CESAR DELGADO, ASSOCIATE PROFESSOR
https://scholar.google.com/citations?user=-SiTMfMAAAAJ&hl=en&oi=ao

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North Carolina State University
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EDUCATION

PhD, Educational Studies (Science Education), *University of Michigan,* Ann Arbor, MI 2009
Dissertation: *Development of a research-based learning progression for middle school through undergraduate students' conceptual understanding of size and scale.* Chair: Joseph Krajcik
33 Cites - Google Scholar 12/28/2021

MS, Chemistry, *University of Michigan,* Ann Arbor, MI 2008

MA, Educational Studies (Learning Technologies), *University of Michigan*, Ann Arbor, MI 2008

MA, Secondary Education, *University of Alabama,* Tuscaloosa, AL 2003

BS, Chemical Engineering, *University of California at Los Angeles*, Los Angeles, CA

PROFESSIONAL APPOINTMENTS

Associate Professor with Tenure 2018-present
Assistant Professor 2015-2018
STEM Education
North Carolina State University

Assistant Professor 2009-2015
Department of Curriculum and Instruction, Science and Mathematics Education
University of Texas at Austin

Research Assistant 2008
Instructional Development & Education Assessment Institute, *University of Michigan*

Research Assistant 2006-2009
National Center for Learning and Teaching in Nanoscale Science and Engineering,
University of Michigan

Research Assistant 2004-2005
BioKIDS. *University of Michigan*

Science Teacher, American School Foundation, Mexico City, Mexico 2001-2004
Science Teacher, Westwood Institute, Mexico City, Mexico 1998-2001
Science Teacher, Colegio Peterson, Mexico City, Mexico 1997-1998

HONORS, AWARDS, AND COMPETITIVE FELLOWSHIPS

Outstanding Teacher Award (University Level), NCSU 2019

Publons Top Peer Reviewer (top 1% social sciences, #7 in world and #2 in US for science education) 2019

Dean's Fellowship, College of Education, The University of Texas at Austin. Two-course release and $3000 research stipend. 2013

Early Career Workshop, International Conference of the Learning Sciences (ICLS). Sydney, Australia. Included $1750 travel stipend through NSF. 2012

School of Education Scholar's Award Fellowship, University of Michigan. 2004-2009

Doctoral Consortium, International Conference of the Learning Sciences (ICLS). Utrecht, Holland. Included $1500 travel stipend through NSF. 2008

Equity Scholar Award, National Association for Research in Science Teaching (NARST), Baltimore, MD. $500 travel stipend through NARST. 2008

Social Science Summer Training Award, Institute for Social Research. Ann Arbor, MI. Tuition waiver. 2007

Middle School Teacher of the Year; High School Co-Teacher of the Year. Westhill Institute, Mexico City, Mexico. 2000

Eagle Scout, Boy Scouts of American (Mexico chapter) 1980

PSAT/NMSQT Letter of Commendation 1979
(highest honor then available to students outside US; 99th percentile)

RESEARCH METRICS

h-index: 14 (14 publications cited at least 14 times)
i10-index: 18 (18 publications cited at least 10 times)
g-index: 31 (top 31 cited publications cited 29 times on average)
963 citations (Google Scholar 12/28/2021)
One paper in **top 1 percent** of citations in category – InCites Clarivate Analytics 12/28/21
Two papers in **top 2 percent** of citations in category – InCites Clarivate Analytics 12/28/21
Four papers in **top 6 percent** of citations in category – InCites Clarivate Analytics 12/28/21

PATENTS

Provisional patent application #63/145511: "Automated Partial-Credit Grading System and Method"

START-UP COMPANY

Grade-It, Inc. Developing an automated partial-credit grading system.

RESEARCH GRANT ACTIVITY

Funded, External

Co-principal Investigator (with co-PI Matthew Peterson and PI Karen Chen, NCSU).
NSF EHR CORE. *Virtual Reality to Improve Students' Understanding of the Extremes of Scale in STEM.*
Awarded April 27, 2021.
Amount $1,342,682.

Co-principal Investigator (with co-PI Collin Lynch and PI Kevin Han, NCSU)
NSF IGE. *Learning the Entire Pipeline: Analyzing and Improving Graduate Engineering Education through Communities of Practice.*
Awarded May, 2021.
Amount $ $332,184.

Funded, Internal

Co-Principal Investigator (with Gail Jones, PI, and Sarah Carrier, LaTricia Townsend, and Jill Grifenhagen, co-PIs).
CATALYST grant: A Sense of Awe: A Tool for Enhancing Science Instruction.
Awarded January 13, 2020.
Amount: $5000.

Principal Investigator (with Soonhye Park and Gail Jones, co-PIs).
NCSU Foundation Grant: *Supporting Underserved Students in Science Education Through Graduate Studies for In-Service Teachers.*
Awarded August 15, 2016.
Amount: $24,000.

Principal Investigator.
71967 NCSU Faculty Research and Professional Development (FRPD: *Professional Development to Increase Teachers' Ability to Support English Language Learners' STEM Achievement.*
Awarded 2016.
Amount: $6000

Principal Investigator.
UT Austin Faculty Summer Research Grant and Special Research Grant. *Cross-cultural Comparison of Metric-Native and English-Native Middle and High School Students' Conceptions of Size and Scale.*
Awarded 2010.
Amount $13,850

DEVELOPMENT GRANT ACTIVITY

NSF I-Corps/NCSU Sweat Equity Challenge awardee 2020

PUBLICATIONS IN PEER-REVIEWED JOURNALS (23)

* Co-author was a graduate student working with me at the time of submission

J1. You, H.-S., **Delgado, C., &** DeAtley, K. (2021). Experts' model-based reasoning and interdisciplinary understanding of carbon cycling. *International Journal of Research in Education and Science, 7*(2), 562-579. Accepted with revisions March 1, 2021.
(IJRES is a peer-reviewed scholarly online journal, listed in Scimago journal rankings.)

