

Deb Morrison

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EDUCATION – DEGREES

- 2015 **Doctor of Philosophy** in Curriculum and Instruction, Science Education under Dr. Erin Furtak, School of Education, University of Colorado at Boulder, Boulder, CO, USA. (Committee: Dr. Margaret Eisenhart, Dr. Victoria Hand, Dr. Christina Sue, Dr. Jennifer Whitcomb).
Dissertation: *Formative assessment and equity: An exploration of opportunities for eliciting, recognizing and responding within science classroom conversations.*
- 2002 **Masters of Science**, double major in Plant Sciences and Environmental Sciences, University of Western Ontario, London, ON, Canada.
Masters Thesis: *Nitrogen sink versus source potential of coarse woody debris in the red spruce-Fraser fir forest of the southern Appalachians, USA.*
- 1994 **Bachelor of Science, Honors** in the Co-operative Education Program (work/study), major in Geography, University of Victoria, Victoria, BC, Canada.
Honors Thesis: *Use and abuse of the commons: An examination of resource management in the pulp and paper industry in coastal British Columbia.*

EDUCATION – OTHER

- 2015 Teachers Teaching Teachers GIS Summer Institute, ESRI, Redlands, CA, USA.
- 2014-2015 National Science Teacher Education New Teacher Academy.
- 2014 Critical Participatory Action Research Institute, CUNY, New York, NY, USA.
- 2009 Summer Research Institute (now called the Sandra K. Abell Institute for Doctoral Students, National Association of Research on Science Teaching, Held at the University of Missouri Columbia, MO, USA.
- 2003&2004 Teacher Enhancement Field Courses, Colorado School of Mines, Golden, CO, USA.
- 2001-2004 Learning Network Coaching, Peggy James, Mapleton School District, Denver, CO, USA.
- 2001-2002 Alternative Teacher License Program, Mapleton School District and Centennial BOCES, Denver, CO, USA.
- 2001&2002 Literacy Learning in the Classroom, Learning Network Summer Institute, Denver, CO, USA.
- 1995-1998 Guided Independent Study (non-degree course work), Department of Forestry, University of British Columbia, Vancouver, BC, Canada.
- 1988 Diploma, Belmont Senior Secondary School, Victoria, BC, Canada.

PROFESSIONAL EDUCATION EXPERIENCE

- 2016-present **Postdoctoral Researcher**, Institute for Science and Math Education (ISME), University of Washington, Seattle, WA, USA. Supervised by Dr. Phil Bell.
- Research and project engagement in the STEM+C collaboration with TAF Academy for curriculum adaptation work in chemistry and earth science to integrate computational thinking.
 - Research and project engagement in the PSEP collaboration with two school districts (administrators, teachers and students) around implementation of NGSS with a focus on equity.
- 2014 **Lead Science Teacher Educator**, College of Education, University of Washington, Seattle, WA, USA.
- Oversight for the science instructional team of TFA teacher educators and instructor for new science instructional activity at the summer institute for novice teachers entering the Chicago TFA program. This project is a multi-disciplinary and grade level teacher education effort directed at social justice and led by Dr. Morva McDonald.

PROFESSIONAL EDUCATION EXPERIENCE (continued)

- 2013-2014 **Assistant Instructional Designer**, College of Education, University of Washington, Seattle, WA, USA.
- Lead Science Designer for the UW-TFA Chicago redesign project led by Dr. Morva McDonald to rework the summer teacher institute to provide a deeper learning experience for novice teachers with particular attention to social justice. This work includes leading professional development for TFA teacher educators once a month during Spring 2013.
 - Finally, there is a research component to this work that involves research design, data collection and analysis, and research paper and presentation writing.
- 2013-present **Founder and Consultant**, TREE Educational Services, Boulder, CO, USA.
- Work with teams of science teachers to improve science teaching and learning opportunities and outcomes for historically marginalized students by focusing on teacher practices.
 - Work with scientists to develop outreach events and curricula for teachers.
 - Also includes some shorter term consulting and speaking engagements with organizations such as NASA Outreach and the Billion People Project.
 - Consulting to TFA Chicago and National teams on the design and training of their science teacher educators and science teachers. Continuing contract work after UW collaboration.
 - Talk about Strategies for educating about controversial topics at [Colorado's Changing Energy Portfolio Workshop](#) on 11/15/15.
- 2012-2014 **Developer and Co-Instructor**, CIREs, University of Colorado at Boulder, Boulder, CO, USA.
- *Climate Connections: Water in the West Massively Open Online Course (MOOC)*, Co-Developer and Co-Instructor with Dr. Anne Gold, held in June 2014.
 - *Teaching and Learning About the Climate in Geoscience Classrooms*, Co-Developer and Co-Facilitator with Dr. Anne Gold and Dr. Tamara Ledley, held October 26, 2013 as pre-conference short course at the *Geological Society of America* annual meeting.
 - *Arctic Climate Connections Workshop for Teachers*, Co-Facilitator and Co-Designer with Dr. Anne Gold, held on February 22, 2014 in Boulder, CO.
 - *ENV5100/GRTE5030 - Climate Science 101: Essential Knowledge and Teaching Strategies*, Teacher Professional Development, taught in Fall 2012 and Spring 2013.
 - *GRTE5030 – Climate Science Webinar Series*, Teacher Professional Development and Educational Outreach for the general public, taught in 2013-14.
- 2012-2013 **Co-Instructor**, University of Colorado at Denver, Denver, CO, USA.
- *UEDU 5810 H50 - Critical Civic Inquiry: Learning Environments and Curriculum for Student-Driven Action Research*, Teacher Professional Development, Spring 2013.
- 2009-2013 **Developer and Instructor**, Continuing Education and Outreach, University of Colorado at Boulder, Boulder, CO, USA.
- *Grasshoppers, Climate Change and Inquiry*. Workshop developed with Dr. Cesar Nufio, Colorado Biology Teachers' Association, University of Colorado, Boulder, April 20, 2013.
 - *GRTE5030 - Making the Global Local: Colorado Climate Curriculum Workshop*, Teacher Professional Development, July 27-30, 2009 and Teaching Follow-Up, Fall, 2009.
- 2008-2015 **Science Teaching Education Researcher**, School of Education, University of Colorado at Boulder, School of Education, Boulder, CO, USA.
- **Virtual Teacher Learning Community** on modeling in science classrooms, 2014-2015, Dr. Erin Furtak, Curriculum and Instruction -Science Education, School of Education, Boulder, CO, USA.
 - **Latino Student Experiences in Chemistry Learning**, 2013-present, Dr. Enrique Lopez, Curriculum and Instruction -Science Education, School of Education, Boulder, CO, USA.
 - **Virtual Professional Development in the Context of Climate Literacy**, 2012-present, collaboration with Dr. Susan Buhr, CIREs, University of Colorado at Boulder, Boulder, CO, USA.

