

CURRICULUM VITAE

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Assistant Professor of Practice,
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EDUCATION

- 2015 Master of Social Work (MSW) & Master of Public Health (MPH)
Specialization in System Dynamics
Awarded May 2015 - Brown School, Washington University in St Louis,
St. Louis, MO
- 2007 Bachelor of Arts (BA), English and History Majors
Awarded May 2007 - Oberlin College, Oberlin, OH

PROFESSIONAL EXPERIENCE

- 2023 – Present **Founding Partner**
Tributary Design, LLC (St. Louis, MO & Boston, MA)
- 2020 – Present **Assistant Professor of Practice**
Brown School at Washington University in St. Louis (St. Louis, MO)
- 2020 – 2025 **Director**
Social System Design Lab
Brown School at Washington University in St. Louis (St. Louis, MO)
- 2017 – 2023 **Founding Partner**
System Stars, LLC (St. Louis, MO & Chapel Hill, NC)
- 2017 - 2020 **Associate Director**
Social System Design Lab
Brown School at Washington University in St. Louis (St. Louis, MO)
- 2015 - 2016 **Program Manager of Global Health & Social Policy**
Social System Design Lab
Brown School at Washington University in St. Louis (St. Louis, MO)
- 2012 - 2015 **Field Coordinator**
Rehabilitation of Afghans with Disabilities Impact Evaluation
Swedish Committee for Afghanistan (Kabul, Afghanistan)
Washington University in St. Louis (St. Louis, MO)

- 2010 - 2012 **Program Development Manager**
U.S. International Council on Disabilities (Washington, DC)
- 2007 - 2010 **In-Asia Fellow**
Oberlin Shansi Memorial Association (Madurai, Tamil Nadu, India)

TEACHING

Washington University in St. Louis, Brown School

- 2020 - Present Instructor, *System Dynamics Modeling for Strategic Design* (Modified course)
- 2016 - Present Lead Instructor, *Community Based System Dynamics* (Modified course)
- 2021 - Present Co-Instructor, *Group Model Building - System Science for Social Impact Summer Institute* (New Course)
- 2017 - Present Instructor, *System Dynamics Skill Labs 1-3* (Modified courses)
- 2023 – 2024 Founder & Co-Lead, *SSDL Seminar Series*. Inaugural series on integrating social network methods with participatory group model building approaches.
- 2019 - 2022 Instructor, *Introduction to System Dynamics for Advancing Equity* (Fall & Spring semesters 2019-2021, Spring 2022) (New course)

Awards and Recognitions

- 2024 Finalist, 2024 William H. Danforth St. Louis Confluence Award for community-engaged research; Special “Here & Next” Designation
- 2023 Delta Omega Public Health Society Member
- 2018 Brown School Excellence in Teaching Award for Adjunct Faculty
- 2012-2015 Danforth Scholar, Washington University in St. Louis

Invited Talks, Lectures, Seminars and Workshops (Selected)

- 2025 Workshop: “Patient Navigation as an Intervention to Encourage Treatment Engagement”. St. Jude Global Alliance Sub-Saharan Africa Regional Meeting. Nairobi, Kenya. May 2025.
- 2024 Workshop: “Childhood Cancer Survivorship: Cultivating a Shared Understanding of the Complexity of Care Contexts Through Group Model Building”. St. Jude Global Alliance Convening. Memphis, TN. December 2024.
- 2025 Invited Colloquium: “Deakin University International Research Partnership Colloquium”. Deakin University, Melbourne, Australia + Virtual, February 2025.
- 2024 Invited presentation “Systems Science in Implementation.” Dissemination and Implementation Science Training Institute. St. Louis, MO, October 2024.
- 2024 Invited workshop – “Designing the Future for Global Clinical Cancer Trials.” HIGH-IRI Institute, St. Louis, MO, October 2024.

- 2024 Invited Presentation – “Group Model Building: Approaches for understanding and planning complex implementation.” Nigeria Implementation Science Alliance Conference, Abjua Nigeria & Virtual, June 2024
- 2023 Invited Presentation & visiting scholar – *Deakin University, Geelong, Australia*. “Ideas on moving from maps to action: Building and sustaining a network of model-based systems thinking practice.” October 2023.
- 2022 Invited Presentation – “Designing participatory modeling & causal mapping projects: Approaches & Tools” Colorado Pragmatic Research in Health Conference. Virtual, May 2022.
- 2022 Keynote Panel Discussion – Student Organized Colloquium. *International Conference of the System Dynamics Society 2022* in Frankfurt, Germany. July 2022.
- 2022 “System Models and Causal Maps: Representing and Transforming Mental Models to Effect Social Change” *Brown School Open Classrooms*. March 2022.
- 2021 “Community Engagement in System Dynamics” *PurSysT at Purdue University*. Virtual. March 2022
- 2021 “Group Model Building & Causal Mapping for research & intervention in complex systems.” *11^o Congresso Brasileiro de Epidemiologia*, Virtual, based in Rio de Janeiro, Brazil. November, 2021
- 2020 & 2021 “Community based system dynamics to support community engaged research”. ICHAD and Partners Research Training Programs (CHILD-GRF, LEAD, & RRT). Virtual, July 2021
- 2021 “Community based system dynamics for learning & action in complex health systems.” Explore – Advocacy & Global Health. Washington University School of Medicine. June 2021
- 2021 “System Dynamics and Group Modeling Building for participation & insight in public health intervention.” *St. Louis Comparative Modeling Network*. St. Louis, MO. January 2021
- 2021 “Community Engagement in System Dynamics” *Universidad de los Andes Department of Industrial Engineering*. Virtual, based in Bogota, Colombia. May 2021.
- 2020 “Conceptualizing Impact and Group Model Building” GLOBE Global Obesity Centre, Deakin University, Geelong, Australia. February 2020
- 2020 “Accelerating systems thinking for community health” Deakin Downtown, Deakin University, Melbourne, Australia. February 2020
- 2020 “Scriptapedia for group model building adaptation” Asia Pacific System Dynamics Conference, University of Queensland, Brisbane, Australia. February 2020
- 2018 “Introduction to Community Based System Dynamics.” 4-day training course at the National Institute for Public Health, Utrecht, Netherlands. December 2018.
- 2018 “Introduction to Community Based System Dynamics” 4-day short-course at the University of Liverpool Department of Public Health and Policy. Liverpool, UK. August 2018.
- 2018 “Community Based System Dynamics for Global Health Research” George Washington University, Washington DC, September 2018.

