

Lauren Vogelstein

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I study how embodied theories of learning, informed by the expressive and artistic practices of dancers and choreographers, can reframe *what* is learned in STEM environments, *how* it can be learned collectively, and *who* is involved in expanding the pedagogical implications of this work. In other words, I study how people learn from an embodied and interactionist perspective in order to better design expansive STEM learning environments for students.

EDUCATION

- Vanderbilt University** Expected May 2022
PhD Learning and Design
Dissertation: Learning in Embodied Ensemble Mathematical & Computational Choreography
Committee: Dr. Rogers Hall (co-chair), Dr. Corey Brady (co-chair), Dr. Noel Enyedy, & Dr. Dionne Champion
- Northwestern University** 2016
MA Learning Sciences
Thesis: Lucy the Chipmunk Defender: Embodied learning on the elementary school playground
Advisor: Dr. Reed Stevens
- Fordham University/The Alvin Ailey School** 2013
BS Mathematics
BFA Dance *Concentration: Choreography*

RECENT RESEARCH MILESTONES

- Selected Publications
 - Sengupta-Irving, T., **Vogelstein, L.**, Brady, C., Phillips-Galloway, E. (Accepted with major revisions). Prolepsis & telos: Interpreting maker pedagogy, the role of creativity, and the power of imagined futures. *Journal of the Learning Sciences*.
 - **Vogelstein, L.**, Brady, C., & Hall, R. (2019). Reenacting mathematical concepts found in large-scale dance performance can provide both material and method for ensemble learning. *ZDM Mathematics Education* 51(2). <https://link.springer.com/article/10.1007/s11858-019-01030-2>
 - **Vogelstein, L.** (2021). *Mathematical physical research: Mathematical agency in the practices of professional dancers*. Proceedings of the International Society of the Learning Sciences Annual Meeting 2021 (pp. 299-306). Best student paper Learning Sciences nominee. https://drive.google.com/file/d/1NuYhdOKDgpp_omNH6qXKYmAh2G5_c9iv/view
 - **Vogelstein, L.** (2020) *Physical research: Professional dancers exploring collective possibilities in a solidifying substrate*. Proceedings of the International Conference of the Learning Sciences, 2020, 737-739. <https://par.nsf.gov/biblio/10202099>
 - **Vogelstein, L.**, & Brady, C. (2019, June). *Taking the patch perspective: A comparative analysis of a patch based participatory simulation*. In Proceedings of the 2019 Conference on Computer Supported Collaborative Learning. <http://repository.isls.org/handle/1/1611>
- Recent Funding
 - \$858,997, Co-PI - Applying a complex systems perspective to investigate the relationship between choreography and agent-based modeling as tools for scientific sense-making (NSF Funded AISL - 2021-2024, Dr. Dionne Champion PI, **Lauren Vogelstein** & Aditi Wagh Co-PIs) https://www.nsf.gov/awardsearch/showAward?AWD_ID=2115773&HistoricalAwards=false
 - \$24,425, PI - NSF INTERN Fellowship: Design and research educational outreach programming with the contemporary dance company New Dialect (Fall 2019 – Winter 2020)

PEER REVIEWED JOURNAL ARTICLES

1. Sengupta-Irving, T., **Vogelstein, L.**, Brady, C., Phillips-Galloway, E. (Accepted with major revisions). Prolepsis & telos: Interpreting maker pedagogy, the role of creativity, and the power of imagined futures. *Journal of the Learning Sciences*.
2. **Vogelstein, L.**, Brady, C., & Hall, R. (2019). Reenacting mathematical concepts found in large-scale dance performance can provide both material and method for ensemble learning. *ZDM Mathematics Education* 51(2). <https://link.springer.com/article/10.1007/s11858-019-01030-2>
3. Brady, C., Blough, R., Hollister, K., Jordan, P., Marshall, S. A., Nichols, I., **Vogelstein, L.**, & Wisittanawat, P. (2019). Clockface polygons and the collective joy of making mathematics together. *Mathematics Enthusiast*, 16(1), 75-106. <https://scholarworks.umd.edu/cgi/viewcontent.cgi?article=1451&context=tme>
4. Barker, A., Swinarski, D., **Vogelstein, L.**, & Wu, J. (2015). A new proof of a formula for the type A 2 fusion rules. *Journal of Mathematical Physics*, 56(1), 011703. <https://arxiv.org/pdf/1408.4353.pdf>
5. **Vogelstein, L.** (2012). The Graham Trials: Preserving the Past for the Future. *Nartanam*, 12(1).