PROFESSIONAL EDUCATION EXPERIENCE (continued)

- 2008-2015 **Science Teaching Education Researcher**, School of Education, University of Colorado at Boulder, School of Education, Boulder, CO, USA. (Continued)
- **Critical Civic Inquiry**, 2012-present, Dr. Ben Kirshner, Learning Sciences, School of Education, University of Colorado at Boulder, School of Education, Boulder, CO, USA.
 - **Daphne/Elevate**, 2008-present, Dr. Erin Furtak, Curriculum and Instruction-Science Education, School of Education, University of Colorado at Boulder, Boulder, CO, USA. Involved in everything from project design, data collection and analysis to project management.
 - **LA Test**, 2009-2011, Dr. David Webb, Curriculum and Instruction – Math Education, School of Education, University of Colorado at Boulder, School of Education, Boulder, CO, USA.
 - **CU Teach**, 2009, Dr. Valerie Otero, Curriculum and Instruction – Science Education, School of Education, University of Colorado at Boulder, School of Education, Boulder, CO, USA.
- 2011-2012 **Educational Consultant**, Space Science Institute, Discover Earth Exhibit, Boulder, CO, USA.
- 2010-2012 **Instructor**, School of Education, University of Colorado at Boulder, Boulder, CO, USA.
- *EDUC5215 - Elementary Science Education*, 2012
 - *EDUC2020 - Step 1 (Inquiry Approaches to Teaching)*, 2010-11
 - *EDUC2030 - Step 2 (Science Inquiry-Based Lesson Design)*, 2010-11
- 2010-2011 **Lead Graduate Teacher**, School of Education & Graduate Teacher Program, University of Colorado at Boulder, Boulder, CO, USA.
- *Communicating Ideas Effectively: Balancing Concepts & Facts versus Experiences & Practice*, Monday Workshop Series, October 18, 2010.
 - *Teaching Your First Course as Instructor of Record*, Fall Workshop, August 18-20, 2010 & Spring Conference (Context & Engagement in the College Classroom), January 6-7, 2011.
- 2000 **Ecosystem Health Course Developer**, Medical Sciences, University of Western Ontario, London, ON, Canada.
- 1999-2000 **Trainer**, Teaching Assistant Training Program, Society of Graduate Students, University of Western Ontario, London, ON, Canada.
- 1998-2000 **Teaching Assistant**, Plant Sciences, University of Western Ontario, London, ON, Canada.

K-12 TEACHING EXPERIENCE

- 2014-2016 **Earth Science Teacher/Researcher**, Broomfield Heights Middle School, Boulder Valley School District, Broomfield, CO, USA.
- 2007-2008 **Science Teacher**, Options School (Boulder, Longmont and Broomfield Sites), Aurora Public Schools, Aurora, CO, USA.
- 2001-2004 **Science Teacher**, John Dewey Middle School, Mapleton School District, Denver, CO, USA. During this time I worked as the department chair and science club sponsor for two years and participated in the site accreditation team for another school and on the district assessment team.

OTHER RESEARCH AND WORK EXPERIENCE

- 1998-2000 **Ecological Researcher**, Plant Sciences, University of Western Ontario, London, ON, Canada.
- 1998 **Ecological Researcher**, Geography, University of Victoria, Victoria, BC, Canada.
- 1997 **Forestry Silviculturalist**, Silver Ring Forestry Ltd., Nanaimo, BC, Canada.
- 1995-1997 **Resource Planner**, Sterling Wood Group Inc., Victoria, BC, Canada.
- 1993-1994 **Data Analyst**, Ministry of Aboriginal Affairs, Victoria, BC, Canada.
- 1993-1994 **Interviewer**, Canada World Youth, BC/Yukon Region, Vancouver Island, BC, Canada.
- 1992 **Resource Use Researcher**, Renewable Resources, Department of Indian and Northern Affairs, Whitehorse, YK, Canada.
- 1991 **Automated Cartographer**, Coast Forest Management Consultants, Victoria, BC, Canada.
- 1990 **Engineering Field Assistant**, Ministry of Forests, Bella Coola, BC, Canada.