J2. Smith, C., & **Delgado, C.** (2021). Developing a model of graduate teaching assistant teacher efficacy: How do high and low teacher efficacy teaching assistants compare? *CBE - Life Sciences Education 20*(1), 1-10. Submitted May 22, 2020. Accepted October 9, 2020. Published Mar. 1, 2021.
(CBE-Life Sciences Education is a quartile-1 education research journal. 2020 ISI Impact factor = 3.325, rank 10/44 education-scientific disciplines research journals.)
2 Cites - Google Scholar 12/28/2021

J3. Green, K., & **Delgado, C**. (2021). Crossing cultural borders: Results of an intervention on community college biology students' understanding and acceptance of evolution. *International Journal of Science Education 43*(4), 469-496. Submitted Mar. 2020. Accepted Dec. 2020. Published online Feb. 14, 2021.
(IJSE is an ISI-indexed education research journal with 2020 impact factor = 2.241)

J4. Peterson, M., **Delgado, C.,** Tang, K.-S., Norville, K.*, & Bordas, C. (2021). A taxonomy of cognitive image functions for science curriculum materials: Identifying and creating 'performative' visual displays. *International Journal of Science Education, 43*(2), 314-343. Submitted January 2020. Accepted October 2020. Published online Feb. 14, 2021.
(IJSE is an ISI-indexed education research journal with 2020 impact factor = 2.241)
1 Cite - Google Scholar 12/28/2021

J5. You, H. S., Park, S., & **Delgado, C**. (2021). A closer look at US schools: What characteristics are associated with scientific literacy? A multivariate multilevel analysis using PISA 2015. *Science Education, 105*(2), 205-468. Submitted Jan. 21, 2020. Accepted Nov. 18, 2020. Published online Dec. 8, 2020. Published Mar. 2021. https://doi.org/10.1002/sce.21609.
(Science Education is a quartile-1 education research journal. 2020 ISI Impact factor = 4.593, rank 31/265 education and education research journals.)
2 Cites - Google Scholar 12/28/2021

J6. You, H. S., Marshall, J., & **Delgado, C.** (2021). Toward interdisciplinary learning: Development and validation of an assessment for interdisciplinary understanding of global carbon cycling. *Research in Science Education 51*, 1197-1221.
(RISE is a quartile-1 education research journal. 2020 impact factor = 5.439, rank 9/265)

J7. You, H. S., Park, S., Marshall, J., & **Delgado, C.,** (2020 early view). Interdisciplinary Science Assessment of Carbon Cycling: Construct validity evidence based on internal structure. *Research in Science Education.* Accepted Jan. 2020. Published online Aug. 2020.
(RISE is a quartile-1 education research journal. 2020 impact factor = 5.439, rank 9/265)
3 Cites - Google Scholar 12/28/2021

J8. Lucero, M., **Delgado, C.**, & Green, K.* (2020). Elucidating high school biology teachers' knowledge of students' conceptions regarding natural selection. *International Journal of Science and Mathematics Education 18,* 1041–1061. Published online August 2019.
(IJSME is an ISI-indexed journal with 2020 impact factor = 2.073)
4 Cites - Google Scholar 12/28/2021

J9. Hui, J., **Delgado, C.,** Bauer, M., Wylie, C., & Llort, K. (2019). A hypothetical learning progression for quantifying phenomena in science. *Science & Education, 28*(9), 1181-1208. DOI: 10.1007/s11191-019-00076-8.
(S&E is a Q1 ISI-indexed journal with 2019 impact factor = 1.266. Rank 12/63 in History & Philosophy of Science)
1 Cite - Google Scholar 12/28/2021

J10. Green, K.*, Langerhans, B., Dempsey, M., & **Delgado, C**. (April/May 2018). The evolution of a partnership: How a scientist, a teacher, and a researcher brought real-world science to students. *Science Scope*.
("Science Scope is an award-winning, peer-reviewed, practitioners' journal for grade 6–8 teachers, university faculty responsible for teacher preparation, and state and district science supervisors and leaders.")

J11. You, H. S., Marshall, J., & **Delgado, C.** (2018). Assessing students' disciplinary and interdisciplinary understanding of global carbon cycling. *Journal of Research in Science Teaching, 55*(3), 377-398. https://doi.org/10.1002/tea.21423.
(JRST is the top-ranked science education research journal. 2018 ISI impact factor = 3.135. Rank 10/263 education and education research journals. Acceptance rate: 12.5%)
32 Cites - Google Scholar 12/28/2021
In top 6 percent for citations in subject area – InCites Clarivate Analytics 12/28/21

J12. **Delgado, C.,** Jones, M. G., You, H. S., Robertson, L., Chesnutt, K.*, & Halberda, J. (2017). Scale and the evolutionarily based Approximate Number System: An exploratory study. *International Journal of Science Education 39*(8), 1008-1024.
(IJSE is an ISI-indexed education research journal with impact factor = 1.325)
5 Cites - Google Scholar 12/18/2021

J13. Lucero, M., Petrosino, A., & **Delgado, C.** (2017). Exploring the relationship between secondary science teachers' subject matter knowledge and knowledge of student conceptions while teaching evolution by natural selection. *Journal of Research in Science Teaching 54*(2), 219-246. https://doi.org/10.1002/tea.21344.
(JRST is the top-ranked science education research journal. 2017 ISI impact factor = 3.210. Rank 10/236 education and education research journals. Acceptance rate: 12.5%)
21 Cites - Google Scholar 3/6/2021
In top 29 percent for citations in subject area – InCites Clarivate Analytics 12/28/21

J14. **Delgado, C.,** & Lucero, M.* (2015). Scale construction for graphing: An investigation of students' resources. *Journal of Research in Science Teaching, 52*(5), 633-658. DOI: 10.1002/tea.21205
(JRST is the top-ranked science education research journal. 2015 ISI impact factor = 3.052. Rank 6/231 education and education research journals. Acceptance rate: 12.5%)
12 Cites - Google Scholar 12/28/2021
In top 25 percent for citations in subject area – InCites Clarivate Analytics 12/28/21

J15. **Delgado, C**. (2015). Navigating tensions between conceptual and metaconceptual goals in the use of models. *Journal of Science Education and Technology 24*(2-3), 132-147. DOI: 10.1007/s10956-014-9495-7
(JOST is a top journal for technology in science education research. 2015 ISI impact factor = 1.12. Rank 23/40 "education, scientific disciplines" journals. Acceptance rate: 21%)
12 Cites - Google Scholar 12/28/2021
In top 34 percent for citations in subject area – InCites Clarivate Analytics 12/28/21

J16. **Delgado, C**., Stevens, S. Y., Shin, N., & Krajcik, J. S. (2015). A middle school instructional unit for size and scale contextualized in nanotechnology. *Nanotechnology Reviews 4*(1), 51-69. DOI: 10.1515/ntrev-2014-0023
(Nanotechnology Reviews is a quartile-2 materials science journal. 2015 ISI impact factor = 2.044.)
27 Cites - Google Scholar 12/28/2021
In top 43 percentile for citations in subject area – InCites Clarivate Analytics 12/28/21

