DAVID W. JACKSON

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EDUCATION

2022 Ph.D. in Curriculum & Instruction, Boston College
Dissertation title: "Student Engagement in Science and User-Centered Engineering: Educational Designs with Young Adolescents in an Invention Camp and Classroom Unit"
Committee: Dr. G. Michael "Mike" Barnett (chair); Dr. Nathaniel Brown; Dr. Helen Zhang

2015 M.Ed. in Education Administration, Endicott College

2008 M.A.T. in Science Education (Grades 5-8), Boston University

2004 B.S. in Chemical Engineering, Massachusetts Institute of Technology

PROFESSIONAL EXPERIENCE

2024-present Visiting Researcher in the Learning Sciences, University at Buffalo, SUNY

2024-present Science Teacher, Grade 6, John F. Kennedy Middle School, Waltham, MA

2022-2024 Assistant Professor in the Learning Sciences, University at Buffalo, SUNY
Courses as instructor of record: *Action Research to Improve Teaching and Learning* (including both UB Teacher Residency and general sections; two in-person, one hybrid/HyFlex, and one online asynchronous); *Teaching Science Grades 5-12* (twice, in-person); *Improving Elementary Science Instruction* (once, in-person)

2016-2022 Doctoral Assistant, Innovation in Urban Science Education Lab, Boston College

2019-2022 Field Instructor, Secondary Education (chemistry and biology), Brandeis University

2019-2020 Lecturer, Teaching Science Concepts & Curriculum, preK-6, Lasell University

2016-2022 After-School STEM Coordinator (grades 6-8), Waltham Public Schools

2008-2016 Grade 6 Teacher, Science & Literacy Workshop, Wellesley (MA) Middle School

2005-2006 Math Teacher (7-8) & Technology Technical Assistant (5-8), Fletcher-Maynard Academy, Cambridge (MA) Public Schools

2004-2005 Science Teacher (6-7) & Technology Technical Assistant (5-8), Kennedy-Longfellow School, Cambridge (MA) Public Schools

REFEREED JOURNAL PAPERS – PUBLICATIONS

* = (co-)lead author or (co-)chair; ^ = student co-author; # = practitioner/community co-author

Zhang, H.*, Jackson, D., Shah, S. A.^, Beal, K.#, Phatak, J.^, & Barnett, M. (in press). Seeding future scientists with computational thinking through the smart greenhouse project. *Science Scope.* [middle-school, practitioner-oriented publication of the National Science Teaching Association]

Jackson, D. W.*, Abdus-Sabur, F.^, & Zhang, H. (2025). Making time to grow: An instructional design case from eight in-school and six out-of-school computer-supported plant-growing projects. *TechTrends.* http://doi.org/10.1007/s11528-025-01068-y [Journal Impact Factor 2.2 (2023); 5-year Journal Impact Factor 2.8 (2023)]

Cheng, Y.*, **Jackson, D. W.**, Shah, S. A.^, Abdus-Sabur, F.^, Hira, A., Zhang, H., & Barnett, M. (2025). Competent but anxious smart greenhouse makers: Findings from a physical computing project for undergraduates. *Journal of Science Education and Technology.* https://doi.org/10.1007/s10956-025-10208-1 [4.4 Impact Factor (2022), 4.0 five-year impact factor (2022)]

Jackson, D. W.*, & Abdus-Sabur, F.^ (2024). Toward a "budding" individual interest: Evidence for a fifth phase of development in four years of an automated greenhouse project. *Computer Science Education*, 1–28. https://doi.org/10.1080/08993408.2024.2408509 [3.0 (2023) Impact Factor; 3.8 (2023) 5 year IF; 6.9 (2023) CiteScore (Scopus); 1.898 (2023) SNIP; 0.966 (2023) SJR]

Jackson, D. W.*, Zhang, H., Asante, C. K., Semerjian, A., Barnett, G. M., Couch, S., Estabrooks, L., Kiel, J.#, & Kulkarni, N.# (2024). Inventors Emerging In-School and Out-of-School: Six Iterations of Educational Design to Promote Equitable Student Engagement. *Frontiers in Education* 9:1287521. https://doi.org/10.3389/feduc.2024.1287521 [2.3 Impact Factor, 2.3 CiteScore]

Jackson, D. W.* (2022). 'Magic' or 'maybe…other years': Designing for young adolescents' engagement and self-efficacy in an invention camp. *International Journal of Science Education, Part B: Communication and Public Engagement, 12*(4), 374-393. https://doi.org/10.1080/21548455.2022.2120781 [1.7 (2022) Impact Factor; 2.7 (2022) Five-Year IF; 2.6 (2022) CiteScore (Scopus); Q2 CiteScore Best Quartile; 0.809 (2022) SNIP; 0.459 (2022) SJR]

Jackson, D. W.* & Cheng, Y.^ (2022). Maintaining pluralism when embedding computational thinking in required science and engineering classes with young adolescents. *Computer Science Education, 32*(2), 235-259. https://doi.org/10.1080/08993408.2021.1940787 [2.7 (2022) Impact Factor; 3.1 (2022) Five-Year IF; 7.4 (2022) CiteScore (Scopus); Q1 CiteScore Best Quartile; 2.079 (2022) SNIP; 0.941 (2022) SJR]