SERVICE

- 2016-present Science Education for Social Justice Association (SEEDS), Steering Committee Board Member.
- 2015-2017 Cultural Studies in Science Education, Special Edition Co-Editor.
- 2015 Climate Interactive Game, National Center for Atmospheric Research, Boulder, CO, Facilitator and Participant for one game run with NCAR scientists and second game done with public.
- 2014-present Science Education (Journal), Reviewer
- 2014-present School Science and Mathematics (Journal), Reviewer
- 2013-present American Educational Research Association, Division C, G, and K, Proposal Reviewer.
- 2013-present National Association of Research in Science Teaching, Proposal Reviewer.
- 2013-2014 Technology Support Subcommittee, Critical Race Studies in Education Association, Volunteer.
- 2012-2014 Boulder Faculty Association Diversity Committee, University of Colorado at Boulder, Boulder, CO, USA., Committee Member.
- 2012-present American Multicultural Science Education (AMSE) Association in affiliation with the National Science Teacher Association, USA. Speaker 2012-present. Board Member 2014-present.
- 2012-present Cooperative Institute for Research in Environmental Sciences (CIRES) Outreach, CO, USA. Speaker at NSTA, GSA, and [Colorado's Changing Energy Portfolio workshop](#).
- 2010-present Equity and Ethics Committee, National Association for Research on Science Teaching (NARST). Volunteer 2010-present. Committee Member 2013-2016. Co-facilitated and co-planned the 2013 and the 2014 Pre-Conference Workshops. Developed Google collaborative workspace.
- 2009-present Learn More about Climate (LMAC), Outreach, University of Colorado at Boulder, Boulder, CO, USA, Volunteer and Presenter. Current Teacher Advisory Board member.
- 2010-2012 American Educational Research Association (AERA), USA, Graduate Student Representative for the University of Colorado at Boulder
- 2010-2011 Dean's Graduate Students Council, Graduate School, University of Colorado at Boulder, Boulder, CO, U.S.A. Member.
- 2010-2011 United Governance of Graduate Students, University of Colorado at Boulder, Boulder, CO, USA., Graduate Representative for the School of Education.
- 2010 National Association of Graduate and Professional Students, USA, Social Justice Chair.
- 2010 Science Discovery Director Search Committee, Office for University Outreach, University of Colorado at Boulder, Boulder, CO, U.S.A., Member.
- 2009-2011 Racial Initiatives for Students and Educators, University of Colorado at Boulder, Boulder, CO, USA., Co-Founder, Treasurer and Coordinating Committee Member.
- 2009-2010 Internal Review of the Physics Unit, University of Colorado at Boulder, Boulder, CO, USA., Graduate Student Reviewer.
- 2009-2010 District Accountability Committee, Boulder Valley School District, Boulder, CO, U.S.A., University Hill Elementary School Representative.
- 2002-2004 Science Club, John Dewey Middle School, Mapleton School District, Denver, CO, USA., Sponsor.
- 1994-1996 Cooperative Education Advisory Council, University of Victoria, Victoria, BC, Canada, Member.
- 1989 Victoria International Development Education Association, Victoria, BC, Canada, Board Member.
- 1989 1st South Vancouver Island Youth Parliament, Victoria, BC, Canada, Organizer and Chair.

GRANTS

- 2010 Co-Applicant (with Dr. Erin Furtak) for **Professional Learning as Leadership: Building Capacity in High School Biology Teaching, Outreach Award**, Division of Continuing Education and Professional Studies, University of Colorado at Boulder, \$5,000
- 2009 Co-Applicant (with Dr. Erin Furtak) for **Making the Global Local: Colorado Climate Literacy for Secondary Science Teachers, Outreach Award**, Division of Continuing Education and Professional Studies, University of Colorado at Boulder, \$5,000
- 2004 **Mikkelson Education Fund Grant**, \$1,000, for field course work in science education.