J17. **Delgado, C**. (2014). Collective landmarks for deep time: A new tool for evolution education. *Journal of Biological Education 48*(3), 133-141. DOI: 10.5408/12-300.1.
("Journal of Biological Education is firmly established as the authoritative voice in the world of biological education." 2015 ISI Impact factor = 0.507. Rank 33/40 "education, scientific disciplines" journals.
13 Cites - Google Scholar 12/28/2021
In top 45 percentile for citations in subject area – InCites Clarivate Analytics 12/28/21

J18. Tang, K., **Delgado, C**., & Moje, E. (2014). An integrative framework for the analysis of multiple and multimodal representations for science meaning-making in science education. *Science Education 98*(2), 305-326. DOI: 10.1002/sce.21099
(Science Education is a quartile-1 science education research journal. 2013 ISI Impact factor = 2.921. Rank 8/219 education and education research journals.)
147 Cites - Google Scholar 12/28/2021
In top 2 percent for citations in subject area – InCites Clarivate Analytics 12/28/21

J19. You, H. S.*, & **Delgado, C.** (2014). Toward an interdisciplinary science curriculum: Analysis of the connections across science learning progressions. *International Journal for Cross-Disciplinary Subjects in Education 4*(1), 1854-1862.
(IJCDSE is a peer-reviewed, open access quarterly journal. Indexing Citation Board Impact factor = 5.214)
4 Cites - Google Scholar 12/28/2021

J20. **Delgado, C**. (2013). Cross-cultural study of understanding of scale and measurement: Does the everyday use of US customary units disadvantage US students? *International Journal of Science Education 35* (8), 1277-1298. DOI: 10.1080/09500693.2013.779761.
(IJSE is a quartile-1 science education research journal. 2013 ISI Journal Citation Reports impact factor = 1.516, rank 31/ 219 education and education research journals.)
14 Cites - Google Scholar 12/28/2021
In top 47 percent for citations in subject area – InCites Clarivate Analytics 12/28/21

J21. **Delgado, C.** (2013). Navigating deep time: Landmarks for time from the Big Bang to the present. *Journal of Geoscience Education 61*(1), 103-112. DOI: 10.5408/12-300.1
("The Journal of Geoscience Education is the premier peer-reviewed publication for geoscience education research at the undergraduate and pre-college levels. JGE is the publication of record for NAGT, and serves as the only international forum for the publication of research concerning the pedagogy, assessment, and philosophy of teaching and learning about the geosciences." 2013 Scimago Impact factor 0.486)
16 Cites - Google Scholar 12/28/2021

J22. Stevens, S., **Delgado, C.,** & Krajcik, J. (2010). Developing a hypothetical multi-dimensional learning progression for the nature of matter. *Journal of Research in Science Teaching 47*(6), 687-715. DOI: 10.1002/tea.20324
(JRST is the top-ranked science education research journal. 2010 ISI impact factor = 2.728. Rank 4/184 education and education research journals. Acceptance rate: 12.5%)
331 Cites - Google Scholar 12/28/2021
In top 1 percent for citations in subject area – InCites Clarivate Analytics 12/28/21

J23. Beyer, C., **Delgado, C.,** Davis, E., & Krajcik, J. (2009). Investigating teacher learning supports in high school biology curricular programs to inform the design of educative curriculum materials. *Journal of Research in Science Teaching 46*(9), 977-998. https://doi.org/10.1002/tea.20293.
(JRST is the top-ranked science education research journal. 2009 ISI impact factor = 1.910. Rank 13/139 education and education research journals. Acceptance rate: 12.5%)
130 Cites - Google Scholar 12/28/2021
In top 6 percent for citations in subject area – InCites Clarivate Analytics 12/28/21

BOOK CHAPTERS, ENCYCLOPEDIA ENTRIES, AND REPORTS (5)

Ch1. **Delgado, C.,** Jones, M. G., & Parker, D. (2021). Crosscutting concept: Scale, proportion, and quantity. In J. Nordine & O. Lee (Eds)., *Crosscutting Concepts*. Arlington, VA: NSTA Press.

Ch2. **Delgado, C.** (2012). Spatial thinking and dimensionality. In K. Kastens & C. Manduca (Eds.), *Earth and mind 2: A synthesis of research on thinking and learning in the geosciences*. Special Paper 486. Boulder, CO: Geological Society of America.
2 Cites - Google Scholar 12/28/2021

Ch3. **Delgado, C.** & Krajcik, J. (2010). Technology supports for science learning. In E. Baker, P. Peterson, & B. McGraw (Eds.), *The International Encyclopedia of Education* (3rd Edition). Oxford: Elsevier. DOI: 10.1016/B978-0-08-044894-7.00729-6.
17 Cites - Google Scholar 12/28/2021

Ch4. Cahill, C., **Delgado, C**., & Song, M. (2010). Engaging students in content learning and scientific critique through a nanoscience context. In R. E. Yager (Ed.), *Exemplary science for resolving societal challenges*. Arlington, VA: NSTA Press.

Ch5. Beyer, **C., Delgado**, C., Davis, E. A., & Krajcik, J. S. (2006). Investigating high school biology texts as educative curriculum materials: Curriculum review process (Report).
9 Cites - Google Scholar 12/28/2021

PUBLISHED PEER REVIEWED CONFERENCE PROCEEDINGS/ABSTRACTS (15)

CP1. **Delgado, C.,** & Silver, E. A. (in press). Reconceptualizing Measurement. *Proceedings of the 14th International Conference of the Learning Sciences (ICLS)*. Nashville, TN (held virtually).
(Acceptance rate ~30%)

CP2. Yoon, S., **Delgado, C.**, McKenna, T. J., Krajcik, J. S., Levites,L. & Sussman, A. (2019). The integration of cross-cutting concepts in three-dimensional learning. In S. J. Fick, J.

Nordine, J., & K. W. McElhaney, *Proceedings of the summit for examining the potential for crosscutting concepts to support three-dimensional learning*. Charlottesville, VA: University of Virginia. Retrieved from http://curry.virginia.edu/CCC-Summit.

CP3. **Delgado, C.**, & Peterson, M. (2018). An enhanced framework for scale cognition leveraging visual metaphor theory and analogical reasoning theory. In J. Kay & R. Luckin (Eds.), *Rethinking learning in the digital age: Making the learning sciences count.* 13th International Conference of the Learning Sciences (ICLS), volume 3 (pp. 1607-8). London, UK: International Society of the Learning Sciences.
(Acceptance rate ~30%)

CP4. You, H.-S.* & **Delgado, C**. (2014). Weaving an interdisciplinary science curriculum: Analysis of the connections across learning progressions. In C. A. Shoniregun & G. A. Akmayeva (Eds.), *Canada International Conference on Education Conference Proceedings* (pp. 68-71). Basildon, UK: CICE.