Jackson, D. W.*, Cheng, Y.^, Meng, Q., & Xu, Y.^ (2022). "Smart" greenhouses and pluridisciplinary spaces: Supporting adolescents' engagement and self-efficacy in computation across disciplines. *Disciplinary and Interdisciplinary Science Education Research*, *4*(6), 1–15. https://doi.org/10.1186/s43031-022-00046-1 [119,161 downloads and 133 Altmetric mentions in 2022; Impact Factor data absent due to age of journal (founded 2019)]

Zhang, H.*, **Jackson, D.**, Kiel, J.#, Estabrooks, L., Kim, S. L.^, Kim, D., Couch, S. & Barnett, G. M. (2021). Heat Reinvented: Using a Lunchbox-Design Project to Apply Multidisciplinary

Knowledge and Develop Invention-Related Practices. *Science Scope, 45*(1). Available in print, and also online at https://www.nsta.org/science-scope/science-scope-septemberoctober-2021/heat-reinvented [middle-school, practitioner-oriented publication of the National Science Teaching Association]

Asante, C. K.*^, Semerjian, A.^, Xu, P.^, **Jackson, D.**, Cheng, Y.^, Chasen, A.#, Shah, A.^, Brett, J., & Broadstone, M. (2021). An Integrated STEM and Computing Curriculum for the Human-Technology Frontier: The Case of a Smart Greenhouse. *Connected Science Learning 3*(2). Available exclusively online at https://www.nsta.org/connected-science-learning/connected-science-learning-march-april-2021/integrated-stem-and [connecting-in-and-out-of-school-time, practitioner-oriented publication of the National Science Teaching Association] https://doi.org/10.1080/24758779.2021.12318683

Kowalewski, D. E.*^, Marchant, D. R., Head, J. W. & **Jackson, D. W.** (2012). A 2D Model for Characterising First-order Variability in Sublimation of Buried Glacier Ice, Antarctica: Assessing the Influence of Polygon Troughs, Desert Pavements and Shallow Subsurface Salts. *Permafrost and Periglacial Processes, 23*, 1–14. https://doi.org/10.1002/ppp.731 [Impact factor (2021) 4.262; Q1 in Geology]

Tedford, N. C.*^, **Jackson, D. W.**, Domansky, K., Griffith, L. G., & Lauffenburger, D. A. (2004). Quantitative Analysis of Non-Viral Gene Therapy in a Three-Dimensional Liver Tissue Construct. *Molecular Therapy*, *9*(Supplement 1), S323. https://doi.org/10.1016/j.ymthe.2004.06.751 [12.4 Impact Factor in 2022; Q1 in at least five scientific disciplines; CiteScore 2022 = 17.9; SJR 2022 = 3.425; SNIP 2022 = 1.720]

REFEREED JOURNAL PAPERS – CURRENT (RE-)SUBMISSIONS

Jackson, D. W.*, Scheuneman, S. M.^, McCune, D. L.#, Ramdath, K.^, Goehrig, F.^, Nwogu, I., & Waight, N. (invited manuscript, submitted). Young Adolescents' Resistance of and with AI: Learnings from Three "Training-Camps" through a Lens of Community Cultural Wealth. *Journal of the Learning Sciences.*

REFEREED JOURNAL PAPERS – UNDER REVISION

Jackson, D. W.*, & Ramdath, K.^ (invited manuscript, under revision). Configurative synthesis review of 'student engagement': Using citation analysis for more interdisciplinary and plurilinguistic conceptions at individual and social levels. *Learning and Individual Differences.*

REFEREED JOURNAL PAPERS – IN PREPARATION

Jackson, D. W.*, & Ramdath, K.^ (in preparation). *Educational Researcher.*

Zhang, H.*, Hira, A., **Jackson, D. W.**, & co-author(s) to-be-finalized. (in preparation). *Technology and Engineering Teacher.*

CHAPTERS IN EDITED VOLUMES

Zhang, H.*, Barnett, M., **Jackson, D.**, Kiel, J.#, Beal, K.#, & DePamphilis, D.# (2024). Moving beyond hierarchies: Building and sustaining equity-focused collaborative partnership over

time. In K. Zenkov, D. Polly, & L. Rudder (Eds.), *Boundary-Spanning in School-University Partnerships* (pp. 296-312). Information Age Publishing.