AWARDS

- 2016 **Research and Practice Collaboratory Travel Fellow**, \$2000 value in travel to the American Educational Research Association (AERA) national conference for research presentations and mentoring.
- 2016 **National Association of Research on Science Teaching (NARST) Teacher Scholarship**, \$700 value for travel to national NARST conference for research presentations.
- 2015 **Superintendent's Honor Roll**, Boulder Valley School District, Colorado, USA.
- 2014-15 **National Science Teacher's Association New Science Teacher Academy Fellow**, \$2000 value in travel, professional development and association dues.
- 2013-14 **Jhumki Basu Scholar**, Equity and Ethics Committee of the National Association of Research on Science Teaching (NARST), \$700 value plus mentoring and professional opportunities.
- 2012-13 **Elizabeth A. Wilson Scholarship** (Elementary Education Instruction), University of Colorado at Boulder, \$1,000 plus research stipend for the year for a total value ~\$10,000.
- 2009-12 **Institutional Tuition Merit Scholarship**, University of Colorado at Boulder, \$1,000/semester
- 2009 **Doctoral Student Institution Attendance Scholarship**, National Association of Research on Science Teaching (NARST), Summer School Research Institute (now Sandra K. Abell Institute for Graduate Students), participation and lodging expenses
- 2008 **Doctoral Fellowship**, School of Education, University of Colorado at Boulder, \$14,000
- 1999-2000 **Graduate Scholarship**, National Science and Engineering Research Council of Canada (NSERC) PGSA, \$17,300/year
- 1999-2000 **Tuition Wavier Scholarship**, University of Western Ontario, ~\$5,000/year, given because I received an NSERC scholarship.
- 1998 **Graduate Scholarship**, Environmental Sciences Department, University of Western Ontario, \$1,000
- 1998 **Graduate Fellowship**, University of Victoria, \$12,400/year, however since I transferred to the University of Western Ontario with my supervisor to complete my Masters work, I only received \$3,100.
- 1991 **Chinese Freemasons Scholarship**, Department of Geography, University of Victoria, \$125
- 1988 **South Vancouver Island Lioness Scholarship**, \$500
- 1988 **Passport to Education Scholarship**, Province of British Columbia, \$1,000

JOURNAL PUBLICATIONS – RESEARCHER

- Annamma, S., Jackson, D., & **Morrison, D.** (Accepted). Conceptualizing color-evasiveness: Using Dis/ability Critical Race Theory to expand a color-blind racial ideology in education and society. *Race, Ethnicity and Education*.
- Morrison, D.** (Accepted). Whose interests and under whose control?: Interest convergence in science-focused school-community collaborations. *Cultural Studies in Science Education*.
- Heredia, S.C., Furtak, E.M., & **Morrison, D.** (Accepted). Exploring the influence of item context on student response patterns to natural selection multiple choice items. *Evolution: Education and Outreach*.
- Furtak, E.M., Kiemer, K., Circi, R., Swanson, R., de Leon, V.A., **Morrison, D.**, & Heredia, S. (2016). Teachers' Formative Assessment Abilities and Their Relationship to Student Learning: Findings from a Four-Year Intervention Study. *Instructional Science*, 44, 267-291.
- Heredia, S.C., Furtak, E.M., **Morrison, D.**, & Renga, I. (2016). Science Teachers' Representations of Classroom Practice in the Process of Formative Assessment Design. *Journal of Science Teacher Education*.
- Gold, A.U., Kirk, K.B., **Morrison, D.**, Lynds, S., Sullivan, S.B., Grachev, A., & Persson, O. (2015). Arctic Climate Connections Curriculum - A Model For Bringing Authentic Data Into The Classroom. *Journal of Geoscience Education*, 63(3), 185-197.

JOURNAL PUBLICATIONS – RESEARCHER (Continued)

- Annamma, S., **Morrison, D.**, & Jackson, D. (2014). Disproportionality Fills in the Gaps: Connections Between Achievement, Discipline, and Special Education in the School-to-Prison Pipeline. *Berkeley Review of Education*, 5(1), 53-87.
- Furtak, E. M., **Morrison, D.**, & Kroog, H. (2014). Investigating the Link Between Learning Progressions and Classroom Assessment. *Science Education*, 98(4), 640-673.
- Furtak, E. M., **Morrison, D.**, & Henson, K. (2010). Centering a Professional Learning Community on a Learning Progression for Natural Selection: Transforming Community, Language, and Instructional Practice. *Proceedings of the 9th International Conference of the Learning Sciences*, 1, 129–136). International Society of the Learning Sciences.
- Creed, I.F., Webster, K.L., **Morrison, D.L.** (2004). A comparison of techniques for measuring density and concentrations of carbon and nitrogen in coarse woody debris at different stages of decay. *Canadian Journal of Forest Research*, 34, 744-753.
- Creed, I.F., **Morrison, D.L.**, Nicholas, N.S. (2004). Is coarse woody debris a net sink or source of nitrogen in the red spruce/Fraser fir forest of the southern Appalachians, U.S.A.? *Canadian Journal of Forest Research*, 34(3), 716-727.

JOURNAL PUBLICATIONS – PRACTITIONER

- Morrison, D.** & DeBarger, A. (2016). How can formative assessment support culturally responsive argumentation in a classroom community? [STEM Teaching Tools Brief 25](#). University of Washington STEM Teaching Tools.
- Bell, P., **Morrison, D.**, & DeBarger, A. (2015). How to launch STEM investigations that build on student and community interests and expertise. [STEM Teaching Tools Brief 31](#). University of Washington STEM Teaching Tools.
- Buhr, S.M., & **Morrison, D.** (2013). CLEAN & ICEE: Two new resources for teaching climate change. *Foundations*, Newsletter for the Geo2YC Division of the National Association of Geoscience Teachers, 2(2), 12-14.