CP5. **Delgado, C**., & Lucero, M.* (2014). Students' resources for the construction of scales for graphing. In J. L. Polman, E. A. Kyza, D. K. O'Neill, I. Tabak, W. R. Penuel, A. S. Jurow, K. O'Connor, T. Lee, & L. D'Amico (Eds.), *Learning and becoming in practice: Proceedings of the International Conference of the Learning Sciences (ICLS)*, volume 1 (pp. 262-269). Boulder, CO: International Society of the Learning Sciences.
(Acceptance rate ~30%)

CP6. **Delgado, C.,** & Morton, K.* (2012). Learning progressions, learning trajectories, and equity. In van Aalst, J., Thompson, K., Jacobson, M. J., & Reimann, P. (Eds.) (2012). The future of learning: *Proceedings of the 10th International Conference of the Learning Sciences (ICLS 2012) – Volume 1, Full papers*, pp. 204-211. International Society of the Learning Sciences: Sydney, NSW, Australia.
((Acceptance rate ~30%)
2 Cites - Google Scholar 12/28/2021

CP7. **Delgado, C.** (2010). Units of length: A notational system for conceptual understanding of size and scale. In K. Gomez, L. Lyons, & J. Radinsky (Eds.), *Learning in the disciplines: Proceedings of the 9th International Conference of the Learning Sciences (ICLS).* Vol. 2. pp. 362-363. Chicago: International Society of the Learning Sciences.
(Acceptance rate ~30%)
7 Cites - Google Scholar 12/28/2021

CP8. Pellegrino, J., Krajcik, J., Stevens, S., Swarat, S., Shin, N., **Delgado, C.,** et al. (2008). Using Construct-Centered Design to align curriculum, instruction, and assessment development in emerging science. In G. Kanselaar, V. Jonker, P.A. Kirschner, & F. Prins, (Eds.). *Proceedings from ICLS '08*: *International perspectives in the Learning Sciences: Creating a learning world* (vol. 3, pp. 314-21). Utrecht, the Netherlands: International Society of the Learning Sciences.
14 Cites - Google Scholar 12/28/2021

CP9. Cahill, C., Stevens, S., Shin, N., **Delgado, C.**, Krajcik, J., & Yunker, M., (2007). Using small-group discussions to assess student learning of nanoscale concepts. *Abstracts of Papers of the American Chemical Society 233,* 639-639.

CP10. Shin, N., Quintana, C., **Delgado, C.**, Stevens, S., & Krajcik, J. (2007). The nanoworld: Research-driven design process. *Abstracts of Papers of the American Chemical Society 233,* 657-657.

CP11. Stevens, S., Krajcik, J., **Delgado, C.**, Elgammal, R., Quintana, C., Rosenquist, A., … & Yunker, M. (2007). Identification of the big ideas in nanoscience. *Abstracts of Papers of the American Chemical Society 233,* 678

CP12. Delgado, C., Stevens, S., & Krajcik, J. (2007). Size and scale curricular activities for middle school. *Abstracts of Papers of the American Chemical Society 233,* 674-674

CP13. Delgado, C., Stevens, S., & Krajcik, J. (2007). Students' conceptions of size. *Abstracts of Papers of the American Chemical Society 233,* 666-666.

CP14. Hutchinson, K., Stevens, S., Shin, N., **Delgado, C.**, Yunker, M., Bodner, G., Giordano, N., & Krajcik, J. (2007). Secondary students' interests in nanoscience concepts and phenomena. *Abstracts of Papers of the American Chemical Society 233,* 761-731.
2 Cites - Google Scholar 12/28/2021

CP15. Stevens, S., **Delgado, C.**, Shin, N., & Krajcik, J. (2007). Developing and validating a learning progression for the nature of matter. *Abstracts of Papers of the American Chemical Society 233,* 661-661.
2 Cites - Google Scholar 12/28/2021

PUBLICATIONS IN *MEXICAN JOURNALS* (4)

MX1. Delgado, C. (2002). Dinámica de grupos e identificación proyectiva en el contexto escolar (Group dynamics and projective identification in the school context). *Revista Mexicana de Pedagogía 13*(66), 3-9, *13*(67), 19-23.
Revista Mexicana de Pedagogía publishes theoretical papers, position papers, and analyses. It is aimed at education policy makers.

MX2. Castro, M., **Delgado, C.,** & Signoret, A. (2000-2001). Los cuentos de hadas en la pedagogía nacional (Fairy tales in Mexican pedagogy). *Revista Mexicana de Pedagogía 11*(55), 26-31, *12*(56), 20-24, *12*(57), 15-21.
Revista Mexicana de Pedagogía publishes theoretical papers, position papers, and analyses. It is aimed at education policy makers.

MX3. Delgado, C. (1999). Un ejercicio constructivista en química (A constructivist exercise in chemistry). *Correo del Maestro 4*(40), 5-9.
Correo del Maestro is a practitioner journal for all school subjects.

MX4. Delgado, C. (1999). Cómo fomentar el pensamiento abstracto en clase de matemáticas (Encouraging abstract thought in mathematics class). *Correo del Maestro 3*(34), 5-7.
Correo del Maestro is a practitioner journal for all school subjects.

MANUSCRIPTS UNDER REVIEW (1)

UR1. Jones, M. G., Nieuwsam, J., Rende, K., Carrier, S., Refvem, E., **Delgado, C.,** et al. (under review). Leveraging the epistemic emotion of awe as a pedagogical tool to teach science. *Journal of Research in Science Teaching.*

PRESENTATIONS AT PROFESSIONAL MEETINGS WITHOUT PROCEEDINGS OR ABSTRACTS (58)

***** Co-author was a graduate student working under my supervision at the time of submission
^ Co-author was an undergraduate student of mine at the time of submission

C1. Rende, K., Jones, M.G., Nieuwsma, J., Carrier, S., **Delgado, C**., Grifenhagen, J., Gordon, K., Refvem, E., & Huff, P. (2021, August). *Evoking awe: Incorporating epistemic emotions in science instruction.* Paper presented at European Science Education Research Association (ESERA). Braga, Portugal (Online)
(ESERA is the leading European science education research conference)

C2. Nieuwsma, J., Jones, M. G., Rende, K., Refvem, E., Carrier, S., **Delgado, C**., Grifenhagen, J. (2021, August). *Gasps and chills: Teachers' perceptions of awe in science instruction*. Paper presented at ESERA. Braga, Portugal (Online)

C3. You, H. S., Park, S., & **Delgado, C**. (2021, April). *A closer look at U.S. schools: What school characteristics are associated with scientific literacy? A multivariate multilevel analysis using PISA 2015*. Paper presented at the American Educational Research Association (AERA) Annual Conference (Online).
(AERA is the largest gathering of scholars in the education research field with approximately 14,000 participants)

C4. You, H. S., **Delgado, C**., & DeAtlyn, K. (2021, April), *Experts' model-based reasoning and interdisciplinary understanding about carbon cycling*, AERA (online).