WHITE PAPERS

Invention Education Research Group (2019). *Researching invention education*. Available online at https://lemelson.mit.edu/sites/default/files/2020-04/ResearchingInventEdu-WhitePaper-2.21.2020.pdf

GRANTS FUNDED AS (CO-)PI

PI on Graduate School of Education Micro-Funding for Research: TEAM-AI: Training, Envisioning, Action, and Mentoring in Artificial Intelligence with middle- and high-school youth, Spring 2024 **($1,000)**

Lead author on internal grant for intergenerational learning module at Lasell College (now Lasell University), *Engineering as "Lifelong Kindergarten": Undergraduates and Lasell Village Residents Preparing for Teaching pK-6 Students, Iteration #2*, Spring 2020 **($501.40)**

Lead author on foundation grant for laser cutter and engraver, *Co-constructing Creativity: 400+ Young Creators Learning and Growing with a Laser Cutter/Engraver*, Fall 2019 **($399)**

Lead author on internal grant for intergenerational learning module at Lasell College (now Lasell University), *Designing Engineering Intergenerationally: Undergraduates and Lasell Village Residents Preparing for Teaching pK-6 Students*, Spring 2019 **($288.85)**

Sole author for Science Olympiad team supplies, ca. 2016 **($2,450)**

Sole author for laptops, bookcases, & supplies in low-income housing community center, ca. 2013 **(~$10,000)**

Sole author for 30 iPads used in four core subjects & special education, ca. 2010 **(~$16,000)**

Co-author for upgrades to school science laboratory, ca. 2005 **(~$38,000)**

GRANTS FUNDED AS PROJECT STAFF

Assisted with idea generation, proposal revision, and implementation of seven grants from the National Science Foundation (NSF):

*Advanced Technological Education (ATE):

*iCREAT: A pathway to middle-skill positions through the Introduction to Coding, Robotics, Electronics, And Technology **($891,414)** [2015-2018]

*Innovative Technology Experiences for Students and Teachers (ITEST):

*An Integrated Approach to Creating STEM Career Pathways **($1,197,756)** [2016-2019]

*Strategies: Seeding the Future of STEM researchers through emerging agricultural technologies **($1,198,658)** [2018-2023]

*Building a Youth-Led Learning Community through Automating Hydroponic Systems **($1,414,733)** [2021-2025]

*Discovery Research PreK-12 program, Science, Technology, Engineering, and Mathematics with Computing (DRK-12 STEM+C):

*Change Makers: Urban Youth Food Justice Ambassadors **($2,032,296)** [2017-2022]

*Interdisciplinary Approaches to Teaching Computational Environmental Science **($1,519,631)** [2018-2023]

*Advancing Informal STEM Learning (AISL):

*Broadening Participation by Middle-School Students in STEM via Integrating Hands-on Experiences in Science Learning **($299,780)** [2018-2020]

Co-managed the budget for an internal Boston College grant **(~$30,000/yr., 3 yr.)** [2017-2020]

GRANT SUBMISSIONS *NOT* OFFERED FUNDING

NSF Ideas Lab: Personalized Engineering Learning (PEL). Preliminary proposal submitted 11/27/2023, with an associated, tentative, full proposal of $772,812 over two years. (Fall 2023).

NSF, Rapidly Accelerating Research on Artificial Intelligence in K-12 Education in Formal and Informal Settings (RAPID AI) (Summer 2023).

Faculty-in-Residence, University at Buffalo, Graduate School of Education (Spring 2023).

GRANT SUBMISSIONS AWAITING DECISION

< none at this time; see "Grant Proposals under Development", below >

GRANT PROPOSALS UNDER DEVELOPMENT

Jackson, D.W.*. "StuDiEn: Students' Dialectical Engaging". → NSF CAREER

Jackson, D.W.*, McCune, D. L.[#], Nwogu, I., & Waight, N. "TEAM-AI: Transformation, Envisioning, Actions, and Mentoring for Artificial Intelligence with Middle- and High-School Youth." → currently exploring foundation-partners and starter/planning grant opportunities

Brutt-Griffler, J.*, **Jackson, D.W.**, & Co-PI(s) to-be-finalized. → NSF ITEST or DRK-12

Wang, X. C.*, **Jackson, D.W.**, & Co-PI(s) to-be-finalized. → currently exploring several mid-level opportunities

INVITED PRESENTATIONS

Jackson, D. W.* (2024, June). "Improving Learner Engagement: AI and Humanization." Presentation in the University at Buffalo AI + Education Learning Community Series.

Jackson, D. W.* (2024, March). "(Re-)Partnering with the Grant Street Neighborhood Center: A collective of middle school + high-school trainees, university assistant-trainers, & adult lead-trainers learning about artificial intelligence & activism." Presentation with the University at Buffalo Center for Community-Invested Research, Collaboration, & Learning (CIRCL).

Jackson, D. W.* (2023, July). "NGSS comes to NYS: How recent changes in national and state science standards may influence curriculum, instruction, and assessment for you!" Invited guest-presentation with the University at Buffalo EarthEd Institute.

Jackson, D. W.* (2023, May). "Partnering with the Grant Street Neighborhood Center: A collective of middle school trainees, high-school co-trainers, & adult co-trainers learning about artificial intelligence *(and, soon, Alternatives to Violence)*." Presentation with the

University at Buffalo Center for Community-Invested Research, Collaboration, & Learning (CIRCL).