PEER REVIEWED CONFERENCE PROCEEDINGS

1. Brady, C., **Vogelstein, L.**, Gresalfi, M., Knowe, M. (2021). Circular reasoning: Shifting epistemological frames across mathematics and coding activities. In *Proceedings of the Psychology of Mathematics Education North American Chapter annual meeting*, Philadelphia, PA.
2. **Vogelstein, L.** (2021). Mathematical physical research: Mathematical agency in the practices of professional dancers. *Proceedings of the International Society of the Learning Sciences Annual Meeting 2021* (pp. 299-306). Nominated for best student paper award. https://drive.google.com/file/d/1NuYhdOKDgpp_omNH6qXKYmAh2G5_c9iv/view
3. Solomon, F., **Vogelstein, L.**, Brady, C., Steinberg, R., Thomas, C., Champion, D., Lindberg, L., Enyedy, N., DesPortes, K., Payne, W., Bergner, Y., Taylor, E., & Shapiro, B. (2021). Embodying STEM: Learning at the intersection of Dance & STEM. Symposium in *Proceedings of the International Society of the Learning Sciences Annual Meeting 2021* (pp. 819-826). Served as co-chair and presenter. https://drive.google.com/file/d/1NuYhdOKDgpp_omNH6qXKYmAh2G5_c9iv/view
4. **Vogelstein, L.**, Brady, C., Steinberg, R., Thomas, C. (2021). Flares in the soup game: Improvisational collective choreography and computational expressivity. In the symposium Expansive Modeling: Broadening the scope of modeling in K-12 education, in *Proceedings of the International Society of the Learning Sciences Annual Meeting 2021* (pp. 832-833). https://drive.google.com/file/d/1NuYhdOKDgpp_omNH6qXKYmAh2G5_c9iv/view
5. Brady, C., & **Vogelstein, L.** (2020) Patches as an expressive medium for agent-based modeling and programming. *Proceedings of Constructionism, 2020*, 436-448. https://www.researchgate.net/profile/Karl-Fuchs-2/publication/349732688_A_Constructionistic_Approach_to_Mathematical_Concepts_with_Hand-Held_Technology_Proceedings_Constructionism_2020_Dublin_S_62_63/links/603f6424a6fdcc9c780cc238/A-Constructionistic-Approach-to-Mathematical-Concepts-with-Hand-Held-Technology-Proceedings-Constructionism-2020-Dublin-S-62-63.pdf#page=436
6. **Vogelstein, L.** (2020) Physical research: Professional dancers exploring collective possibilities in a solidifying substrate. *Proceedings of the International Conference of the Learning Sciences, 2020*, 737-739. <https://par.nsf.gov/biblio/10202099>
7. Keifert, D., Hall, R., Enyedy, N., **Vogelstein, L.**, Ehrenfeld, A. P. N., Marshall, S., ... & Clark, H. (2020). Analytical designs: Goodwin's substrates as a tool for studying learning. *Proceedings of the International Conference of the Learning Sciences, 2020*, 1471-1478. <https://45.55.127.102/bitstream/1/6352/1/1471-1478.pdf>
8. Jackson, A., **Vogelstein, L.**, Clark, H., Lindberg, L., Thompson, N., & Uttamchandani, S. (2020). Learning together: Reflections at the intersection of friendship, research, and learning processes. *Proceedings of the International Conference of the Learning Sciences, 2020*, 657-660. <https://repository.isls.org/bitstream/1/6720/1/657-660.pdf>