C5. Nieuwsma, J., Jones, M. G., Rende, K., Refvem, E., Carrier, S. J., Grifenhagen, J. F., **Delgado, C**., & Huff, P. (2021, April). *Teachers' sense of awe: A tool for teaching science*. AERA (online).

C6. **Delgado, C.**, You, H. S., Murillo-Quirós, N., & Hernández-Campos, M. (2021, April). *Analysis of the Spanish-language Force Concept Inventory: Lost in translation?* Paper presented at NARST 2021 (Online).
(NARST formerly stood for National Association for Research in Science Teaching and is the premier science education research conference in the world. NARST is now an international organization.)

C7. **Delgado, C.**, & Wright, G. (2021, April). *Consistency and contradiction.* Paper presented at NARST 2021 (Online).

C8. Nieuwsma, J., Jones, M. G., Rende, K., Carrier, S., Grifenhagen, J., **Delgado, C.** & Huff, P. (2021, April). *Evoking meaning and connection: Using awe to teach science*. Paper presented at NARST 2021 (Online).

C9. Smith, C., & **Delgado, C.** (2020, March). *Exploring sources of and changes in graduate teaching assistant teacher efficacy throughout a semester.* NARST, 2020, Portland, OR. [Conference cancelled].

C10. Green, K., & **Delgado, C**. (2020, March). *Moving between contexts: A pedagogical intervention's effects on community college biology students*. NARST, 2020, Portland, OR. [Conference cancelled].

C11. **Delgado, C**., Green, K., & Foster, B. (2020, March). *Generating a comprehensive, context-sensitive framework for evolution cognition*. NARST, 2020, Portland, OR. [Conference cancelled].

C12. You, H., **Delgado, C**. & Park, S. (2020, April) *Exploring differential school effects between low- and high-ability groups on scientific literacy* [Poster Session]. AERA Annual Meeting San Francisco, CA. http://tinyurl.com/vqe9w6w [Conference Canceled]

C13. **Delgado, C.** (2019, August). *Students' views on the "categorical imperative" of avoiding contradiction*. Paper presented at ESERA. Bologna, Italy.

C14. Green, K.*, & **Delgado, C.** (2019, August). *Navigating cultural borders: An evolution intervention in an undergraduate biology class*. Paper presented at ESERA. Bologna, Italy.

C15. You, H. S., Park, S., & **Delgado, C.** (2019, April). *What school-level factors influence scientific literacy? A multi-level analysis using PISA 2015*. Paper presented at AERA. Toronto, Canada.

C16. Green, K.*, & **Delgado, C.** (2019, April). *Synthesizing frameworks of evolution learners: A promising new direction*. Paper presented at AERA. Toronto, Canada.

C17. **Delgado, C.,** Peterson, M., Norville, K.*, & Bordas, C.* (2019, April). *Interpretational functions of imagery in instructional media for science education.* Paper presented at NARST. Baltimore, MD.

C18. Jin, H., **Delgado, C.**, Bauer, M., Wylie, E. C., Llort, K. F., & Cisterna, D. (2019, April). *Bases for developing a hypothetical learning progression for quantification in science***.** Paper presented at NARST. Baltimore, MD.

C19. Smith, C. R.***,** & **Delgado, C.** (2019, April). *Applying a K-12 consensus model to science teaching assistant professional development.* Paper presented at NARST. Baltimore, MD.

C20. **Delgado, C.,** Norville, K.*, Han, K., Lobaton, E., & Wu, T. (2019, March). *Assessing the effectiveness of individual learning in a realistic engineering design class.* Paper presented at the American Society for Engineering Education (ASEE), Southeast Conference. Raleigh, NC.

("The purpose of ASEE is the advancement of education in all of its functions which pertain to engineering and allied branches of science and technology, including the processes of teaching and learning, counseling, research, extension services and public relations..")

C21. **Delgado, C.** (2019, March). *Integrating science, mathematics, and technology through project-based learning* (90-min workshop). Paper presented at the International Consortium for Research in Science and Mathematics**.** San José, Costa Rica.
(ICRSME fosters the advancement of science and mathematics education in developing countries, focusing on "programs for collaborative research, curriculum development, instructional improvement, academic exchange, teacher education and professional development, innovation initiatives, and shared resource opportunities.")

C22. **Delgado, C.**, & You, H. S. (2018, April). *Interdisciplinary connections in the NGSS: Realizing the vision*. Paper presented at AERA. New York, NY.

C23. **NARST.** You, H.S., **Delgado, C.,** & Marshall, J. (2018, March). *Assessing students' disciplinary and interdisciplinary understanding of global carbon cycling*. Paper presented at NARST, Atlanta, GA.

C24. Green, K.*, & **Delgado, C.** (2018, March). *A novel model for professional development in project-based learning, evaluated*. Paper presented at NARST, Atlanta, GA.

C25. Lucero, M., Green, K.*, & **Delgado, C.** (2018, March). *An exploration of high school biology teachers' knowledge about students' natural selection ideas.* Paper presented at NARST, Atlanta, GA.

C26. Green, K.*, & **Delgado, C**. (2018, January). *Teleological alternative conceptions about evolution in pre-service and in-service science teachers.* Paper presented at Association for Science Teacher Education (ASTE), Baltimore, MD.
(ASTE strives to be the leading voice in the areas of research and policy development related to the enhancement of science teaching.)

C27. Aksit, O.*, **Delgado, C.,** & Green, K.* (2017, April). *Undergraduates' knowledge of age of events and duration of processes in geoscience*. Paper presented at AERA, San Antonio, TX.