Guest Lectures, Seminars, and Workshops: Washington University in St. Louis

Introduction to Public & Global Health

Seminar in Social Work Theory & Knowledge (S90-6820)

TPS: Climate Change & Public Health (S55 5323)

Organizational Management & Leadership (S20 5017)

Cross Cutting Themes in Public Health (S55 5010)

Social Work Practice with Communities and Organizations (S15-5039)

International Child Welfare (S30-7821)

Electrical and Systems Engineering: Introduction to Electrical and Systems Engineering (E35-105)

Program Implementation and Evaluation (S55-5240)

Brown School First Year PhD Seminar (S90-6816)

Policy, Power, and Politics in Global Health (S55-5107)

Supervision of St. Louis community-based student coursework

2023 - 2024 System Dynamics Modeling for Strategic Design partnership with the Federal Reserve Bank of St. Louis, Institute for Economic Equity. *Full course collaboration with Dr. Nishesh Chalise to develop learning simulation models informed by STL Fed workforce development community engagement in the 8th district.*

2016 - Present Community Based System Dynamics group model building projects. *51 student projects with 43 different community organizations, school districts, university departments, and government agencies.* Recent Highlights include:

- *East Gippsland Shire Council, Vict:* “Shifting the narrative to prevention: Housing access & homelessness support in East Gippsland, Victoria”
- WEPOWER “Imagining and Engaging with Community Wealth Building Through a Systems Lens”
- *Hospital Infantil Teleton de Oncologia, Mexico:* Dynamics of Communication During Patient Deterioration in Pediatric Cancer Care.
- *Golburn Valley Local Public Health Unit, Victoria, Australia,* “The Post-COVID Transition: Integrating non-communicable disease work into an organization born during COVID”
- *Systems Change Lab, Mississippi State University,* “Early Intervention Dropoff in Mississippi”
- *Fair Chance, Washington, DC,* “Creating a systems map of Fair Chance's Network Services Program to Support Analysis, Engagement & Design”
- *St. Louis Anchor Action Network, St. Louis, MO,* “Increasing Capacity for Economic Growth in Disinvested Zip Codes”

- 2020-Present Applied Skill Labs with community partners. *Supervision of intensive, focused community based practicum projects using system dynamics. Recent Highlights include student work with:*
- St. Louis Public Schools Foundation, St. Louis, MO
 - East Side Aligned – Early Learning Partnership, East St. Louis, IL
 - Fast Track Cities Initiative, St. Louis, MO
 - DeSales Community Development, St. Louis, MO

Community-based teaching and training

- 2018-Present Founder & Facilitator: *Community-Engaged System Dynamics Practice Community Calls*: Monthly community of practice calls of global community-based system dynamics practitioners.
- 2021 Co-facilitator: *Abordaje de la Doble Carga de Malnutrición en Perú: Uso del enfoque de dinámica de sistemas basada en la comunidad para mejorar los sistemas alimentarios*. Virtual, Lima, Peru (2021). Led the design of a 4-part virtual seminar on core concepts of system dynamics and systems thinking applied to nutrition in Peru
- 2020 Co-Instructor: *Community Based System Dynamics Summer Seminar*. Four-part virtual seminar on concepts of design and participation in community based system dynamics for junior academics and community practitioners.
- 2019-2020 Co-Instructor: *Systems Thinking for Educational Equity Partnership Teacher Cohort: Co-facilitated* 3-day short-course on system dynamics and systems thinking for St. Louis region educators, and co-facilitated a year-long cohort of educator peer learning
- 2018 Co-Instructor: *Systems Thinking for Educational Equity Partnership Teacher Training*: 3-day short-course for St. Louis region educators. (Summer 2018). St. Louis, MO
- 2017 - 2018 Guest Instructor – *Group Model Building Facilitation* – Changing Systems Youth Fellowship, St. Louis, MO
- 2017 - 2018 Lead Instructor: *Community Based System Dynamics Summer Institute*. Washington University in St. Louis, St. Louis, MO
- 2015 Co-Instructor: *Foundations of Systematic Inquiry: A Seminar for Applied Research*. 1-week course for Afghan field leaders, managers, and evaluation directors. Swedish Committee for Afghanistan, Kabul, Afghanistan.