9. Elliott, C. E., Radke, S., DeLiema, D., Silvis, D., **Vogelstein, L.**, Vossoughi, S., Hall, R. (2020) Whose video?: Surveying implications for participants engagement in video recording practices in ethnographic research. *Proceedings of the International Conference of the Learning Sciences*, 2020, 414-421. <https://repository.isls.org/bitstream/1/6666/1/414-421.pdf>
10. Sengupta-Irving, T., **Vogelstein, L.**, Brady C., Galloway, E. P., (2020) The pedagogical moves of artist mentors in a public library makerspace. *Proceedings of the International Conference of the Learning Sciences*, 2020, 2297-2299. <http://repository.isls.org/handle/1/6536>
11. **Vogelstein, L.**, & Brady, C. (2019). Taking the patch perspective: A Comparative analysis of a patch based participatory simulation. In *Proceedings of the 2019 Conference on Computer Supported Collaborative Learning*. <http://repository.isls.org/handle/1/1611>
12. Gresalfi, M., Bell, A., Brady, C., **Vogelstein, L.**, Damsa, C., Palonen, T., Rogat, T.K., Traynor, A., Adeyoe, T.F., & Hmelo-Silver, C.E. (2019). Theorizing and measuring collective productive disciplinary engagement. In *Proceedings of the 2019 Conference on Computer Supported Collaborative Learning*, Lyon, France. https://www.duo.uio.no/bitstream/handle/10852/74123/1/CSCL%2BSymposium%2B2019_Cheng_Damsa.pdf
13. Hall, R., & **Vogelstein, L.** (2018). How did they do that? Using video-elicited re-enactments to invite ensemble learning in mathematical activity. In *Proceedings of the International Conference of the Learning Sciences*, London, England. <https://repository.isls.org/bitstream/1/593/1/266.pdf>
14. Sengupta-Irving, T., & **Vogelstein, L.** (2018). Mentors in the making: A case study of heterogeneity in meaning making at a public library makerspace. In *Proceedings of the International Conference of the Learning Sciences*, London, England. <https://45.55.127.102/bitstream/1/807/1/459.pdf>
15. **Vogelstein, L.**, Brady, C., & Hall, R. (2017). Putting our bodies on the line: Mathematizing ensemble performances. In *Proceedings of the Psychology of Mathematics Education North American Chapter annual meeting*, Indianapolis, IA (pp. 383-386). <http://www.pmena.org/pmenaproceedings/PMENA%2039%202017%20Proceedings.pdf>
16. **Vogelstein, L.**, Brady, C., & Hall, R. (2017). Mathematical reflections: The design potential of ensemble performance. In *Proceedings of the 2017 Conference on Interaction Design and Children* (pp. 583-588). <https://dl.acm.org/doi/abs/10.1145/3078072.3084328>

RESEARCH EXPERIENCE

Co-Principal Investigator 2021-2024

The body as a tool for science learning and research: Utilizing choreography and agent-based models to study scientific phenomena (NSF Funded AISL - \$858,997, Dr. Dionne Champion PI, Lauren Vogelstein & Aditi Wagh Co-PIs) https://www.nsf.gov/awardsearch/showAward?AWD_ID=2115773&HistoricalAwards=false

- Co-wrote grant proposal, conceptualized study
- Will co-lead design team for professional development with scientists & choreographers as well as design of camp for middle school students, scientists, and choreographers
- Will co-lead implementation and data collection at two sites (Gainesville, FL & Boston, MA)

Research Assistant 2021-present

GEM STEP (NSF Funded, Dr. Noel Enyedy, Dr. Corey Brady, & Dr. Joshua Danish PIs)

- Designing a mixed reality environment that pairs physical embodiment and play with computational thinking to support deep engagement with scientific inquiry

Research Assistant 2017-2021

Foregrounding Agency Versus Structure as Models for Designing Integrated Mathematics and Computational Thinking Curriculum – CAMPS Project (NSF Funded, Dr. Melissa Gresalfi & Dr. Corey Brady PIs)

- Designed embodied activities for 3 coding, math and arts camps for middle school students
- Designed professional development to position teachers as co-designers of these camps
- Worked with teachers to implement innovative camp curriculum in their classrooms

- Led implementation and data collection for 3 1-week long camps
- Presented analyses at national and international conferences