C28. **Delgado, C.** (organizer, presenter), Anderson, D., Green, K.*, Lucero, M., Nason, M., Sutherland, S. (discussant). (2017, April). *New directions and longstanding issues in assessment of evolutionary knowledge*. Symposium held at the NARST International Conference, San Antonio, TX.

C29. You, H. S., Marshall, J., & **Delgado, C.** (2017, April). *Toward interdisciplinary science learning: Development of an assessment for interdisciplinary understanding of carbon cycling*. Paper presented at NARST 2017.

C30. **Delgado, C.**, & Aksit, O.* (2016, October). *Building blocks for understanding conversion factors and stoichiometry*. 60-min workshop held at North Carolina Science Teachers Association Professional Development Institute, Greensboro, NC.

("Each year, NCSTA's PDI provides sessions by science educators from North Carolina and the Southeast, demonstrating creative and proven methods to present content and pedagogy in science.")

C31. **Delgado, C.,** & Lucero, M. (2016, April). *Following and breaking conventions for scales on graphs: From middle school students to university professors*. Paper presented at NARST, Baltimore, MD.

C32. Mann, M.*, **Delgado, C.,** Petrosino, A., Stroup, W. (2015, April). *Tensions between conceptual and metaconceptual learning with models*. Paper presented at NARST, April 2015, Chicago.

C33. You, H., S.*, & **Delgado, C.** (2015, April). *Revisiting the Coleman report: Exploring school effects on scientific literacy in PISA 2012 using hierarchical linear modeling*. Paper presented at NARST, April 2015, Chicago.

C34. Chiu, J., Cui, L., Czerniak, C. (discussant), **Delgado, C.**, Hazari, Z., Klotz, L., Liu, X., Nguyen, D.-H., Potvin, G., Rebello, S., Sadler, P., Scott, T., Shen, J. (chair), Smith, E., Sonnert, G., Sung, S., You*, H. S., Zhang, D. (2015, April). *Interdisciplinary and integrated STEM education: Research, practices, and perspectives*. Symposium held at AERA, Chicago, IL.

C35. Lucero, M., **Delgado, C.**, & Petrosino, A. (2014, April). *Measuring science teachers' pedagogical content knowledge for student ideas about natural selection using a concept inventory*. Paper presented at AERA, Philadelphia, PA.

C36. **Delgado, C.**, & Ledbetter, N.^ (2014, April). *Cluster analysis as a tool for qualitative research: The case of scale construction*. Paper presented at AERA, Philadelphia, PA.

C37. Anderson, C., Bembenic, M., **Delgado, C.**, Flarend, A., Kastens, K., McDonald, S., Plummer, J., Pickard, M., Rivet, A., & Rubin, K. A. (2014, March). *Integrating crosscutting themes, practices, and core ideas: Learning progressions in Earth and space sciences*. Symposium held at NARST, Pittsburgh, PA.

C38. You, H. S.*, & **Delgado, C.** (2014, June). *Weaving an interdisciplinary science curriculum: Analysis of the connections across learning progressions*. Paper presented at Canada International Conference on Education, Nova Scotia, Canada.
("The CICE is an international refereed conference dedicated to the advancement of the theory and practices in education.")

C39. **Delgado, C.** (2013, April). *Nature of science considerations in the design and use of simulations for chemistry*. Paper presented at AERA, San Francisco, CA.

C40. Ko, P.*, & **Delgado, C.** (2013, April). *A proposal for a hypothetical K-12 learning progression set for algorithmic thinking*. Paper presented at AERA, San Francisco, California.

C41. **Delgado, C.,** Jones, G., You, H. S.*, Robertson, L, & Halberda, J. (2013, April). *Size and scale tasks and their relation to evolutionarily-based and culturally-based knowledge*. Paper presented at NARST, Rio Grande, Puerto Rico.

C42. Craig, T.*, & **Delgado, C.** (2013, April). *Aligning science learning progressions and the Common Core State Standards for Mathematics*. Paper presented at NARST, Rio Grande, Puerto Rico.

C43. **Delgado, C**., & Delgado, R. (2013, January). *Exploring the use of physics analogies in legal storytelling.* Paper presented at Association of American Law Schools meeting. New Orleans, LA.
(The AALS meeting gathers "thousands of law faculty, deans, administrators and scholars… [to] discuss critical and emerging legal issues")

C44. Lucero, M.*, & **Delgado, C.** (March, 2012). *Understanding the conventions undergraduate students follow or break when constructing scales for graphs.* Paper presented at NARST, Indianapolis, IN.

C45. **Delgado, C.**, & You, H. S.* (2012, March). *Learners' strategies for size estimation*. Paper presented at NARST, Indianapolis, IN.

C46. **Delgado, C.** (2011, April). *Navigating deep time: Landmarks from the Big Bang to the present*. Paper presented at NARST, Orlando, FL.

C47. **Delgado, C**. (2011, April). *Cross-cultural comparison of SI-native and Imperial-native students' understanding of size and scale.* Paper presented at NARST, Orlando, FL.

C48. **Delgado, C**., & Lucero, M.* (2011, April). *Why do students construct unconventional scales for graphs?* Paper presented at AERA, New Orleans, LA.

C49. **Delgado, C.** (2010, April). *Theoretical and empirical investigation of students' strategies for size estimation*. Paper presented at National Council of Teachers of Mathematics Research Presession, San Diego, CA.
(The NCTM Research Pre-Session gathers "leading mathematics education researchers …to examine and discuss current issues in mathematics education.")

C50. **Delgado, C**. (2010, March). *Knowledge of scale construction for graphing in undergraduate students*. Paper presented at NARST, Philadelphia, PA.

C51. **Delgado, C**. (2009, April). *Learning progressions as a tool for equity*. Paper presented at NARST, Garden Grove, CA.

C52. **Delgado, C**., Short, H., & Krajcik, J. (2009, April). *Design, implementation, and evaluation of the effectiveness of a 12-hour middle school instructional unit for size and scale*. Paper presented at NARST, Garden Grove, CA.
3 Cites - Google Scholar 12/28/2021

C53. Adams, J., Cofford, G., **Delgado, C.**, Kang, A., Ryoo, K., Preston, S., & Buck, G. (discussant). (2009, April). *Exploring the grand challenges and great opportunities in realizing a more equitable science education*. Symposium held at NARST, Garden Grove, CA.