BOOKS & CHAPTERS – RESEARCH (PEER-REVIEWED)

- Morrison, D.** (In progress – Under contract for 2017 publication). Designing for equitable participation in scientific practices using students' lived experiences. Chapter in Mendoza, E., Kirschner, B., & Gutierrez, K. (Eds), *Designing for Equity: Bridging Learning and Critical Theories in Learning Ecologies for Youth*. Information Age Press.
- Morrison, D.** & Garlick, G.S. (In progress – Under contract for 2016 publication). Geospatial tools for use in educational equity research. In Morrison, D., Annamma, S.A., & Jackson, D. (Eds), *The spatial search to understand and address educational inequity to inform praxis*. Sterling, VA: Stylus Publishing.
- Morrison, D.**, Annamma, S.A., & Jackson, D. (Eds). (In progress - Under contract for 2016 publication). *The spatial search to understand and address educational inequity to inform praxis*. Sterling, VA: Stylus Publishing.
- Morrison, D.** (2016). One Day, Multiple Feedback Loops. In Furtak, E.M., Glasser, H.M., & Wolfe, Z.M. *The Feedback Loop: Using Formative Assessment Data for Science Teaching and Learning* (pp. 95-100). NSTA Press.
- Smith, L.K., Rooney-Varga, J.N., Gold, A.U., Oonk, D., **Morrison, D.** (2015). Media Literacy as a Pathway to Bridge the Digital and STEM Divides: Interest Driven Media Projects for Teachers in the Trenches. In Urban, M. & Falvo, D. (Eds.), *Improving K-12 STEM Education Outcomes through Technological Integration*. Advances in Early Childhood and K-12 Education (AECKE), University of North Dakota.

PRESENTATIONS – RESEARCH

- Morrison, D.** (2016). Strategies for Promoting Student Participation in Science Practices: A Teacher's Organization of Science Classroom Talk. *National Association for Research on Science Teaching*, April 14-17, Baltimore, MD, USA.

PRESENTATIONS – RESEARCH (continued)

- Morrison, D.** (2016). White men aren't the only scientists: Middle school students' critical investigations into science. *National Association for Research on Science Teaching*, April 14-17, Baltimore, MD, USA.
- Morrison, D.** (2016). Critical Race Theory and Spatial Analysis: Cases of Praxis to Disrupt Racial Injustice. *American Educational Research Association*, April 8-12, Washington, DC, USA.
- Annamma, S., Jackson, D., & **Morrison, D.** (2016). Conceptualizing Color-Evasiveness: Using Disability Critical Race Theory to Expand Notions of Color Blindness. *American Educational Research Association*, April 8-12, Washington, DC, USA.
- Morrison, D.** (2016). Examples of students' experiences in learning climate science: A YPAR guide for science teachers. In session on "Learning from Youth Participatory Action Research How to Reframe Education and Influence Educational Reforms" at *John Dewey Democracy and Education Centennial Conference*, April 7-8, Washington, DC, USA.
- Morrison, D.,** & Geller, A. (2016). Video Pedagogies and Tools for Engaging in Ambitious Science Teaching Core Practices. Experiential session presented at the *Association of Science Teacher Education (ASTE)*, January 7-9, Reno, NV, USA.
- Hafich, K., Martens, W., Fletcher, H., MacFerrin, B., & **Morrison, D.** (2015). Climate Literacy from the Plains to the Peaks: Challenges in Teaching Climate in Colorado Classrooms. *Geological Society of America*, December 14–18, San Francisco, CA, USA.
- Fortney, B. S., **Morrison, D.,** Allen, C. D. [chairs]. (2015). Equity in science teacher education – toward an expanded definition. *American Educational Research Association*, April 16-20, Chicago, IL, USA.
- Morrison, D.** & Heredia, S. (2015). Teacher organization of science classroom talk with attention to participation and disciplinary practices. *American Educational Research Association*, April 16-20, Chicago, IL, USA.
- Heredia, S. C., Furtak, E. M., **Morrison, D.,** & Renga, I. (2015). Science teachers' representations of practice as a resource in the development of formative assessment tools. *National Association for Research on Science Teaching*, April 11-14, Chicago, IL, USA.
- Kirk, K. B., Gold, A. U., **Morrison, D.,** Lynds, S., Buhr Sullivan, S. M., Grachev, A. A., & Persson, O. (2014). Arctic climate curriculum: Engaging high school students with authentic data in a flexible, relevant, and easy-to-use format. *Geological Society of America*, October 19–22, Vancouver, BC, Canada.
- Morrison, D.,** Heredia, S., & Furtak, E.M. (2014). What's in a word?: Formative assessment of students' everyday understandings of "adapt". Accepted but not presented at the *Culturally Relevant Evaluation and Assessment*, , September 18-20, Oak Brooks, IL, USA.
- Morrison, D.,** & Furtak, E.M. (2014). Promoting Formative Assessment Practices and Tools that Support Equitable Science Classrooms. *National Association for Research on Science Teaching*, March 30 - April 2, Pittsburgh, PA, USA.
- Morrison, D.** (2014). Teacher Voices on Participatory Action Research (PAR) in Science Classrooms: A Critical Race Theory Analysis. *National Association for Research on Science Teaching*, March 30 - April 2, Pittsburgh, PA, USA.
- Morrison, D.** (2014). Shifting Teachers' Discourse of Students: The Role of Formative Assessment within Critical Science Pedagogy. Jhumki Basu and Hedy Moscovici Scholars Symposium, *National Association for Research on Science Teaching*, March 30 - April 2, Pittsburgh, PA, USA.
- Annamma, S., **Morrison, D.,** Jackson, D., & Garlick, G.S. (2014). The Colorado School-to-Prison Pipeline: What Spatial Analysis Uncovered. *American Educational Research Association*, April 3-7, Philadelphia, PA, USA.
- Morrison, D.,** & Garlick, G.S. (2014). Understanding Spatial Components of Educational Equity Research. *American Educational Research Association*, April 3-7, Philadelphia, PA, USA.
- Annamma, S., **Morrison, D.,** & Jackson, D. (2014). Disproportionality Fills in the Gaps: Special Education and the School-to-Prison Pipeline. *American Educational Research Association*, April 3-7, Philadelphia, PA, USA.
- Morrison, D.** (2014). Critical Science Pedagogy Using A Youth Participatory Action Research Approach: Teachers' Voice. *American Educational Research Association*, April 3-7, Philadelphia, PA, USA.