Doctoral Student Principal Investigator

2019-2020

NSF INTERN Grant, supplemental to the Foregrounding Agency project

- Secured NSF funding to explore connections between dance, computation, and mathematics learning
- Designed and led professional development for dancers and math teachers to co-design and math and computation activities using ensemble dance
- Lead a co-analysis with professional dancers to deepen understandings of embodied ensemble learning

Research Assistant

2017-2018

The Making of Expansive Possibilities (Peabody College small grant, Dr. Tesha Sengupta-Irving, Dr. Corey Brady, & Dr. Emily Phillips Galloway PIs)

- Conducted 6 weeks of ethnographic observations and interviews with mentors at a teen makerspace in a public library
- Engaged in qualitative coding and iterative analysis of both field notes and interviews
- Wrote and presented analyses at national and international conferences
- Revising a manuscript on findings (second author, accepted with major revisions, *Journal of the Learning Sciences*)

Lead Researcher

2016-2020

Ensemble Mathematical Learning Project (Funded by the Vanderbilt Curb Center, Lauren Vogelstein, Dr. Rogers Hall, & Dr. Corey Brady PIs)

- Designed and conducted a series of video elicited interviews to study ensemble mathematical learning
- Conducted 2 years of ethnographic observations and interviews of professional dancers collective inquiry practice, *physical research*
- Led analysis and presented findings at national and international conferences
- Published a first authored paper on findings and writing another first authored work

Lead Researcher

2015-2016

Physical Intuitions: Colliding kinespheres on the school playground (Advised by Reed Stevens at Northwestern University)

- Conducted 2 months of ethnographic observations of how 4th and 5th graders used their bodies to communicate and play during recess
- Developed relationship with public elementary school to conduct research
- Wrote accepted IRB application for research
- Analyzed field notes and video recordings for master's thesis and conference presentations

MANUSCRIPTS IN PREPARATION AND UNDER REVIEW

1. Steinberg, S., Gresalfi, M., **Vogelstein, L.**, Brady, C. (Under review) The dance of coding and the coding of dance: Understanding student agency in the face of representational incompatibilities.
2. **Vogelstein, L.** (In preparation) Physical research: The design potential of embodied ensemble mathematical choreography.
3. **Vogelstein, L.**, Steinberg, R., Thomas, C., & Brady, C. (In preparation) Expanding the stories we tell through interdisciplinary co-design & co-analysis across the learning sciences and dance.
4. Hall, R., **Vogelstein, L.**, Shapiro, B. R., & Erickson, F. (In preparation). In the body of analysts: Reenactment and embodiment as important tools for Interaction Analysis.
5. Brady C., & **Vogelstein, L.** (In preparation) Epistemic re-keying: Transforming interdisciplinary tensions into opportunities for students to engage in playful artistic expression.
6. Brady, C. & **Vogelstein, L.** (In preparation). Artistic practices as expanding the potential of Vygotskian double stimulation experiments.

7. Everyday IA Collective: DeLima, D., Elliott, C. E., Marin, A., Radke, S., Shapiro, B. R., Silvis, D., & **Vogelstein, L.** (In preparation). Public interaction analysis: Political and ethical dimensions of engaging in video-based data analysis in today's age of media production, consumption, and analysis.