BROWN SCHOOL & UNIVERSITY SERVICE

- 2024-Present Brown School Community Driven Science Advisory Committee
- 2022-Present Washington University TRAP Pay Equity Committee
- 2020-Present MSW Curriculum Committee
- 2022 Here & Next Implementation Team: Presentation on “*Systems Perspectives for supporting complex organizational change*”
- 2022 Washington University Equity & Inclusion Council: Accountability & Measurement Working Group

2021	Washington University Equity & Inclusion Council: Council Structure Working Group
2020-2021	Brown School Strategic Planning: Equity, Diversity and Inclusion Team
2020-2021	Brown School Strategic Planning: Community Driven Science Team

PEER REVIEWED PUBLICATIONS

1. Toney, K., **Ballard, E.**, Duch, J., Zuniga, C., Gore, R., Castaneda, A., Dapkins, I., & Roy, B. (2025). Combining community-based system dynamics and design thinking to inform public health intervention: A case study optimizing community-clinical linkage design in Brooklyn, NY. *Frontiers in Public Health*, 13. <https://doi.org/10.3389/fpubh.2025.1585633>
2. Seferidi, P., Guzman-Abello, L., **Ballard, E.**, Creed-Kanashiro, H., Huicho, L., Miranda, J. J., Millett, C., & Bernabe-Ortiz, A. (2025). Actions against the double burden of malnutrition in Peru: A community-informed system dynamics model. *The Lancet Regional Health - Americas*, 46. <https://doi.org/10.1016/j.lana.2025.101102>
3. Keenan, M., Freeman, L., Santana De Lima, E., Potter, K., Hobbs, T., **Ballard, E.**, & Fonagy, P. (2025). A systemic approach to identifying sustainable community-based interventions for improving adolescent mental health: A participatory group model building and design protocol. *Health Research Policy and Systems*, 23(1), 9. <https://doi.org/10.1186/s12961-024-01247-y>
4. Jonson-Reid, M., **Ballard, E.**, Wang, S., Zhang, L., Chen, J.-H., Ahn, E., Allen, K., Setili, A., & Dvalishvili, D. (2024). *Creating a Public Facing Dynamic Literature Map to Advance the Science in Child Maltreatment*. <https://doi.org/10.2139/ssrn.4925323>
5. Payne-Sturges, D. C., **Ballard, E.**, & Dilworth-Bart, J. (2024). Systems approaches for uncovering mechanisms of structural racism impacting children's environmental health and development. *Early Childhood Research Quarterly*, 69, S91–S101. <https://doi.org/10.1016/j.ecresq.2023.12.011>
6. Quinteros-Reyes, C., Seferidi, P., Guzman-Abello, L., Millett, C., Bernabe-Ortiz, A., & **Ballard, E.** (2024). Mapping food system drivers of the double burden of malnutrition using community-based system dynamics: A case study in Peru. *BMC Global and Public Health*, 2(15). <https://doi.org/10.1186/s44263-024-00045-6>
7. Payne-Sturges, D. C., **Ballard, E.**, Cory-Slechta, D. A., Thomas, S. B., & Hovmand, P. (2023). Making the invisible visible: Using a qualitative system dynamics model to map disparities in cumulative environmental stressors and children's neurodevelopment. *Environmental Research*, 115295. <https://doi.org/10.1016/j.envres.2023.115295>

8. **Ballard, E.**, Werner, K., & Priyadarshini, P. (2021). Boundary objects in translation: The role of language in participatory system dynamics modeling. *System Dynamics Review*, 37(4), 310-332.
9. Morais, L. M. de O., Kuhlberg, J., **Ballard, E.**, Indvik, K., Rocha, S. C., Sales, D. M., de Oliveira Cardoso, L., Gouveia, N., de Lima Friche, A. A., & Caiaffa, W. T. (2021). Promoting knowledge to policy translation for urban health using community-based system dynamics in Brazil. *Health Research Policy and Systems*, 19(1), 53.
10. Muttalib, F.; **Ballard, E.**; Langton, J.; Fonseca, Y.; Hansmann, A.; Malone, S.; Remy, K.; Hovmand, P.S.; Doctor, A. (2021) Applications of system dynamics and group model building to identify barriers and facilitators to acute care delivery in a resource limited setting. *BMC Health Services Research*, 21: 26.
11. **Ballard E.**, Farrell A, Long M. (2020) Community-based system dynamics for mobilizing communities to advance school health. *Journal of School Health*, 90: 964-975.
12. Purnell, J. Q., Lobb Dougherty, N., Kryzer, E. K., Bajracharya, S., Chaitan, V. L., Combs, T., **Ballard, E.**, Simpson, A., Caburnay, C., Poor, T. J., Pearson, C. J., Reiter, C., Adams, K. R., & Brown, M. (2020). Research to Translation: The Healthy Schools Toolkit and New Approaches to the Whole School, Whole Community, Whole Child Model. *Journal of School Health*, 90(12), 948–963.
13. Swierad, E., Huang, T. T.-K., **Ballard, E.**, Flórez, K., & Li, S. (2020). Developing a Socioculturally Nuanced Systems Model of Childhood Obesity in Manhattan’s Chinese American Community via Group Model Building. *Journal of Obesity*, 2020, 4819143.
14. Langellier, B.A.; Kuhlberg, J.A.; **Ballard, E.**; Slesinski, C.; Stankov, I.; Gouveia, N.; Meiesel, J.D.; Kroker-Lobos, M.F.; Sarmiento, O.L.; Teixeira, W.; & Diez Rous, A.V. (2019). Using community based system dynamics modeling to understand the complex factors that influence health in cities: The SALURBAL study. *Health and Place*, 60.
15. Ramsey, A.T.; Prentice, D; **Ballard, E.**; Chen, L; & Bierut, L.J. (2019). Mapping the way to improved hospital smoking cessation treatment: A systems approach with mixed methods. *BMJ Open*, 9(7)
16. Fowler, P.J.; Wright, K.; Marcal, K.E.; **Ballard, E.**; & Hovmand, P.S. (2019). Capability Traps Impeding Homeless Services: A Community-Based System Dynamics Evaluation. *Journal of Social Service Research*, 45:3, 348-359.
17. Trani, J-F.; Bakhshi, P.; Mozaffari, A.; Sohail, M.; Rawab, H.; Kaplan, I.; **Ballard, E.**; Hovmand, P.S. (2019). Strengthening child inclusion in the classroom in rural schools of Pakistan and Afghanistan: What did we learn by testing the system dynamics protocol for community engagement? *Research in Comparative and International Education*, 14(1).