PRESENTATIONS – RESEARCH (continued)

- Morrison, D.,** Buhr, S.M., & Kellagher, E. (2013). Climate Science 101: An inspiring climate education excellence (ICEE) professional development project. Paper No. 317-8 at the *Geological Society of America (GSA)*, October 27-30, Denver, CO, USA.
- Morrison, D.,** & Mendoza, E. (2013). Inquiry as a tool for mediated praxis in service of racial equity. *Critical Race Studies for Education Association*. May 29-31. Nashville, TN, USA.
- Morrison, D.,** & Jackson, D. (2013). A wolf in sheep's clothing?: A workshop to examine Academic Freedom Bills being proposed to guide science education from a CRT lens. *Critical Race Studies for Education Association*. May 29-31. Nashville, TN, USA.
- Morrison, D.** (2013). Towards equitable science classrooms: Formative assessment as a tool for shifting teachers' discourses on students. *Culturally Relevant Evaluation and Assessment*, April 22, Chicago, IL, USA.
- Furtak, E. M., **Morrison, D.,** & Heredia, S. (2013). Challenges in developing classroom assessments linked to multidimensional learning progressions. *National Association for Research on Science Teaching*, April 6, Puerto Rico.
- Wiley, K., & **Morrison, D.** (2012). A Teacher's Power: Taking Responsibility for Racism in the Classroom. *Critical Race Studies for Education Association*. May 31-June 2. New York, NY, USA.
- Morrison, D.** (2012). When Can I Have a Say?: The influence of citizenship, identity, and belonging on the definition of science learning within a participatory democracy. *Critical Race Studies for Education Association* conference. May 31-June 2. New York, NY, USA.
- Furtak, E. M., Heredia, S., & **Morrison, D.** (2012). Conversations About Common Formative Assessment: An Analysis of a Teacher Learning Community. *American Educational Research Association*, April 13-17, Vancouver, BC, Canada.
- Heredia, S., Furtak, E. M., & **Morrison, D.** (2012). Item Context: How Organisms Used to Frame Natural Selection Items Influence Student Response Choices. *National Association of Research on Science Teaching*, March 25-28, Indianapolis, IN, USA.
- Annamma, S, **Morrison, D.,** & Jackson, D. (2011). Disproportionality Fills in the Gaps: Connections between achievement, discipline and special education in the school to prison pipeline. *Critical Race Studies for Education Association*. May 19-21. Austen, TX, USA.
- Her Many Hours, I., & **Morrison, D.** 2011. The relationship between school context and novice teachers' views of students. *American Educational Research Association*, April 8-12, New Orleans, LA, USA.
- Furtak, E.M., **Morrison, D.,** Iverson, H., Ross, M., & Heredia, S. (2011). A Conceptual Analysis of the Conceptual Inventory of Natural Selection: Improving Diagnostic Utility Through Within Item Analysis? *National Association of Research on Science Teacher Education*, April 3-6, Orlando, FL, USA.
- Annama, S., Bien, A., Jackson, D., Mendoza, E., **Morrison, D.,** & Paguyo, C. (2010). Disrupting Racist Discourses: An Exercise in Praxis in a School of Education Community. *Critical Race Studies in Education Association*, May 13-15, Salt Lake City, UT, USA.
- Furtak, E. M., **Morrison, D.,** & Henson, K. (2010). Centering a Professional Learning Community on a Learning Progression for Natural Selection: Transforming Community, Language, and Instructional Practice. *International Conference of the Learning Sciences*. June 29-July 2, Chicago, IL, USA.
- Furtak, E. M., Roberts, S. A., **Morrison, D.,** Henson, K., & Malone, S. (2010). Linking an Educative Learning Progression for Natural Selection to Teacher Practice: Results of an Exploratory Study. *American Educational Research Association*, April 30-May 4, Denver, CO, USA.
- Morrison, D.,** & Otero, V. (2010). Re-Mediation of University-Based Science Teacher Education. *National Association of Research on Science Teaching*, March 21-24, Philadelphia, PA, USA.
- Morrison, D.,** & Otero, V. (2009). Acculturation into Science Teaching: A Heterogeneous Process. *Northern Rocky Mountain Educational Research Association*, October 8-10, Jackson Hole, WY, USA.
- Morrison, D.,** & Creed, I. F. (2000). Coarse woody debris: The sink versus source debate revisited. *American Geophysical Union*, May 30-June 3, Washington, DC, USA.