PEER REVIEWED CONFERENCE PRESENTATIONS

1. **Vogelstein, L.** (2020, November). *Exploring the "with whom" in the analysis process: Broadening our perspectives to include interdisciplinary co-designers*. Published in the proceedings of the 2020 Learning Sciences Graduate Student Conference, Madison, WI.
2. Chapman, K., Jasien, L., Reimer, P., & **Vogelstein, L.** (2019, June). Designing for productive problem posing in informal STEM spaces. Discussant in symposium at the 2019 Conference on Computer Supported Collaborative Learning, Lyon, France.
3. **Vogelstein, L.** (2019, November). *Embodying full personhood in education: What educators can learn from the practices of professional dancers*. Paper presented at the 9th Conference on Education and Social Justice, Honolulu, Hawai'i.
4. Sengupta-Irving, T., & **Vogelstein, L.** (2019, April). *Democratizing what: A case study of how mentors in a public library makerspace organize toward expansive possibilities*. Paper presented at the American Education Research Association annual meeting, Toronto, Canada.
5. **Vogelstein, L.**, Hall, R., & Brady, C. (2019, April). *Physical research: The mathematical potential of dancers professional practices*. Paper presented at the American Education Research Association annual meeting, Toronto, Canada.
6. **Vogelstein, L.**, Hall, R., & Brady, C. (2019, April). *Unfolding joy: Expressive mathematics in ensemble performance*. Poster presented at the American Education Research Association annual meeting, Toronto, Canada.
7. **Vogelstein, L.** (2018, October). *An aesthetics of (dis)order in context*. Paper presented at the American Educational Studies Conference, Greenville, SC.
8. **Vogelstein, L.** (2018, October). *Physical research: Professional dancers' use of multi-modal choreographic resources in structuring physical inquiry*. Paper presented at Learning Sciences Graduate Student Conference annual meeting, Nashville, TN.
9. **Vogelstein, L.**, Brady, C., & Hall, R. (2017, June). *Embodied mathematical technologies: Making sense of ensemble-based embodied mathematical thinking and learning*. Paper presented at Jean Piaget Society annual meeting, San Francisco, CA.
10. **Vogelstein, L.** (2017, October). *Ensemble performance as expressive mathematics*. Poster presented at Learning Sciences Graduate Student Conference annual meeting, Bloomington, IN.
11. **Vogelstein, L.** (2016, October). *Lucy the chipmunk defender: Embodied learning in figured worlds at recess*. Poster presented at Learning Sciences Graduate Student Conference annual meeting, Chicago, IL.

PEER-REVIEWED & INVITED WORKSHOPS

1. Gresalfi, M., Brady, C., **Vogelstein, L.**, Kafai, Y., Weintrop, D., Parks, A., Bell, A., Knowe, M., Love, C., & Steinberg, S. (2021, October). Exploring productive struggle in mathematically-rich contexts. In *Proceedings of the Psychology of Mathematics Education North American Chapter annual meeting*, Philadelphia, PA.
2. **Vogelstein, L.**, Champion, D., Lindberg, L. (2020, June) *Interdisciplinary inquiry into dance & STEM: Collaboration and creativity to further designs for STEM learning*. Workshop accepted for the International Conference of the Learning Sciences 2020 (Canceled due to virtual nature of conference).
3. Hall, R., **Vogelstein, L.**, Vossoughi, S., R., & Echevarria, R. (2019, September). *Interaction analysis workshop*. Workshop presented at Learning Sciences Graduate Student Conference annual meeting, Evanston, IL.
4. **Vogelstein, L.**, Lindberg, L., Hall, R., & Brady, C. (2019, August). *Ensemble learning and movement*. At NSF funded Tensegrity Workshop, Vassar College.

5. **Vogelstein, L.**, Jackson, A., & Marshall, S. A. (2018, October). *Ambassadors and advocacy: A workshop on positionality*. In A. Pierson, & L. Vogelstein (Eds.), *Designing the learning sciences: Thinking deeply about the relationship between theory and design* (pp. 197-198). Nashville, TN: Learning Sciences Graduate Student Conference.
6. **Vogelstein, L.** (2017, June). *Two reflections = one rotation?: Questions in embodied analyses*. Data Gallery Presentation at the NSF funded Learning on the Move Conference, Nashville, TN.
7. **Vogelstein, L.** (2016, October). *The Learning Sciences: Figuring out what it means together*. Workshop presented at Learning Sciences Graduate Student Conference annual meeting, Chicago, IL.

SELECTED GRANTS AND FELLOWSHIPS

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| 2021-2024 | NSF AISL Grant – Co-PI National Science Foundation <i>The body as a tool for science learning and research: Utilizing choreography and agent-based models to study scientific phenomena</i> | \$861,283 |
| 2019-2020 | NSF INTERN Award – Principal Investigator National Science Foundation <i>Educational Outreach Internship with New Dialect</i> | \$24,425 |
| 2017-2019 | Research Grant Curb Center Public Scholar, Vanderbilt University | \$2,000 |
| 2017 | Peabody Small Grant Peabody College, Vanderbilt University <i>Making of Expansive Possibilities</i> | \$10,000 |
| 2018-2020 | Peabody Dean’s Fellowship Peabody College, Vanderbilt University | \$5,000 |
| 2016-2021 | Graduate Honor Scholarship Vanderbilt University | \$50,000 |