18. Mui Y, **Ballard E**, Lopatin E, Thornton RLJ, Pollack Porter K, Gittelsohn J. (2019). A community-based system dynamics approach suggests solutions for improving healthy food access in a low-income urban environment. *PLOS ONE* 14(5): e0216985.
19. Morrow-Howell, N., Holversen, C.J., Hovmand, P.S., Lee, C., **Ballard, E.** (2017) Conceptualizing productive engagement in a system dynamics framework. *Innovation in Aging*, 00, 1-13.
20. Trani, J.-F., Kumar, P., **Ballard, E.**, Chandala, T. (2017) Assessment of progress towards universal health coverage for people with disabilities in Afghanistan: a multilevel analysis of repeated cross-sectional surveys. . *Lancet Global Health*, 5; e828-37.
21. Trani, J.-F., **Ballard, E.**, Bakhshi, P., Hovmand, P.S. (2016) Community based system dynamics as a method for understanding and acting on messy problems: a case study for global mental health intervention in Afghanistan. *Conflict and Health*.
22. Trani, J.-F., **Ballard, E.**, Peña, J.B. (2016). Stigma of persons with disabilities in Afghanistan: Examining the pathways from stereotyping to mental distress. *Social Science & Medicine*, 153.

Peer Reviewed Conference Presentations, Posters, & Workshops

* *Indicates student collaboration*

1. **Ballard, E.**; LaBrier, M.; Hernandez, S.; Bartmess, O.; McDonald, C.; Culley, J.; Payne-Sturges, D.; (2025). Examining mechanisms of structural racism in migrant and seasonal farm worker respiratory health. Parallel presentation at the International Conference of the System Dynamics Society in Boston.
2. Brown, A.; Toney, K.; Felmingham, T.; **Ballard, E.** (2025). Developing a Design Framework for Community-Engaged System Dynamics Practice. Parallel presentation at the International Conference of the System Dynamics Society in Boston.
3. Toney, K.; **Ballard, E.**; Matsumoto, R.; Kepper, M.; Malone, S. (2025). Childhood Cancer Survivorship: Cultivating Shared Understanding of Complex Care Contexts Through Group Model Building. Parallel presentation at the International Conference of the System Dynamics Society in Boston.
4. Kotagal, M.; Toney, K.; **Ballard, E.**; Riley, C.; Roy, B. (2025). Convening stakeholders to explore drivers of gun violence and potential strategies for violence reduction in Cincinnati, Ohio. Parallel presentation at the International Conference of the System Dynamics Society in Boston.
5. Jonson-Reid, M.; **Ballard, E.**; Wang, X.; Zhang, L; Ahn, E. (2025). Navigating the Scientific Learning Collaborative (SLC) Evidence Map: Enhancing Research and

Practice in Child Maltreatment through Transdisciplinary Collaboration. Workshop presented at the Society for Social Work Research (SSWR) Conference in Seattle, WA.

