban (Tufts) 2019

Master of Arts
Melissa Mainini (PLI) 2020
Chad Lesausky (PLI) 2016

Qualifying Examination
Allison Bradford (EDUC) 2022
Deniz Dogruer (SME); Laleh Coté (SME) 2021
Elena Leib (Psychology) 2020
Laura Armstrong (SME); Elena Duran (SME) 2019
Amelia Farid (EMST), Emily Harrison (SME) 2018
Anna Zarkh (SME) 2017
Erin Palmer (SME), Kathryn Lanouette (HD), Thomas Reinhardt (LEEP), Sarah Tischauser (SME) 2016

At Tufts
Advisor, Master of Arts in Teaching
Jasmine Mills, Khiry Walker, Eric Semple, Jaclyn Snell, Kendal Schwarz 2014
Laura Nixon, Arielle McCoy, Noah Jefferson, Micaela Harris, Katherine Gruzynski 2013

Advisor, Independent Studies and Undergraduate Research
Mahsa Hayeri, James Maldonis, Sabrina Gordon, Amanda Bell, Ian Dumais

University Supervision for Credential Program
Laura Nixon, Arielle McCoy, Micaela Harris, Katherine Gruzynski, Elsa Head, Elena Rose Murray

Qualifying Paper
Ying Cao (2), Lama Jaber, Caroline Hagen, Jennifer Radoff

Masters Thesis
Amanda Borow (Educational Studies), Dylan Portelance (Child Development)

Dissertation
Lama Jaber, Ying Cao

SERVICE

LEADERSHIP

Associate Editor, *Journal of Statistics and Data Science Education*	2021-Present
Editorial Board Member, *Cognition and Instruction*	2020-Present
Editorial Board Member, *Journal of the Learning Sciences*	2017-Present
Editorial Board Member, *Information and Learning Sciences*	2016-Present
Associate Editor (Math Snapshots Column) *Digital Experiences in Mathematics Education*	2015-Present
Organizer (with Victor Lee, Joseph Polman, Tapan Parikh)	2015-2016
NSF Workshop: Youth, Learning, and Data Science Summit. (youthdatascience.org)	
August 11-12, University of California—Berkeley.	
Program Chair, AERA Special Interest Group for Adv. Tech. for Learning	2013-2014
Editor in Charge (3 articles), Review Board Member	2013
Math Snapshots Column, Technology, Knowledge, and Learning	
Chair, AERA Special Interest Group for Advanced Technologies for Learning	2012-2013

RESEARCH ADVISORY COMMITTEE MEMBERSHIP

Narrative Modeling with StoryQ	2020-2023
PIs Jie Chao, Carolyn Rosé, Shiyan Jiang; DRL-1949110	
Project CAMPS: Computing and Math in Play Spaces	2018-2021
PIs Melissa Gresalfi, Corey Brady; DRL-1742257	
Science Projects Integrating Computing and Engineering (SPICE)	2017-2020
PIs Satabdi Basu, Kevin McElhaney, Gautam Biswas, Jennifer Chiu; DRL-1742195	
Designing and Exploring a Model for Data Science Learning for Middle School Youth	2017-2020
PI Andee Rubin; DRL-1742255	
Computing with R for Mathematical Modeling	2017-2020
PIs Jie Chao, Eric Simoneau, Benjamin Galluzzo; DRL-1742083	
Developing Crosscutting Concepts in STEM with Simulation Theaters for Embodied Learning	2014-2018
PI Robb Lindgren; IIS-1441563	
Learning Science Through Technology Enhanced Play (STEP)	2015-2018
PIs Noel Enyedy, Carlos Wagmister, Jeffrey Burke, Joshua Danish; IIS-1323767	

EXTERNAL COMMITTEES AND PANELS

Award Committee, Special Interest Group in Advanced Technologies for Learning and Learning Sciences Best Student Paper	2014-Present
Program Committee, International Conference of the Learning Sciences (ICLS)	2018, 2020
Program Committee, Cyberlearning Synthesis & Envisioning Meeting	2015
Volunteer Coordinator, Interaction, Design and Children Conference	2015
Faculty Mentor, AERA Div. C Graduate Student Seminar	2014
Program Committee, Fablearn	2013, 2014
Program Committee, Constructionism	2012, 2014
Program Committee, Interaction, Design & Children	2010, 2012
Panelist, Games for Learning Science in Informal Environments (GLS-IE) Invited Meeting June 11-12 in Madison, WI	2010

INTERNAL COMMITTEES

Vice Chair, GSE Personnel Committee	2021-Present
Faculty Advisor for GSI Affairs	2021-Present
Member, GSE Personnel Committee	2019-2021
Chair, Barbara White Bequest Committee	2017-Present
Chair, Randi Engle Award Committee	2018-Present
Curriculum Committee (formerly Academic Review Committee)	2016-2018
SESAME Faculty Steering Committee	2016-Present
STEM Education Faculty Search Committee	2017-2018
Ad Hoc Curriculum Committee	2017
UC Grant Reviews: Peder Sather Fund, Berkeley-France Fund, AISL Limited Submission	

At Tufts

Social, Behavioral, and Educational Research Institutional Review Board	2014-2015
Critical Literacy Job Search Committee	2014-2015
Departmental Work/Life Liaison	2013-2015
Master of Arts in Teaching Program Committee	2011-2015
STEM Education Program Committee	2011-2015

At Northwestern

Computational Literacy Job Search Committee	2009-2010
Computational Literacy Job Search Committee	2007-2008

REVIEWING [EDITORIAL BOARDS]

Journal of the Leaning Sciences
Cognition and Instruction
Journal of Statistics and Data Science Education
Information and Learning Sciences
Digital Experiences in Mathematics Education

REVIEWING [AD HOC; WITHIN PAST 3 YEARS]

National Science Foundation Grant Review Panel — at least once per year since 2012

Educational Researcher
Teaching and Teacher Education
Educational Studies in Mathematics
Instructional Science
Journal of Mathematical Behavior
Journal of Science Education and Technology
Learning, Media, and Technology
Mathematical Thinking and Learning
Science Education
ZDM: International Journal of Mathematics Education
International Conference for the Learning Sciences (ICLS) [Senior Reviewer 2018; 2020; 2021; 2022]
American Educational Research Association (AERA) [SIG-ATL Program Chair, 2014; Program Co-Chair, 2013]
Interaction, Design, and Children (IDC)
Association of Computing Machinery – Special Interest Group in Human-Computer Interaction (SIG-CHI)
International Conference for Computing Education Research (ICER)