Jackson, D. W.* (2021, November). Integrating Engineering in Science-Focused Classes. Invited guest-lecture at the Boston College Lynch School of Education and Human Development.

Cheng, Y.*, **Jackson, D.**, & Asante, C. (2020, July). "IUSE" Hydroponics in a Nutshell, Or: some ways *you* can use hydroponics, too! Presentation at Maker Education Collective (MEC) Bootcamp 2020.

Barnett, G.*, Roberto, C., Suchow, A., & **Jackson, D. W.** (2018, February). "Social Justice Driven STEM Education: Engaging Communities and Youth in Learning Science." Presentation at Boston College to visiting educators from the Higher School of Economics (based in Moscow, Russia).

Jackson, D. W.* (2012, October). "How can 'Good Educators' keep science Densilicious? Don't Be Dense, Literally or Figuratively." Invited guest-lecture at the Boston University School of Education.

Jackson, D. W.* (2008, February). "Climate Change: Conjured or Catastrophic? Math for ALL Disciplines v3." Invited guest-lecture at the Boston University School of Education.

Jackson, D. W.* (2007, October). "Climate Change: Conjured or Catastrophic? Math for ALL Disciplines v2." Invited guest-lecture at the Boston University School of Education.

Jackson, D. W.* (2007, February). "The Zeroth Language: Good, Bad, and Ugly Speakings of Maths in ALL Disciplines." Invited guest-lecture at the Boston University School of Education.

COMMUNITY REPORTS

Jackson, D. W.* (2023, May). AI Spring Break Training at the Grant Street Neighborhood Center (GSNC): A pilot program of middle school trainees, high-school co-trainers, & adult co-trainers learning about artificial intelligence. Report prepared for supervisors of the GSNC from People United for Sustainable Housing, Buffalo (PUSH Buffalo).

INDEXED, REFEREED CONFERENCE PAPERS, PRESENTATIONS, AND SYMPOSIA

Humburg, M.*, Han, A., Zhang,, Y., Melo, N. A., Higgs, J., Relmasira, S. C., Keune, A., Ritchie, D., **Jackson, D. W.**, Joey Huang, J., Han, S., Corrigan, S., Peppler, K., Smyslova, D., Li, Q., Zheng, J., Rosé, C. P., Chao, J., Jiang, S., Chávez, V. C., Kaimana, M., Isero, M., Donaldson, J. P., Hurtado, S., Saito-Stehberger, D., Tate, T., Warschauer, M., Scheuneman, S. M., McCune, D. L., Ramdath, K., Goehrig, F., Nwogu, I., Waight, N., & McBride, C. (accepted). Humanizing AI for education: Conversations with the JLS 2026 special issue contributors. Structured poster session to be presented at the *19th International Conference of the Learning Sciences - ICLS 2025.*

Phuong, A. E.*, Quiterio, A.*, McCune, D. L., **Jackson, D. W.**, Huang, F., Goehrig, G., Nwogu, I., Ramdath, K., Worsley, M., Butler, M., Waight, N., Scheuneman, S., & Lo, S. M. (accepted). Critically-oriented approaches to mixed methods. Hybrid Symposium to be presented at the *19th International Conference of the Learning Sciences - ICLS 2025.*

Waight, N.*, Rish, R., Tripp, J., Scheuneman, S., Mozaffari, F., Goehrig, F., **Jackson, D.**, Robert, S., Wisoff, S., & Marks, D. R. (accepted). Portraitures of STEMcyclists youth: Joy and

liberation for critical and transformative STEM learning. Poster paper to be presented at the *19th International Conference of the Learning Sciences - ICLS 2025.*

Rish, R., Waight, N., Tripp, J., Scheuneman, S., Mozaffari, F., Goehrig, F., **Jackson, D.,** Kahveci, E., Johnson, G., Rodam Marks, D., Ianni, A., Wisoff, S., & Huffman, K. (accepted). Mobilizing Youth STEM Learning Trajectories on Bicycles. Short paper to be presented at the *19th International Conference of the Learning Sciences - ICLS 2025.*

Jackson, D. W. * & Ramdath, K. (2024, June). Student Engagement as Microcultural: Empirical and Conceptual Arguments from a Teacher Residency Program. In Lindgren, R., Asino, T. I., Kyza, E. A., Looi, C. K., Keifert, D. T., & Suárez, E. (Eds.), *Proceedings of the 18th International Conference of the Learning Sciences - ICLS 2024* (pp. 2117-2118). International Society of the Learning Sciences. https://doi.org/10.22318/icls2024.158671

Jackson, D. W.* (2024, June). Citation Analysis for "Student Engagement": Towards More Interdisciplinary and Linguistically Equitable Understandings. In Lindgren, R., Asino, T. I., Kyza, E. A., Looi, C. K., Keifert, D. T., & Suárez, E. (Eds.), *Proceedings of the 18th International Conference of the Learning Sciences - ICLS 2024* (pp. 2053-2054). International Society of the Learning Sciences. https://doi.org/10.22318/icls2024.103909