6. **Ballard, E.**; Hernandez, S.; Payne-Sturges, D. (2024) Approaches for rapidly aligning transdisciplinary community research teams on participatory systems change methods: System dynamics “Experiential Clinics”. Parallel Presentation at the Interdisciplinary Association of Public Health Sciences (IAPHS) Conference in St. Louis, MO.
7. Chalise, N. & **Ballard, E.** (2024) Cross-sector partnerships for building systems thinking capacity for Workforce Development. Practitioner Presentation presented at the 2024 International Conference of the System Dynamics Society in Bergen, Norway
8. Roy, B.; Werner, K. & **Ballard, E.** (2024) From Concept to Practice: Group Model Building for Community-Clinic Linkage Design. Practitioner Presentation presented at the 2024 International Conference of the System Dynamics Society in Bergen, Norway
9. Werner, K. & **Ballard, E.** (2024) Reflections on Emerging Practice: Intersection of System Dynamics and Design Thinking. Parallel Presentation presented at the 2024 International Conference of the System Dynamics Society in Bergen, Norway
10. Bakhshi, P. & **Ballard, E.** (2024) Mainstreaming Climate Content into Traditional Curriculums: Using Group Model Building to identify priorities and pathways. Practitioner Presentation presented at the 2024 International Conference of the System Dynamics Society in Bergen, Norway
11. Hernandez, S.; **Ballard, E.**; Payne-Sturges, D. (2023) “Exploring Structural Racism and Heat Exposure Protections for Agricultural Workers: Insights from a system dynamics clinic with multi-disciplinary community research team” Poster presented at the National Conference on Worker Safety and Health (COSHCON2023) in Baltimore, MD.
12. Brown, A.; Werner, K.; Felmingham, T.; **Ballard, E.** (2023) A Design Framework for Community-Engaged System Dynamics Practice. Paper presented at the 2023 International Conference of the System Dynamics Society in Chicago, Illinois.
13. Quinteros Reyes, C.; Seferidi, C.; Guzman-Abello, L; **Ballard, E.**; Bernabe Ortiz, A.; Millett, C. (2023) Mapping food system drivers of the double burden of malnutrition: a case study in Peru. Paper presented at the 2023 International Conference of the System Dynamics Society in Chicago, Illinois.
14. Payne Sturges, DC.; **Ballard, E.**; Dilworth-Bart. (2023) Institutional Mechanisms of Structural Racism and Children’s Brain Development: Argument for System Dynamics. Society for Research in Child Development Biennial Meeting, Salt Lake, UT.
15. Seferidi, P.; Guzman Abello, L.; **Ballard, E.** (2022) Advancing towards double-duty policies: intergenerational and life-course transmission of the double burden of

malnutrition. Paper Presented at the 2022 International Conference of the System Dynamics Society in Frankfurt, Germany.

16. Werner, K.; **Ballard, E.**; Brown, A.; Liem, W. Proposing a practical design framework for community-engaged system dynamics practice (2022) Work in Progress Presented at the 2022 International Conference of the System Dynamics Society in Frankfurt, Germany.
17. **Ballard, E.**; Rios-Zertuche, D.; Zuniga-Brenes, P. (2021) Exploring Conceptual Simulation Modeling to Develop a Strategic Perspective on Health System Malaria Response. Paper Presented at the 2021 International Conference of the System Dynamics Society.
18. **Ballard, E.**; Werner, K.; Kopainsky, B. (2021). Building peer support and practice insights in community-based modeling practice. Work in Progress Presented at the 2021 International Conference of the System Dynamics Society, virtual.
19. **Ballard, E.**; Werner, K.; Kopainsky, B. (2021) Approaches to Designing Community-Based Modeling Projects. Workshop hosted the 2021 International Conference of the System Dynamics Society, virtual.
20. Headen, I.; Branz, M.; & **Ballard, E.** (2021). System Dynamics and Structural Racism: A Scoping Review. Paper Presented at the 2021 International Conference of the System Dynamics Society.
21. Werner, K.; **Ballard, E.**; Priyadarshini, P.; Powell, B.; Yadama, G.; Hovmand, P. (2021). Group Model Building Scripts for Selecting and Tailoring Implementation Strategies. Paper Presented at the 2021 International Conference of the System Dynamics Society.
22. Werner, K.; **Ballard, E.**; Stringfellow, E.; Holversen, C. (2021) System Dynamics in Social Work: Entry points for integration into research and practice. Roundtable presented at the 2021 Society for Social Work Research Conference
23. Payne-Sturges, D.; **Ballard, E.**; Cory-Slechta, D; Puett, R.; Dilworth-Bart, J.; Huerta-Montanez, G.; Swanson, M.; Prather, R.; Thomas, S.; Ellickson, K.; Hammond, R.; Hovmand, PS. Making the invisible visible: Intervening on cumulative environmental neurodevelopmental risks using a system dynamics approach. (2020) Presented poster at the Annual Conference of the International Society for Environmental Epidemiology.
24. **Ballard, E.**; Farrell, A.; Werner, K.; Kuhlberg, J.; Liem, W*.; & Pritchard, S. *Adapting group model building scripts for use in diverse community contexts.* Workshop presented at the 2020 International Conference of the System Dynamics Society
25. Kuhlberg, J.A.; Headen, I.; **Ballard, E.**; Martin, D. (2020) Leveraging CBSD to Advance Community Engaged Approaches to Identifying Structural Drivers of Racial Bias in

Health Diagnostic Algorithms. Parallel presentation at the 2020 International Conference of the System Dynamics Society