GRADUATE TEACHING EXPERIENCE

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| Spring 2021 | Learning & the Interaction Order <i>Teaching Assistant</i> Co-taught and revamped an advanced graduate qualitative methods course in the department of Teaching & Learning, under the tutelage of Dr. Rogers Hall. The course supported students in developing a methodological tool-kit to engage in practices of Interaction Analysis, taking the interactional achievement of learning as an empirical phenomenon to study. | Vanderbilt University |
| Spring 2020 | Learning & Design in Community Settings <i>Teaching Assistant</i> Co-designed and co-taught a new course in the department of Teaching & Learning, under the tutelage of Dr. Rogers Hall. We created an undergraduate version of the graduate course we had taught in the fall of 2019, Design and Study of Informal Learning Environments, pushing students to expand their conceptions of learning outside of classrooms using sociocultural theories. | Vanderbilt University |
| Fall 2019 | Design and Study of Informal Learning Environments <i>Teaching Assistant</i> Co-taught this course in the department of Teaching & Learning, under the tutelage of Drs. Rogers Hall & Leona Schauble. With masters and doctoral students, we deeply engaged in how empirical studies of learning outside of classrooms change the way we understand and design learning environments. | Vanderbilt University |

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| Spring 2019 | Discourse in STEM <i>Teaching Assistant</i> Co-taught and iteratively designed lessons for this course in the department of Teaching & Learning, under the tutelage of Dr. Nicole Joseph. With masters and doctoral students, we reimagined ways of engaging students in equitable discourse in STEM learning spaces. | Vanderbilt University |
| Summer 2018 | Learning In & Out of Schools <i>Teaching Assistant</i> Co-taught this course in the department of Teaching & Learning, under the tutelage of visiting scholar Dr. Katie Hedrick Taylor for masters students in the Learning & Design MA program supporting their first course in graduate school. | Vanderbilt University |
| 2019-2022 | Learning & Design Masters Program <i>Capstone Mentor</i> Assisted Dr. Kris Neal in redesigning the capstone curriculum for the one-year Learning & Design masters program in the department of Teaching & Learning. Mentored two a groups of six masters students through the capstone process. Serving in this capacity for a third year, iterating on our design from the previous years to mentor another seven masters students in their capstone work. | Vanderbilt University |

INVITED GUEST LECTURES

1. Ethical Reflections on Design Research Partnerships. Designing for Contexts. Introduction to the Design of Learning Environments – Graduate Course, Vanderbilt University, Kris Neal (Fall, 2021)
2. Using Processes of Physical Research as Collective Embodied, Expressive Inquiry. Introduction to the Arts with an Emphasis on Children’s Literature – Graduate Course, Vanderbilt University, Jeanne Peter (Summer 2021)
3. Creating Large Scale Ensemble Mathematical Performances & Transformations. Mathematics Visualization - Graduate Course, Vanderbilt University, Corey Brady (Fall 2018)
4. Experiencing Ensemble Mathematics Learning in Choreography. Learning In the Community - Graduate Course, Vanderbilt University, Andrew Hostetler (Summer 2017)
5. Viewing Ensemble Mathematics in Choreography. Learning in and out of Schools - Graduate Course, Vanderbilt University, Rogers Hall (Spring 2017)

INVITED PRESENTATIONS

1. **Vogelstein, L., & Lindberg, L.** (2020, Spring). *Embodied Methods of Interaction Analysis*. Guest speaker in Dr. Ananda Marin’s doctoral seminar, Learning in Interaction and Participation: Understanding the Role of Place, Bodies, and Movement, UCLA.
2. **Vogelstein, L.** (2019, Spring). *Reenacting mathematical concepts found in large-scale dance performance can provide both material and method for ensemble learning*. Guest speaker in Dr. Dor Abrahamson & Dr. David DeLiema’s Berkeley University Embodied Research Group, University of California Berkeley.