Jackson, D. W.*, Zhang, H.*, Anderson, E., Barnett, M., Chao, J., Connor, C., Lee, H.-S., Lee, I., Lore, C., Perret, B., Pallant, A., Phatak, J.^, Proctor, C., Shah, S. A.^, & Wagh, A. (2023, June). Computation Within and Beyond Disciplinary Communities: Learnings From K-12 In-School-Time Studies. In P. Blikstein, J. Van Aalst, R. Kizito, & K. Brennan (Eds.), *ICLS 2023 Proceedings* (pp. 1686–1695). International Society of the Learning Sciences. https://doi.org/10.22318/icls2023.543679

Jackson, D.*, Meng, Q., Shah, S. A.^, & Zhang, H. (2022, June). Prior experience of students, teachers, or both? Impacts on affective factors for physical computing. In Weinberger, A. Chen, W., Hernández-Leo, D., & Chen, B. (Eds.), *Proceedings of the 15th International Conference on Computer-Supported Collaborative Learning—CSCL 2022* (pp. 609-610). Hiroshima, Japan: International Society of the Learning Sciences. https://www.dropbox.com/s/9mwx6t8mi75op15/CSCL2022%20Proceedings.pdf?dl=0

Cheng, Y.*^, & **Jackson, D.** (2021). From "in a sleep" to "stayed every day": Engaging students and teachers with micro:bit smart-greenhouses. In C. E. Hmelo-Silver, B. De Wever, & J. Oshima (Eds.), *Proceedings of the 14th International Conference on Computer-Supported Collaborative Learning—CSCL 2021* (pp. 295-296). International Society of the Learning Sciences. https://drive.google.com/file/d/1cuUAcl3Nwxtqgcz7ufdvyOum8oWp8-wM/view

Jackson, D. W.*, Zhang, H., & Barnett, M. (2019, June). Integrating Computational Thinking, Engineering Design, and Environmental Science through Smart Greenhouses. Poster presented at the 2019 Annual Conference & Exposition of the American Society for Engineering Education (ASEE). https://doi.org/10.18260/1-2--32406

***NON*-INDEXED, REFEREED CONFERENCE PAPERS, PRESENTATIONS, & SYMPOSIA**

Shah, S. A.*^, & **Jackson, D. W.** (2022, March). Design and Outcomes for Computational Interest, Competency Belief, and Anxiety in "Science for Future Presidents". Poster presented at the 2022 NARST Annual International Conference.

Cheng, Y.*^, Zhang, H., **Jackson, D. W.**, Lee, I. A., Brown, N. J. S., Szendey, O.^, Ali, S.^, & DiPaola, D. (2021, April). Raising Minoritized Middle Schoolers' A.I. Career Awareness and Adaptability: Findings From Two Online Summer Camps. [Roundtable Session]. AERA Annual Meeting.

Moore, R.*, & **Jackson, D. W.** (2021, February). Diversity Beyond Representation: Seeing community cultural wealth for inventing, with an intersectional lens. Panel at the 2021 InventEd Convening.

Ali, S.*^, DiPaola, D.^, Lee, I., **Jackson, D. W.,** Kiel, J.#, Beal, K.#, Zhang, H., Cheng, Y.^, & Breazeal, C. (2020, July). Adapting K-12 AI Learning for Online Instruction. Workshop at the 21st International Conference on Artificial Intelligence in Education (AIED 2020).

Jackson, D. W.*, & Cheng, Y.^ (2020, June). Embedding Computational Thinking in School Science: Designs of an Automated-Greenhouse Project with Young Adolescents. In ILSSA Mini-Sessions Block 4 at the 2020 International Conference of the Learning Sciences (ICLS).

Jackson, D. W.* & Bendiksen, P.^ (2020, Apr 17 - 21) *Youths' Self-Efficacy and Practices in a Vacation Camp for Team-Based Inventing of Electronic Doors* [Structured Poster Session]. AERA Annual Meeting San Francisco, CA http://tinyurl.com/y6qwjqua (Conference Canceled)

Jackson, D. W.* & Semerjian, A. R.^ (2020, Apr 17 - 21) *Self-Efficacy, Identity, and Interest Amid an Invention Contest: A Phenomenological Study in Required Seventh-Grade Classes* [Roundtable Session]. AERA Annual Meeting San Francisco, CA http://tinyurl.com/vftltn2 (Conference Canceled)

Semerjian, A. R.*^, Cullicott, C. E. & **Jackson, D. W.** (2020, Apr 17 - 21) *Better Self-Efficacy Measurement in Research-to-Practice Settings: Interpretation and Recommendations* [Paper Session]. AERA Annual Meeting San Francisco, CA http://tinyurl.com/qvkdngd (Conference Canceled)

Skukauskaite, A.*, Couch, S., Alemdar, M., Moore, R., Newton, S., Calabrese Barton, A., Tan, E., Greenberg, D. W., Roby, R. S., Flynn, L., Zhang, H., Estabrooks, L., Perry, A. M.^, Kim, D., Kim, S. L.^, **Jackson, D. W.**, & Bendiksen, P.^ (2020, April). Creating Innovative Learning Environments through Community and Interdisciplinary Connections for Invention Education. Structured poster session with Division C - Learning and Instruction, Section 3a: Learning Environments, at the 2020 Annual Meeting of the American Educational Research Association (AERA).