26. **Ballard, E.**; Werner, K.; Simpson, A.; Brown, A.; Pritchard, S. (2020). Roundtable: Scriptapedia editorial decision making. Roundtable hosted the 2020 International Conference of the System Dynamics Society, virtual.
27. Farrell, A.; Stayton, C.; **Ballard, E.**; Tolch, S.; Love, S. & Chung, S. (2020) Systems Thinking for Education Equity Partnership (STEEP): Building a Community of Practice of K-12 Educators in St. Louis, MO. Parallel presentation at the 2020 International Conference of the System Dynamics Society
28. **Ballard, E.**; Werner, K.; Kuhlberg, J.A. (2020) Practice reflections on engaging communities for social change with system dynamics. Plenary presentation at the 2020 International Conference of the System Dynamics Society.
29. Liem, W.* & **Ballard, E.** (2020) Advancing the methods for informing group model building sub-script design decisions and script adaptations. Parallel presentation at the 2020 International Conference of the System Dynamics Society.
30. Werner, K.; Priyadarshini, P.; **Ballard, E.** (2020). Community Based System Dynamics and social and ecological system in India: Looking back at 12 years of collaboration. Plenary presentation to the Asia Pacific System Dynamics Conference in Brisbane, Australia
31. **Ballard, E.**; Hovmand, P.S.; Zhu, Y.*; Lin, S.; Hu, R.; & Zhao, D. (2019). Group model building in cross-cultural contexts: Sub-script unit testing for GMB workshop design and adaptation. Poster presented at the 2019 International Conference of the System Dynamics Society in Albuquerque, NM.
32. Simpson, A.; Chung, S.; **Ballard, E.**; Hovmand, P.S. (2019) A Learning History of Changing Systems. Presented at the 2019 International Conference of the System Dynamics Society in Albuquerque, NM.
33. **Ballard, E.**; Simpson, A.; Pritchard, S.R.; Houston, M.; & Mozaffari, A. (2019) Group model building for building system dynamics capabilities in communities. Workshop presented at the 2019 International Conference of the System Dynamics Society in Albuquerque, NM.
34. Langellier, B.A.; Kuhlberg, J.A.; **Ballard, E.**; Slesinski, C.; Stankov, I.; Gouveia, N.; Meiesel, J.D.; Kroker-Lobos, M.F.; Sarmiento, O.L.; Teixeira, W.; & Diez Rous, A.V. (2019). Using community based system dynamics modeling to understand the complex factors that influence health in cities: The SALURBAL study. Presented at the 2019 American Public Health Association Annual Conference in Philadelphia, PA.
35. Kanak Rajah, E.*; Remy, K. **Ballard, E.** Doctor, A.; (2018). Pediatric critical care implementation in resource limited setting: Application of community-based group

model building. Presented at the 9th Congress of the World Federation of Pediatric Intensive & Critical Care Societies, Singapore.

36. Purnell, J.Q.; Dougherty, N.L.; **Ballard, E.** (2018) Prototyping a systems approach to implementing the Whole School, Whole Community, Whole Child model. Presented at the 2018 American Public Health Association Annual Conference in San Diego, CA.
37. Hovmand, P.S. & **Ballard, E.** (2018). Moving from Mental Models to Technological Rules for Evaluating Impact. Presented at the International Conference of the System Dynamics Society in Reykjavik, Iceland.
38. **Ballard, E.**; Priyadarshini, P.; Werner, K. (2018). What is the status of a boundary object when filtered through multiple layers of translation? Presented at the International Conference of the System Dynamics Society in Reykjavik, Iceland.
39. **Ballard, E.**; Cheng, S.*; Kung, T.*; Hovmand, P.S. (2018). Scriptapedia for an evolving community of practice. Workshop presented at the International Conference of the System Dynamics Society in Reykjavik, Iceland.

Professional Service

Ad Hoc Journal Reviewer

2022 *BMJ Open*
2022 *BMC Public Health*
2022 *System Dynamics Review*
2021 *Agricultural Systems*
2020 *American Journal of Public Health*

Grant Reviewer

2025 *Wellcome Trust*
2021 *Swiss National Science Foundation*

Conference Reviewer

2022-25 *Thread Co-Chair: Teaching and Learning Thread. International System Dynamics Conference*
2019-25 *Conference Reviewer- International System Dynamics Conference*

Angel Advisor

2021 – 23 *Student Organized Colloquium - International Conference of the System Dynamics Society*