TEACHING, CHOREOGRAPHY, AND PROFESSIONAL DEVELOPMENT EXPERIENCE

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| 2019 | INTERN Week exploring physical research of ensemble math <i>New Dialect</i> Designed and led a one-week dance intensive workshop for professional dancers to engage in their practice of physical research to explore the design potential of ensemble mathematical learning environments. The week culminated in inviting middle school math teachers to join us in the dance studio to explore these ideas together. | Nashville, TN |
| 2018-2020 | CAMPS Co-Design and Professional Development Workshops <i>Vanderbilt University</i> | Nashville, TN |

Designed and led one-week professional development workshops for middle school math teachers to collaboratively co-design and learn how to integrate computational and mathematics thinking in an arts-based learning environment.

- 2013-2014 **Museum Interpreter & Curriculum Developer** New York, NY
National Museum of Mathematics
Worked on the floor of the museum: explaining exhibits, ensuring visitor satisfaction, coordinating events, safeguarding the museum floor, greeting groups, and assisting the floor manager. Trained new employees, interns, and volunteers to engage visitors in meaningful mathematics play. Created and implemented a movement-based curriculum for 4th-8th graders in the museum's summer camp, Transformations.
- 2014-2015 **High School Mathematics Teacher & Tutor** New York, NY
The Beekman School
Taught Calculus, Advanced Statistics, Algebra II/Trigonometry, Pre-Algebra, and one semester of Biology in a high school setting. Encouraged students to be confident in their problem-solving techniques and mathematical interests.
- 2013-2014 **Visiting Choreographer** New York, NY
The Equus Project
Invited by the artistic director, JoAnna Mendl Shaw, to collaborate with the dancers in the company to explore the physicalization of mathematical concepts including tessellations, the Fibonacci sequence, zero, positive and negative curvatures, fractals, and Laban space harmonies.
- 2014 **Flash Mob Choreographer** Skokie, IL
Chicagoland Jewish Folk Arts Festival
Choreographed and organized a flash mob for 200 participants to celebrate the festival.
<http://www.youtube.com/watch?v=XVwksP21mqg>

PROFESSIONAL SERVICE

- 2018 **Conference Organizer - Learning Sciences Graduate Student Conference**
Conference Co-Chair at Vanderbilt University
- 2016-2020 *Faculty Speakers & Social Events Committee Chair*
- 2021-Present **Journal Reviewer**
Journal of the Learning Sciences
- 2016-2021 **Conference Reviewer**
Learning Sciences Graduate Student Conference
- 2019-Present *American Education Research Association Annual Meeting*
- 2019-Present *International Conference of the Learning Sciences*

UNIVERSITY SERVICE & MEMBERSHIPS

- 2019-2020 **Chair**, Department of Teaching & Learning Doctoral Student Association
- 2019-2020 **Science Ed Search Committee Graduate Representative**, Department of Teacher & Learning
- 2017-2018 **First Year Liaison**, Department of Teaching & Learning Doctoral Student Association
- 2017 **Social Chair**, Department of Teaching & Learning Doctoral Student Association
- 2017-2020 **Co-Founder Math Club**, Department of Teaching & Learning
- 2018-2020 **Graduate Student Orientation Panel**, Peabody College, Vanderbilt University

PROFESSIONAL MEMBERSHIPS

American Educational Research Association (AERA)

- Division G
- SIG – Learning Sciences

International Group for the Psychology of Mathematics Education (PME)

International Society of the Learning Sciences (ISLS)

SELECTED HONORS AND AWARDS

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| 2021 | ISLS Best LS Student Paper Award Nominee Mathematical Physical Research: Mathematical agency in the practices of professional dancers. |
| 2019-2020 | Jasmine Ma Award for service to the DTL Doctoral Student Community |
| 2017 | NSF Graduate Research Fellowship Honorable Mention Putting the Body Back into the Equation: Ensemble based embodied mathematical thinking and learning |
| 2016 | NSF Graduate Research Fellowship Honorable Mention The Design Potential of Full Body Movements For Mathematics Thinking and Learning |
| 2015-2016 | Learning Sciences Scholarship Northwestern University |
| 2011-2013 | Clare Boothe Luce Scholar Fordham University |
| 2009-2013 | Dean's List Fordham University |