Jackson, D. W.*, Kiel, J.#, & Zhang, H. (2020, April). Invention Projects for Culturally Relevant and Interdisciplinary STEAM Learning in Middle School and High School. Presentation at the 2020 National Conference of the National Science Teaching Association (NSTA). (Conference Canceled)

Jackson, D. W.*, Bendiksen, P.^, & Semerjian, A. R.^ (2020, March). Social Interdependence of Young Adolescents during a Smart-Greenhouse Project in a Required Science Class. In paper session at the 2020 NARST Annual International Conference.

Davila, A.*^, Meerkins, T. M.^, **Jackson, D.**, Olle, C.^, Nnamdi Ezema, G.^, Garcia, R., …, Blustein, D. L. (2019, August). Near-Peer Mentors' Conceptualizations and Perceptions of Mentorship Experience. Poster presented at the annual convention of the American Psychological Association (APA), Chicago, IL.

Jackson, D. W.*, & Semerjian, A. R.^ (2019, April). Inventing and Affect: Impact of an In-school-time Invention Project with a Targeted Measurement Suite. Paper presented at the 2019 Annual Meeting of the American Educational Research Association (AERA).

Zhang, H.*, Semerjian, A. R.^, & **Jackson, D. W.** (2019, April). Investigating the Impact of Productive Failure Activities on Student Engineering Design. Roundtable session at the 2019 Annual Meeting of the American Educational Research Association (AERA).

Barnett, M., Cho, E.^, Couch, S.*, Estabrooks, L., Gutierrez, P. B.^, **Jackson, D. W.**, Kim, D., Kim, S. L.^, & Zhang, H. (2019, April). Leveraging Youth's Diverse Backgrounds to Broaden Participation in STEM through Invention Education. Symposium at the 2019 NARST Annual International Conference.

Cho, E.^, Couch, S.*, Estabrooks, L., **Jackson, D.**, Kim, D., Kim, S. L.^, & Zhang, H. (2018, October). Inventing the future: Leveraging cultural assets to create young STEM inventors. Symposium at the 2018 Diversity Challenge (conference).

Jackson, D. W.* (2018, October). (Re)Inventing Teams: A Design-based Approach to Scaffolding Youth Engagement in Group Invention Projects. Presentation at the 2018 Learning Sciences Graduate Student Conference.

Barnett, M.*, Zhang, H., **Jackson, D. W.**, Blustein, D., Liang, B., & Cademartiri, L. (2018, June). Seeding the Future: Social Justice for STEM Learning. Poster at the 2018 National Science Foundation Discovery Research PreK-12 (DRK-12) Principal Investigators Meeting.

Zhang, H.*, **Jackson, D. W.**, Blustein, D., Liang, B., Barnett, M., & Cademartiri, L. (2018, May). Seeding the Future: Social Justice for STEM Learning. Poster at the 2018 National Science Foundation Innovative Technology Experiences for Students and Teachers (ITEST) Principal Investigators Conference.

Jackson, D. W.*, Olle, C.^, Moussavi, S., Wong, C., & Fernandez, M. (2018, April). Clicking or Stuck Together? Hybrid Virtual and In-person Youth Mentoring Program with a Critical Lens. Presented poster at the 2018 Annual Meeting of the American Educational Research Association (AERA).

Jackson, D. W.*, & Asante, C.^ (2018, March). Reinventing an Invention Camp for 2018: A Design Research Approach to Access, Participation, and Collaboration. Presented poster at the 2018 NARST Graduate Student Research Symposium of the NARST Annual Meeting.

Moussavi, S.*, & **Jackson, D.** (2017, October). iCREAT and Mentoring High School Experience. Breakfast roundtable at the 2017 National Science Foundation Advanced Technological Education (ATE) Principal Investigators Conference.

Jackson, D. W.* (2017, April). Social Justice Science Education: Perspectives, Purposes, and Prospects of an Emerging Field. Participant in "Social Justice in Education" roundtable at the 2017 Harvard Graduate School of Education Student Research Conference.

Jackson, D. W.* (2017, March). Social Justice Science Education: Perspectives, Purposes, and Prospects of an Emerging Field. Poster presentation at the 2017 Lynch School of Education Graduate Research Symposium.

Jackson, D. W.* (2008, October). Is the Third Exit-MCAS the Charm? Framing Massachusetts' High-School Science Exam for the Class of 2010 and Beyond. Presentation at the Fall 2008 conference of the Massachusetts Association of Science Teachers.

***NON*-REFEREED CONFERENCE PAPERS, PRESENTATIONS, & SYMPOSIA**

Jackson, D. W.* (2019, October). What Makes Tabletop Greenhouses "Smart"? Insights from Design-based Work Embedding Computational Practices in Required Science Classes. Presentation at the 2019 Learning Sciences Graduate Student Conference.