Non-Academic Publications & Tools

* *Indicates student collaboration*

SSDL Methods Briefs: Core Concepts of Systems Thinking

1. Gaona Romero, C.*, Guzmán Abello, L., Quinteros-Reyes, C., Seferidi, P., Bernabe-Ortiz, A., Pawlowski, L., & **Ballard, E.** (2022). Iceberg del Pensamiento Sistémico: Buceando Bajo la Superficie. Serie de Informes de Métodos 1.08. Social System Design Lab: St. Louis, MO. <https://doi.org/10.7936/7yb0-3p34>
2. Gaona Romero, C.*, Curi-Quinto, K., Guzmán Abello, L., Quinteros-Reyes, C., Bernabe-Ortiz, Seferidi, P., A., Pawlowski, L., & **Ballard, E.** (2022). Modelos Mentales. Serie de Informes de Métodos 1.9. Social System Design Lab: St. Louis, MO. <https://doi.org/10.7936/52xm-jt07>
3. Gaona Romero, C.*, Curi-Quinto, K., Guzmán Abello, L., Quinteros-Reyes, C., Seferidi, P., Bernabe-Ortiz, A., Pawlowski, L., & **Ballard, E.** (2022). Definición Dinámica de Problemas. Serie de Informes de Métodos 1.10. Social System Design Lab: St. Louis, MO. <https://doi.org/10.7936/d9kh-ce02>
4. Gaona Romero, C.*, Guzmán Abello, L., Quinteros-Reyes, C., Seferidi, P., Bernabe-Ortiz, A., Pawlowski, L., & **Ballard, E.** (2022). Acumulaciones y Diagramas de Stocks y Flujos. Serie de Informes de Métodos 1.11. Social System Design Lab: St. Louis, MO. <https://doi.org/10.7936/4ze6-3612>
5. Evbuoma, E.I.*, Hu, M.*, Farrell, A., Liem, W., & **Ballard, E.** (2021). *Systems Thinking Iceberg: Diving Beneath the Surface in Education Systems*. Methods Brief Series 1.01: Systems Thinking Foundations. Social System Design Lab: St. Louis, MO. <https://doi.org/10.7936/g9eh-8176>
6. Farrell, A., Hu, M.*, Evbuoma, E.I.*, Liem, W., & **Ballard, E.** (2021). Characteristics of Complex Problems. Methods Brief Series 1.02: Systems Thinking Foundations. Social System Design Lab: St. Louis, MO. <https://doi.org/10.7936/0h2n-5s17>
7. Chin, L.*, Farrell, A., Hu, M.*, Liem, W., & **Ballard, E.** (2021). Mental Models. Methods Brief Series 1.03: Systems Thinking Foundations. Social System Design Lab: St. Louis, MO. <https://doi.org/10.7936/6xre-6j47>
8. Evbuoma, E.I.*, Farrell, A., Hu, M.*, Liem, W., & **Ballard, E.** (2021). Framing Dynamic Problems. Methods Brief Series 1.04: Systems Thinking Foundations. Social System Design Lab: St. Louis, MO. <https://doi.org/10.7936/00pt-vd69>
9. Farrell, A., Hu, M.*, Chin, L.*, Evbuoma, E.I.*, Liem, W., & **Ballard, E.** (2021). Understanding Systems from a Feedback Perspective. Methods Brief Series 1.05: Systems Thinking Foundations. Social System Design Lab: St. Louis, MO. <https://doi.org/10.7936/t4k1-8g36>
10. Branz., M.*, Farrell, A., Hu, M.*, Liem, W., & **Ballard, E.** (2021). Accumulations. Methods Brief Series 1.06: Systems Thinking Foundations. Social System Design Lab: St. Louis, MO. <https://doi.org/10.7936/z1z5-cx85>
11. Branz., M.*, Farrell, A., Hu, M.*, Liem, W. & **Ballard, E.** (2021). System Archetypes. Methods Brief Series 1.07: Systems Thinking Foundations. Social System Design Lab: St. Louis, MO. <https://doi.org/10.7936/c89k-d163>

SSDL Methods Briefs: Online Group Model Building

12. Farrell, A., Hu, M.*, Chin, L.*, Pawlowski, L. & **Ballard, E.** (2022). Facilitation Team Roles for Online GMB. Methods Brief Series 2.03: Online Group Model Building. Social System Design Lab: St. Louis, MO. <https://doi.org/10.7936/txmn-d624>
13. Chin, L.*, Hu, M.*, Farrell, A., Pawlowski, L. & **Ballard, E.** (2022). An Overview of Platforms to Support Online GMB. Methods Brief Series 2.02: Online Group Model Building. Social System Design Lab: St. Louis, MO. <https://doi.org/10.7936/s8f8-sv47>

14. Chin, L.*, Farrell, A., Hu, M.*, Pawlowski, L. & **Ballard, E.** (2022). Online GMB: Challenges, Opportunities, and Barriers. Methods Brief Series 2.01: Online Group Model Building. Social System Design Lab: St. Louis, MO. <https://doi.org/10.7936/qxjd-0714>

Toolkits

15. Module 2: Systems. *The Healthy Schools Toolkit*. (2019) Health Equity Works. Available: <https://healthequityworks.wustl.edu/our-work/school-health/together-for-healthy-successful-schools/>

APPLIED CONSULTING PRACTICE (Selected)

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|---------------|--|
| 2025- Present | <i>Consultant</i> , “Patient Navigation as an Intervention to Support Pediatric Cancer.” St Jude Global Research Hospital. |
| 2024- 2025 | <i>Consultant</i> , “Designing & Implementing Collaborative Solutioning Structure Pilots.” Regional Response Team, St. Louis Community Foundation. |
| 2024 | <i>Consultant</i> , “Gun Violence Experiential workshop.” Cincinnati Children’s Hospital Medical Center. |
| 2024 | <i>Consultant</i> , “Nigerian Community Palliative Care Implementation Strategy using group model building.” IVAN Center at the University of Nigeria |
| 2023- 2024 | <i>Consultant</i> , “Participatory Approaches to Transforming Health Systems (PATHS).” Beyond Bridges, NYU Langone Hospitals. |
| 2022 – 2023 | <i>Consultant</i> , “Systems of community engagement with Teach for America of Louisiana.” Education Development Center. |
| 2021 – 2023 | <i>Consultant</i> , “Prisons Evolving as Connected Communities (PEaCC)” Education Development Center. |
| 2020 – 2021 | <i>Consultant</i> , “Conceptual System Dynamics Model Development for Malaria Health System Response.” Inter-American Development Bank |
| 2018 – 2020 | <i>Consultant</i> , “Data 4 Black Lives II CBSD Learning Lab.” Google, Inc. |
| 2019 | <i>Consultant</i> , “Systematization of the Salud Mesoamerica Initiative’s results-based financing model for other social sectors.” Inter-American Development Bank |
| 2017 | <i>Consultant</i> , “Learning from <i>Ananya</i> - Scaling Up Improved Primary Health Care System project” Bill & Melinda Gates Foundation and George Washington University. |

- 2017 *Consultant*, “Creating a culturally specific theoretical model of childhood obesity in New York City Chinatowns.” City University of New York.
- 2016 *Consultant*, “Food security in Central-West Baltimore.” Johns Hopkins University.