C54. **Delgado, C.**, Stevens, S., & Shin, N. (2008, April). *Development of a learning progression for students' conceptions of size and scale*. Paper presented at NARST, Baltimore, MD.
5 Cites - Google Scholar 12/28/2021

C55. Hutchinson, K., Stevens, S., Shin, N., Yunker, M., **Delgado, C…**, Krajcik, J. S. (2007, June). *Secondary students' beliefs about their interests in nanoscale science and engineering.* Paper presented at ASEE, Honolulu, HI.
2 Cites - Google Scholar 12/28/2021

C56. **Delgado, C.,** Stevens, S., & Shin, N., Yunker, M., Krajcik, J. (2007, April). *The development of students' conception of size.* Paper presented at NARST, New Orleans, LA.
32 Cites - Google Scholar 12/28/2021

C57. Stevens, S., Shin, N., **Delgado, C.**, & Yunker, M. (2007, April). *Fostering students' understanding of interdisciplinary science in a summer science camp*. Paper presented at NARST, New Orleans, LA.
11 Cites - Google Scholar 12/28/2021

C58. Shin, N., Stevens, S., **Delgado, C.**, Krajcik, J., & Pellegrino, J. (2007, April). *Using learning progressions to inform curriculum, instruction, and assessment design*. Paper presented at NARST, New Orleans, LA.
29 Cites - Google Scholar12/28/2021

C59. Beyer, C., **Delgado, C.**, & Davis, E. (2007, April). *Investigating teacher learning supports in high school biology textbooks to inform the design of educative curriculum materials*. Paper presented at NARST, New Orleans, LA.

C60. Stevens, S., **Delgado, C.**, Krajcik, J. (2007, April). *Developing a learning progression for the nature of matter*. Paper presented at AERA, Chicago, IL.
18 Cites - Google Scholar 12/28/2021

OTHER SCHOLARLY ACTIVITIES

Curriculum development.

Size and scale of submacroscopic objects. An interdisciplinary, project-based 12-hour unit for middle school. 2007-2009

UTeach Institute Project-Based Instruction Replication Materials (with Denise Ekberg) Developed the instructional materials, syllabus, multimedia presentations, etc. for the

course Project-Based Instruction. This course is taught in 45 universities in 21 states and the District of Columbia. Close to 7000 students are currently enrolled in UTeach programs leading to teacher licensure. 2015

Software development.

Size and Scale. An interactive simulation that allows students to visualize the relative scale of important scientific objects including cells and atoms, and to calculate their absolute size from relative scale and known absolute size of the reference object – a pinhead. With partners from UIC, UIUC. 2009

Ten powers of ten. Interactive computer visualization for the size of objects, covering ten orders of magnitude (from football field to virus), using *Stallion*, the world's largest tiled-display system (at the ACES Visualization Laboratory, UT Austin) 2008

SCALE-VR. Virtual reality environment for CAVE, featuring objects from battleship to atom. 2018-

INTERNATIONAL SERVICE

Journal of Research in Science Teaching Editorial Board 2018-

International Journal of Science Education Editorial Board 2022-

NARST Strand Coordinator, Strand 1 2017-2019
Strand 11 2019-2021
Faculty Mentor for Graduate Research Symposium 2019
Publication Advisory Committee, Member (appointed) 2022-25

NanoHUB Education Advisory Committee 2013-

NanoHUB is a resource for nanoscience and nanotechnology, created by the NSF-funded Network for Computational Nanotechnology. NanoHUB has over 300,000 users annually, worldwide. (Funding renewed 2019)

Peer reviewer for journals 2008-

Journal of Research in Science Teaching (60 reviews)
International Journal of Science Education (11 reviews)
Journal of Science Education and Technology 3 reviews)
Developmental Psychology (2 reviews)
Science Education (2 reviews)
Cognitive Processing (1 review)
The Elementary School Journal (2 reviews)
Eurasia Journal of Mathematics, Science and Technology Education (1 review)
Journal of Engineering Education (1 review)
Mathematical Thinking and Learning (1 review)
Physical Review Physics Education Research (1 review)
Journal of Cognition and Development (1 review)
Journal of Nano Education (1 review)

Peer reviewer for books 2011-

Alonzo, A.C., & Gotwals, A. W. (Eds.), *Learning progressions in Science: Current challenges and future directions*. (1 chapter)

C. Manduca & K. Kastens (Eds.), *Earth and mind 2.* GSA Special Papers. (1 chapter)

A. Rogat (Ed.), *Hypothetical Learning Progressions to Support New Science Standards: A Resource for Science Supervisors.* Consortium for Policy Research in Education. (Whole book)

Peer reviewer for conferences 2007-

National Association for Research in Science Teaching-NARST (2007, 2008, 2011, 2012, 2013, 2016, 2019)

American Educational Research Association (2010, 2011)

International Conference of the Learning Sciences (2014, 2016)

NATIONAL SERVICE

Advisory Board Member 2016-19

Promoting STEM Interests and Careers through FAME (Families and Museums Exploring), PI: Gail Jones

Developer, Presenter

UTeach Institute Knowing and Learning Course Overview 2014

Austin, TX; to approximately 30 instructors from universities across the country replicating UTeach

UTeach Institute Project-Based Instruction Workshop 2010, 2012

Austin, TX; to approximately 25 instructors each time

UTeach Institute Project-Based Instruction Course Overview 2011, 2012

Austin, TX; to approximately 25 instructors each time

Invited Participant 2010

Designing Technology-Enabled Diagnostic Assessments for K-12 Mathematics Conference. Raleigh, NC.

Invited Reviewer for National Science Foundation (NSF) 2009

UNIVERSITY SERVICE

Dissertation committee for Yiqiao Xu, Dept. of Computer Science, NCSU 2021-

Invited talk at Newly Tenured Faculty Celebration lunch 2019

Distance Education Program Directors and Coordinators Committee 2019-

North Carolina State University

Judge, Latin American Research Symposium 2016-18

University of Texas at Austin
Academic Integrity and Information Technology Committee 2012-2014

Educational Policy Committee 2010-2014

Course and Instructor Survey Ad Hoc Sub-Committee, Education Policy Committee 2011-2012

UTeach Steering Committee 2010-2015

Research and Policy Ad Hoc Sub-Committee, UTeach Steering Committee 2010-2012

COLLEGE AND DEPARTMENT SERVICE

Search Committee for the Dean, College of Education 2021

Search Committee for the Director of the Transformational Scholars program 2021

Awards Committee 2021

FAR Feedback Panel for Tenure-Track Assistant Professors 2021

Search Committee for the Associate Dean for Faculty and Academic Affairs 2019

Search Committee for the Associate Dean for Research and Innovation 2019

Ad hoc liaison to NC Society of Hispanic Professionals 2019-

Ad hoc liaison to CIAE (Chile Education Research Center) 2019-

Leadership Institute for Future Teachers Advisory Board 2019-

Distance Education and Remote Learning Task Force 2019-

CATALYST grant review committee 2019

Research Committee for the College of Education 2018-
Co-chair 2019-2020

Search Committee, Associate Dean of Faculty and Academic Affairs 2018

North Carolina State University
Guest lecture, EMS 732 Theoretical and Critical Perspectives of Sci. Education 2017, November