LEADERSHIP OF PROFESSIONAL DEVELOPMENT

Forty-four person-hours before February Vacation Online Camp, for creating automated hydroponics systems, 2021 (15 high-school "counselors" and 7 faculty/staff "co-advisors")
Twenty person-hours before February Vacation Camp, for creating sustainable plastics, 2020
Eight person-hours before February Vacation Camp, for creating electric doors, 2019
Eight person-hours before February Vacation Camp, for making electric musical instruments, 2018
Forty person-hours between iterations of Smart Greenhouses, for plant biology, greenhouse design, and computational practices, 2018
Thirty-two person-hours between iterations of *Chill Out*, for creating insulating lunchboxes, 2018

CO-FACILITATION OF PROFESSIONAL DEVELOPMENT

Seven weekly sessions with ~10 middle- and high-school teachers across Massachusetts, 2020
Two hours with ~25 visiting high-school teachers from Hángzhōu, China, 2019

PARTICIPATION IN POST-SECONDARY PROFESSIONAL DEVELOPMENT

Confronting Racism seminar on race & racism in educational research, with a predominantly quantitative orientation [2018-2019]
Apprenticeship in College Teaching (included *Active Learning; Assessment Design*; *Course Design; Creating Effective Learning Environments; Getting Started in Online and Hybrid Contexts; Grading for Learning;* and *Teaching Students with Disabilities*) [2016-2018]
Research and Scholarship Integrity (included *Conflict of Interest; Data Acquisition and Tools; Race and Gender Bias in Academia*; and *University Ethics and Non-Tenure Track Faculty*) [2016-2018]

SERVICE IN POST-SECONDARY INSTITUTIONS

Member, Dean's Lecture Series Committee, University at Buffalo Graduate School of Education [2023-present]
Member, Learning and Instruction Mentoring Committee, University at Buffalo Graduate School of Education [2022-present]
Member, Scholarship, Awards, & Assistantships Committee, University at Buffalo Graduate School of Education [2022-present]
Member, Rod Doran Legacy Scholarship Committee, University at Buffalo Graduate School of Education [2022-present]
Member, Learning Sciences Initiative Planning/Envisioning Groups, University at Buffalo Graduate School of Education [2022-present]
Member, Science Exploration Day Planning Group, University at Buffalo Graduate School of Education [2022-present]
Advisor to five students in the Department of Learning and Instruction, University at Buffalo Graduate School of Education [2022-present]
Mentor, Department of Curriculum & Instruction at Boston College [2015-2016]
President, Project on Financial Planning for Future Educators Graduate Team at Boston University [2007-2008]
Sports Liaison, Boston University Graduate School of Education [2006-2008]
Literature Editor, Rune (MIT Literary Magazine) [2003-2004]

Associate Advisor, MIT Department of Chemical Engineering [2000-2001]
Community Service Chair and *Secretary*, Zeta Psi Fraternity, MIT chapter [2000-2001]
Principal Bassoonist and *Personnel Officer*, MIT Symphony Orchestra [1999-2001]

SERVICE AS READER ON DISSERTATION COMMITTEES

Gabriella Martinez, Department of Counseling, School, and Educational Psychology (CSEP), University at Buffalo Graduate School of Education [successfully defended March 2025]
Laura McMullin, Department of Learning and Instruction (LAI), University at Buffalo Graduate School of Education [successfully defended April 2024]

SERVICE IN PRIMARY AND SECONDARY SCHOOLS

Team member, Waltham Public Schools STEAM Team (comprised of community members, faculty/staff, and students) [2017-2018]
Board member, Friends of Wellesley METCO (Metropolitan Council for Educational Opportunity) [2015-2017]
School Council member, Wellesley Middle School (WMS) [SY 2015-2016]
Coordinator, WMS Barton Road (low-income housing) tutoring program [2012-2016]
Founder & Head Coach, WMS Science Olympiad team [2009-2016]
Co-Head Coach, Kennedy-Longfellow School Science Olympiad team (Cambridge, MA) [SY 2004-2005 & SY 2007-2008]

MEMBERSHIPS IN PROFESSIONAL ASSOCIATIONS

American Educational Research Association (AERA) [2007-2012, 2016-present]
Computer Science Teachers Association (CSTA) [2019-present]
International Society of the Learning Sciences (ISLS) [2017-present]
NARST (formerly stood for National Association of Research in Science Teaching) [2017-2024]
National Science Teaching Association (NSTA) [2007-2016, 2019-2020]

SERVICE IN PROFESSIONAL ASSOCIATIONS

Local Organizing Committee Representative, Financial Considerations for Equity Working Group, ISLS, 2023-present
Member, Conference Accommodations Committee, Working Group, ISLS, 2023-present
Member, Equitable Participation Working Group, ISLS, 2023-present
Co-chair, Working Group on Integrating Invention Education with STEAM Disciplines, Invention Education Research Group, 2022-2023
Candidate for Secretary and Treasurer-Elect, Learning Sciences Special Interest Group, American Educational Research Association (AERA), 2022-2023