PRESENTATIONS – RESEARCH (continued)

- Morrison, D.** & Creed, I. F. (1999). Nitrogen dynamics in coarse woody debris: A net source or sink to the forest? *American Geophysical Union*, December 13-17, San Francisco, CA, USA.
- Morrison, D.** and Creed, I. F. (1999). Nitrogen dynamics in coarse woody debris: a net source or sink to the forest? *Gordon Conference on Hydro/Geo/Biological processes of Forested Catchments*, July 18-22, Andover, NH, USA.
- Morrison, D.**, Creed, I. F., & Nicholas, N.S. (1999). Nitrogen dynamics in coarse woody debris: A net source or sink to the forest? *10th Annual Southern Appalachian Man and the Biosphere (SAMAB) Conference*, November 1-3, Gatlinburg, TN, USA.
- Morrison, D.**, Creed, I.F., Nicholas, N.S., Rose, A.K., & Van Miegroet, H. (1998). An approach to the determination of a nitrogen release index for coarse woody debris in a small watershed in the southern Appalachian mountains. *Ecological Society of America*, August 2-6, 1998, Baltimore, MD, USA.
- Van Miegroet, H., Nicholas, N.S, Creed, I.F., McCarthy, L.E., Barker, M., Hysell, M., **Morrison, D.**, Rose, A.K., & Shubzda, J. (1998). An integrated approach to estimating spatial variability in N saturation in a small Southern Appalachian watershed. *Soil Science of America*, October 18-22, Baltimore, MD, USA.
- Van Miegroet, H., Nicholas, N.S, Creed, I.F., McCarthy, L.E., Barker, M., Hysell, M., **Morrison, D.**, Rose, A.K., & Shubzda, J. (1998). The Noland Divide Watershed Study: An integrated approach to assess spatial variability in N dynamics in a small Southern Appalachian catchment. *American Geophysical Union*. December 6-10, San Francisco, CA, USA.

PRESENTATIONS – PRACTITIONER

- Morrison, D.** (2017). AMSE – Moving Equity Forward in Science Classrooms: Strategies for Developing Justice Centered Science Teacher Learning Communities. *National Science Teachers Association*, March 30-April 2, Los Angeles, CA, USA.
- Morrison, D.** (2017). NARST - Promoting Student Participation in Science Practices: Strategies for Formative Assessment and Science Classroom Talk. *National Association of Research for Science Teaching sponsored session to the National Science Teachers Association*, March 30-April 2, Los Angeles, CA, USA.
- Morrison, D.** (2016). AMSE – Building and Equitable Science Classroom Community: Strategies by and for Teachers. *National Science Teachers Association Western Area Conference*, November 10-12, Portland, OR, USA.
- Morrison, D.** (2016). AMSE Session: Opportunities to Improve Equity in Your Classroom. *National Science Teachers Association*, March 31-April 3, Nashville, TN, USA.
- Morrison, D.** (2015). AMSE Session: A Teacher's Power: Tangible Examples of Equity in Classroom Contexts. *National Science Teachers Association Area Conference*, October 22-24, Reno, NV, USA.
- Harris, D., Rodriguez, A., **Morrison, D.**, & Morales, D. (2015). Teacher Researcher Day Session (NARST-NSTA) - Embracing Diversity in Science: Benefits and Challenges of Equitable Science Education from Multiple Perspectives. Invited panel, *National Science Teachers Association*, March 12-15, Chicago, IL, USA.
- Morrison, D.** (2015). Teacher Researcher Day Session (NARST-NSTA) – Lessons from Teachers to Improve Participation in Classroom Conversations for All Students. Invited poster, *National Science Teachers Association*, March 12-15, Chicago, IL, USA.
- Morrison, D.** (2015). The Role of Formative Assessment within Critical Science Pedagogy. Multicultural/Equity in Science Education Share-a-Thon, *National Science Teachers Association*, March 12-15, Chicago, IL, USA.
- Morrison, D.** (2015). Learn More About Climate Program. NESTA Session: NESTA climate, Ocean, and Atmosphere Share-a-Thon, *National Science Teachers Association*, March 12-15, Chicago, IL, USA.
- Morrison, D.** (2015). Culturally Relevant Pedagogy: How to Handle Diversity in the Elementary Classroom. *National Science Teachers Association*, March 12-15, Chicago, IL, USA.
- Morrison, D.** (2015). AMSE Session: Critical Civic Inquiry In Science Contexts: Lessons from Teachers Engaging in Consciousness Raising and YPAR. *National Science Teachers Association*, March 12-15, Chicago, IL, USA.
- Morrison, D.**, Barchenger, C., & Byers, J. (2015). Claims, Evidence, Reasoning, and Modeling Oh My!: Student Shifts in Classroom Discourse. *National Science Teachers Association*, March 12-15, Chicago, IL, USA.