Search Committee, Assistant Professor for Mathematics Education 2017
North Carolina State University

Guest lecture, ECI 709 Learning Sciences Seminar 2017, April

Member, CED Committee for Excellence Awards 2017

Computer & Technology Committee 2016-2018

NSF Graduate Research Fellowship Program review panel 2015

Science Education Program Scheduling head 2015-2021

University of Texas at Austin
Committee on graduate student awards and fellowships 2014-2015

Committee for Dean's Fellowship award 2014-2015

Second-year doctoral student review committee – STEM 2013

Standing Committee on Programs and Courses 2012-2014

Elementary Mathematics Education and Engineering Education Faculty Search Committees 2012, 2013

Recruitment Initiative for Hispanic Students, College of Education 2012

Ad Hoc Nominating Committee of the C&I GSC 2011-2012

Graduate Studies Committee - Curriculum and Instruction 2009-2015

Graduate Studies Committee – Science and Math Education, member 2009-2015
Secretary 2012-2015

OUTREACH AND EXTENSION

Presenter
International Consortium for Research in Science and Mathematics Education XV
90- minute Workshop on Project-Based Learning accepted 2019
San Jose, Costa Rica

Invited Presenter 2018
Crosscutting Concept Summit (Funded by NSF), Arlington VA

Liaison 2018-
Ad hoc College of Education liaison to North Carolina Society of Hispanic Professionals

Presenter
Project-Based Learning: Does it work? Why? What does it look like? 60-minute talk for WCPSS's SummerSTEM Professional Development Workshop. July 16, 2018.

Exhibiter

Triangle High Five Math/Science Summit. 60-minute session: Quantification in Science: How Does Math Play Out in Science?

Exhibit Developer and Presenter 2017, 2018

Celebremos la Ciencia (Let's Celebrate Science), Museum of Life and Science, Durham NC. Engaged approximately 100 people of all ages in construction and understanding of electrical circuits (2017); approximately 100 people in learning about pH in foods (2018)

Panelist 2017

Brothers United in Leadership Development. NCSU. Outreach and recruitment event for 100 male high school students of color.

Exhibit Presenter 2016, 2017 (April)

NanoDays. NCSU. Engaged approximately 70 secondary public school students in exhibits demonstrating and explaining nanoscience and nanotechnology principles and applications.

Workshop Presenter (with Aksit, O.*) 2016

Building blocks for understanding conversion factors and stoichiometry.
60-min workshop and presentation at North Carolina Science Teachers Association Professional Development Institute, October 2016, Greensboro, NC. Led approximately 40 teachers through instructional activities to build conceptual understanding of conversion factors, indirectly impacting around 4000 North Carolina students.

Designer and Implementer of Curriculum 2007-2009

Summer Nanoscience Academy. University of Michigan, Ann Arbor. Lead role in the design and implementation of a two-week, full day summer camp for approximately 35 underprivileged (>50% free or reduced lunch school district), racially diverse middle school students each year, using nanoscale science and technology as a context to teach important content and inquiry skills.

TEACHING AND MENTORING

= I developed the course
% = I substantively revised the course
^{QM} = Online course revised to conform with *Quality Matters* guidelines and submitted for review and certification

Undergraduate courses

University of Texas at Austin:
EDC 365C$^{\%}$ Knowing and Learning in Math and Science
EDC 365D Classroom Interactions
EDC 365E$^{\%}$ Project Based Instruction

North Carolina State University
EMS 375 Methods of Teaching Science I

Graduate courses

Masters - North Carolina State University
EMS 505 Methods of Science Teaching 1
EMS 531[%] Introduction to Research in Science Education
EMS 594[#] Advanced Teaching in Physical Sciences
EMS 573[%] Technology Tools for Science Teachers
EMS 573[#] Design of Tools and Learning Environments in STEM (with H.S. Lee and E. Krupa)
EMS 573[QM%] Design of Tools and Learning Environments in STEM

Doctoral - North Carolina State University
EMS 731 Fundamentals of Research in Science Education: Qual. and Quant. Inquiry
EMS 732[%] Theoretical and Critical Perspectives of Science Education
EMS 792[#] Learning Theories in STEM (developed with Jere Confrey)
ED 795[%] Learning Sciences: Theories, Concepts, and Environments (NCSU)

Doctoral – University of Texas at Austin
EDC 385G[#]: Advanced Topics - Learning Progressions and Learning Trajectories in Science and Mathematics Education
EDC 390T[%]: Equity in Science and Mathematics Education

Doctoral Committees

Completed - University of Texas at Austin
Hye Sun You, Science Education (chair 2011-2014; member 2015)
Graduated 2016. Currently assistant professor Arkansas Tech U.
Margaret Lucero, Science Education (member)
Graduated 2014. Currently assistant professor at Santa Clara University
Tina Vega, Mathematics Education (chair)
Graduated 2015. Currently math teacher at Lee High School, San Antonio, TX
Soon Wook Han, Science Education (member)
Graduated 2013. Currently science teacher at MacArthur High School, Irving, TX

Completed – NCSU
Kathryn Green, Science Education (chair, 2015-19)
Graduated 2019. Currently a post-doc at U. Georgia Athens.
Cody Smith, Science Education (chair, 2016-19)
Graduated 2019. Tenure-track assistant professor at Missouri State U.
Alonzo Alexander, Science Education (member). 2021.
Shana McAlexander, Science Education (member). 2021.
Kayla Norville (member). 2019.
Osman Aksit (member). 2018.
Ana Patricia Maroto, Teacher Education and Learning Sciences (member). 2017.

In progress – North Carolina State University
Gary Wright (chair)
Yiqiao Xu, Dept. of Computer Science, NCSU (member)

PROFESSIONAL DEVELOPMENT

Basics of Virtual Reality (4-hour workshop)	Dec. 2018
Applying the QM Rubric (APPQMR) workshop	Dec. 2019
Online Course Improvement Program	Aug. 2020-
Sweat Equity Challenge (semester-long entrepreneurship program)	Spring 2020