RESEARCH GRANTS & CONTRACTS

- 2024-2025 *Co-Lead*, “Mainstreaming climate content into traditional curriculums: Using Group Model Building to identify priorities and pathways”, funded through a Here & Next Pop-up Spark grant, convened faculty, students, and professionals in Occupational Therapy & in Social Work to explore opportunities to integrate climate justice content into curricula.
Seed Grant
- 2023-2025 *Advisor*, “Supporting Targeted and Coordinated HIV testing to End the Epidemic in the St. Louis Region” Funded through the Missouri Foundation for Health with Dr. Ginger McKay of Washington University in St. Louis as PI. Focuses in part on the use of Group Model Building as a tool for developing community steering committee collective understanding and action.
Research Grant
- 2022-2027 *Investigator*, “Research Employing Environmental Systems and Occupational Health Policy Analyses to Interrupt the Impact of Structural Racism on Agricultural Workers and Their Respiratory Health (RESPIRAR),” Funded through the National Institutes for Environmental Health Sciences, Dr. Devon Payne-Sturges PI from University of Maryland. Focuses on using systems science tools to explore structures of environmental health regulatory compliance among migrant farmworkers in the Eastern Shore of Maryland.
Research Grant
- 2021-2025 *Investigator*, “Transforming Health Equity Research in Integrated Primary Care: Antiracism as a Disruptive Innovation”, Dr. Sylvie Naar PI from Florida State University. Focuses on using systems science tools to map structures generating racial inequities in primary healthcare, and develop anti-racist interventions to address these structural drivers.
Research Grant
- 2021-2023 *Group Model Building Lead*, Parents and Children Together – St. Louis (PACT-STL) Impact Evaluation, funded by the Robert Wood Johnson Foundation, led Dr. Patricia Kohl.
Research Grant
- 2021-2023 *Investigator*, “Addressing the double burden of malnutrition in Peru: Using a community-based system dynamics approach to improve food systems”, funded through the Biotechnology and Biological Sciences Research Council in the UK, Dr. Christopher Millet PI from Imperial College London. Focuses on engaging community stakeholders in two communities to identify double-acting policies to address the double burden of malnutrition in Peru.

Research Grant

- 2018-2024 *Group Model Building Lead*, “The Center for Innovation in Child Maltreatment Policy Research and Training (CICM)”, Dr. Melissa Jonson Reid, PI. Funded through the Eunice Kennedy Shriver National Institute of Child Health and Human Development. Focuses on building a research and practice network to address child maltreatment nationally.
Center Grant
- 2019 – 2020 *Investigator*, “Real Options Strategies for Achieving Scale”, Dr. Peter Hovmand, PI, through the Fogarty International Center at NIH focuses on developing innovative simulation modeling and community based modeling methods to inform implementation strategies for promoting LPG stove usage in rural India.
Research Grant
- 2019 *Facilitator*, “Scaling up the community engagement, equity, and systems thinking organizational strategy” with the YMCA of the USA, design and co-facilitated a three-day strategy and learning workshop with national leadership and regional directors of the YMCA.
Service Contract
- 2017-2021 *Modeler and Trainer* “Our Planet Our Health: What makes cities healthy, equitable and environmentally sustainable? Lessons from Latin America” Dr. Ana Diez Roux, PI, funded by the Wellcome Trust UK, focuses on understanding what makes cities healthy, equitable and environmentally sustainable in Latin America using systems science methods including community based system dynamics in three Latin American cities.
Research Grant
- 2017-2019 *Investigator* “Together for Health, Successful Schools”, Dr. Jason Purnell, PI, funded through the Robert Wood Johnson Foundation, explores novel system science methods to inform implementation of the *Whole Child, Whole School, Whole Community* framework through Group Model Building and other innovative methods.
Research Grant
- 2017-2019 *Investigator*, “Spreading lessons and sustaining improvements in primary health care (PHC) system performance in Mesoamerica”, Dr. Wolfgang Munar, PI, funded through the Bill & Melinda Gates Foundation, explored the use of system dynamics models and group model building for systems-informed policy dialogue in Mesoamerica.
Research Grant
- 2017-2018 *Investigator*, “Racial disparities in inpatient smoking cessation prescription”, Dr. Alex Ramsey, PI, funded by the Barnes Jewish Hospital Foundation, focused on the use of group model building approaches to understand system structure drivers of emergent racial disparities in smoking cessation prescription.
Research Grant
- 2018 *Investigator* with Dr. Peter Hovmand, “Child Welfare Workforce Turnover” with the Ministry of Social and Family (MSF) Development, Singapore, is an exploratory study to apply system dynamics to identify potential leverage points for reducing

child welfare workforce turnover.

Research Grant

2016-2018

Investigator, “Novel approaches to measuring demand-side community perceptions and barriers to family planning via social network analysis in Kenya”, Dr.

Wolfgang Munar, PI, funded by the Bill & Melinda Gates Foundation, prototyped new system science methods for understanding modern contraception uptake in Sub-Saharan Africa.

Research Grant