SERVICE IN PEER-REVIEWING

Ad Hoc Reviewer, *Frontiers in Education* [2024]
Ad Hoc Reviewer, *Computer Applications in Engineering Education* [2023]
Ad Hoc Reviewer, *Disciplinary and Interdisciplinary Science Education Research* [2022]
Ad Hoc Reviewer, *Computer Science Education* [2019]

Program Proposal Reviewer, AERA Annual Meeting [2018, 2021, 2022, 2023, 2024]
Program Proposal Reviewer, ISLS Annual Meeting [2022, 2023, 2024]
Program Proposal Reviewer, NARST Annual Meeting [2018, 2019, 2020, 2022]
Learning Sciences Graduate Student Conference (LSGSC) Program Proposal Reviewer [2018, 2019]
Program Proposal Reviewer, ASEE Annual Conference [2019]
Panel reviewer, Lemelson-MIT InvenTeams program (grants up to $10,000) [2018]

GRADUATE ASSISTANTS SUPERVISED

Kellyann Ramdath, Department of Learning and Instruction, University at Buffalo Graduate School of Education (2023-2024 school year, 10 hr./wk.)
Stacy Scheuneman, Department of Learning and Instruction, University at Buffalo Graduate School of Education (Summer 2024, 160 hr. *ad hoc*)

COMMUNITY OUTREACH

World Refugee Day celebration in Front Park (Buffalo, NY), 2024
Lead facilitator, After-school Coding Program, Grant Street Neighborhood Center, including a "Spring Showcase" (2023-present)
Co-coordinator, Spring Break Training in Artificial Intelligence (AI), Grant Street Neighborhood Center, including a "Science Showcase" (April 2023 & April 2024)
Co-coordinator, Winter Break Training in Artificial Intelligence (AI), Grant Street Neighborhood Center, including a "Science Showcase" (February 2024)
Volunteer, After-school Coding Program, Grant Street Neighborhood Center, including a "Winter Showcase" (2022)
Kennedy & McDevitt STEM Design Club, ~15 Showcases (2016-2022)
Waltham February Vacation Camp, 6 Showcases (2017-2022)
Boston Local Food Festival: 2017
Waltham RiverFest (city-based event with booths and stages for community organizations and local artists): 2017, 2018, 2021
NSF (National Science Foundation) STEM for All Video Showcase (online): co-presenter in 2020 & lead presenter in 2021

MEDIA FEATURES

Featured in local ABC affiliate (WKBW-7) report by Yoselin Person on Feb. 6, 2024 (3:28 video + associated article), *'They're not educated enough in schools': PUSH Buffalo teaching teens how to code.* https://www.wkbw.com/news/local-news/start-learning-about-coding-push-buffalo-teaching-teens-how-to-code

AWARDS AND HONORS

Boston College, Graduate School of Arts and Sciences Conference Grant, fall 2019 (awarded)
Boston College, Graduate Education Association Conference Grant, 2019 (awarded)
Boston College, Lynch School of Education Conference Grant, 2018 (awarded)
Boston College, Graduate School of Arts and Sciences Conference Grant, spring 2019 (awarded)

Boston College, Lynch School of Education Conference Grant, 2018 (awarded)
Boston College, Graduate Student Association Conference and Research Grant, Fall 2018 (awarded)
Boston College, Graduate Student Association Conference and Research Grant, Spring 2018 (offered, but unable to accept)
Robert A. Boit Writing Prize for Poetry, Honorable Mention (MIT), 2004
Merck Engineering & Technology Fellowship, 2001

CERTIFICATIONS (all under Massachusetts license #399672)

All certifications include an endorsement for Sheltered English Immersion

Massachusetts Professional Certification, General Science, 5-8	Valid through 5/8/2029
Massachusetts Initial Certification, Technology/Engineering, 5-12	Valid for 5 yrs.' employment
Massachusetts Initial Certification, Principal/Assistant Principal, 5-8	Valid for 5 yrs.' employment

RESEARCH SKILLS

Specialty in mixed(-methods) research, especially convergent(/triangulation) designs & design-based research (DBR)
Proficient with Computer-Assisted Qualitative Data Analysis Software (CAQDAS), including MAXQDA, NVIVO, Dedoose, HyperTRANSCRIBE, and HyperRESEARCH (especially emotion, process, *in vivo*, evaluation, axial, and thematic coding)
Proficient with SPSS for quantitative analyses (t-tests, chi-square tests, ANOVAs, MANOVAs, correlations, multiple regression, reliability analysis, exploratory factor analysis)

LANGUAGES

Spanish (proficient in reading, writing, and speaking; conversational in listening)
English (fluent in listening, speaking, reading, and writing)
American Sign Language (fluent in finger-spelling and -enumerating; beginning in classroom-management-related vocabulary)
Conversational in Python, Scratch, MIT AppInventor for Android, Google Teachable Machine, and BBC micro:bit

References and Curriculum Mortuis *are available upon request.*