PRESENTATIONS – PRACTITIONER (continued)

- Morrison, D.,** Barchenger, C., & Byers, J. (2015). Coaches' Corner: How Teachers Help Other Teachers Engage with the NGSS Science Teaching Practices. *National Science Teachers Association*, March 12-15, Chicago, IL, USA.
- Morrison, D.** & Heredia, S. (2015). Writing to Learn Together: Formative Assessment as a Process of Scientific Writing and Peer Review. *National Science Teachers Association*, March 12-15, Chicago, IL, USA.
- Morrison, D.** & Peddicord, H. (2015). Don't Tell, Let Them Inquire: Teaching Climate Science Through Data. *National Science Teachers Association*, March 12-15, Chicago, IL, USA.
- Campanella, M., & **Morrison, D.** (2014). Shared CLEAN, LMAC and other Colorado resources at the NESTA Session: National Earth Science Teachers Association Weather, Climate, and Ocean Share-a-Thon, *National Science Teachers Association*, April 3-6, Boston, MA, USA.
- Campanella, M., & **Morrison, D.** (2014). A Science Teacher's Power: Concrete Strategies for Improved Classroom Equity. An Association of Multicultural Science Education (AMSE) session, *National Science Teachers Association*, April 3-6, Boston, MA, USA.
- Morrison, D.** (2014). Rural Science Education and Equity. Talk presented for the Diversity Professional Development Session at the national meeting for *NASA's Education and Public Outreach Programs*, March 16, LPSC in Woodlands, TX, USA.
- Morrison, D.,** Campanelli, M, & Heredia, S. (2013). Critical science pedagogy: Transforming teaching by enacting research on classroom equity. *National Science Teachers Association* western regional meeting, December 12-14, Denver, CO, USA.
- Morrison, D.,** & Gold, A. (2013). Climate Literacy and Energy Awareness Network: Instructional resources for science educators. *National Science Teachers Association* western regional meeting, December 12-14, Denver, CO, USA.
- Morrison, D.,** & Roudane, S. (2013). Learn More About Climate – Colorado Climate Education Resources. *National Science Teachers Association* western regional meeting, December 12-14, Denver, CO, USA.
- Morrison, D.** (2013). Teaching Resources Within the Learn More About Climate Program. *North American Association for Environmental Education*, October 9-12, Baltimore, MD, USA.
- Morrison, D.** (2013). Critical Science Pedagogy: Intersections of PAR, Equity, and Climate Science. *North American Association for Environmental Education*, October 9-12, Baltimore, MD, USA.
- Morrison, D.,** & Patterson, J. (2013). Climate Justice: Science, Advocacy, & Equity. *SXSW Eco*, October 7-9, Austin, TX, USA.
- Morrison, D.** (2013). AMSE Session: Critical Science Pedagogy: Research Based Thinking about Teaching and Learning. *National Science Teachers Association*, April 13, San Antonio, TX, USA.
- Morrison, D.** (2013). Critical Science Pedagogy: Strategies for minimizing risk while engaging in controversy in the classroom. *Teacher Professional Development Workshop, Evolution and Climate Change Outreach Committees, Department of Ecology and Evolutionary Biology, University of Colorado at Boulder*, March 16, Boulder, CO, USA.
- Morrison, D.** (2012). AMSE Session: Science Education Equity Discoveries (SEEDs): Transforming Teaching by Enacting Research in Classroom Equity. *National Science Teachers Association* regional meeting, December 6, Phoenix, AZ, USA.
- Morrison, D.,** & Roudane, S. (2012). Learn More About Climate: Colorado Climate Education Resources. *Colorado Science Conference for Professional Development*, November 16, Denver, CO, USA.
- Morrison, D.,** & Buhr, S. (2012). Teaching and Learning about Climate Science: Inquiry Lessons Developed by Educators within Climate Science 101. *Colorado Science Conference for Professional Development*, November 16, Denver, CO, USA.
- Morrison, D.** (2012). Making the Global Local: State-specific Climate Curriculum Workshop Lessons by Teachers for Teachers. *National Science Teacher Association*, March 29-April 1, Indianapolis, IN, USA.
- Morrison, D.,** & Andrew, J. (2010). Teaching About Climate Change and Colorado's Future. *Colorado Science Conference for Professional Development*, November 18-19, Denver, CO, USA.

AFFILIATIONS

2016-present Association of Science Teacher Education, USA
2013-present North American Association for Environmental Education
2012-present American Multicultural Science Education Association, USA
2010-present Critical Race Studies in Education Association, USA
2009-present National Association of Research on Science Teaching, USA
2009-2012 Racial Initiatives for Students and Educators, School of Education, University of Colorado at Boulder, Boulder, CO, USA
2006-present American Educational Research Association, USA
2006-present National Science Teachers Association, USA
2001-2004 Member, Mapleton Education Association, Denver, CO, USA

SELECTED QUALIFICATIONS

Technology - Word, Excel, Powerpoint and most other Office products; Google docs, sites, and collaborative tools; Canvas MOOC course development and delivery; SPSS, Transana, NVivo, Dedoose, ArcGIS Online
Research – Quantitative and Qualitative Skills - Project design and IRB (Human Subject Authorization) Document Preparation; Interview and other protocol design and validation; Survey design and validation; Data collection, management and analysis including interviews, focus groups, surveys (cognitive and affective), qualitative and quantitative methodologies; Writing and presentation for academic and practitioner audiences; Geographic Information Systems (GIS) data analysis and visualizations.
Teaching - Course design and facilitation for a wide variety of teacher education science and/or equity contexts; Research into my own teaching and the teaching of others.