

CAROL C. WATERS, ED.D.
Assistant Professor, STEM
University of Houston-Clear Lake
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EDUCATION

Ed.D.	Curriculum & Instruction <i>University of Houston-Clear Lake, Houston, TX</i> Specializations: STEM Education	2018
M.S.T.	Physics & Astronomy, & Geography Education <i>Rice University, Houston, TX</i> Specializations: Physics, Astronomy, & Geography Education	2011
B.S.	Exercise and Health Sciences <i>University of Houston-Clear Lake, Houston, TX</i> Specializations: Exercise Physiology and Health Promotion	1998
A.A.	Social Sciences <i>San Jacinto College, Pasadena, TX</i>	1997

CERTIFICATES AND LICENSURES

Texas Educator Certification: Generalist 4-8	2003
STEM Teacher Certification: National Institute for STEM Education	2020

PROFESSIONAL EXPERIENCE

HIGHER EDUCATION

<i>COLLEGE OF EDUCATION, THE UNIVERSITY OF HOUSTON –CLEAR LAKE, HOUSTON, TX</i> Assistant Professor, STEM	2021 - Present
<i>COLLEGE OF EDUCATION, THE UNIVERSITY OF HOUSTON –CLEAR LAKE, HOUSTON, TX</i> Adjunct Professor	2020 - 2021
<i>COLLEGE OF EDUCATION, THE UNIVERSITY OF TEXAS AT ARLINGTON, ARLINGTON, TX</i> Adjunct Professor	2020 - 2021

SECONDARY EDUCATION

<i>PASADENA INDEPENDENT SCHOOL DISTRICT</i> SCIENCE CAMPUS CONTENT COACH & CURRICULUM WRITER	2019 - 2021
INTERMEDIATE SCIENCE EDUCATOR, MENTOR, & CURRICULUM WRITER	2001 - 2019

EDUCATION AND PUBLIC ENGAGEMENT

<i>LUNAR AND PLANETARY INSTITUTE, CLEAR LAKE</i> EDUCATION SPECIALIST	SUMMER 2017
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COURSES TAUGHT AT UHCL

Graduate

EDCI 7431: Learning & Cognition in STEM Education
EDCI 7138 Curriculum Design in STEM

Undergraduate

TCED 4303: Creating Positive Learning Environments EC-6
TCED 4322: Science Methods for EC-6

COURSES TAUGHT AT OTHER UNIVERSITIES

Graduate

EDUC 5314: Effective Classroom Instruction
SCED 5354: Water Properties, Distribution, The Water Cycle, & Weather

SCHOLARLY PUBLICATIONS

Waters, C. (2022). Exploring effective practices of an elementary STEM block program. *Journal of Research in Science, Mathematics and Technology Education*. (Under review).

Waters, C. & Orange, A. (2022). STEM-driven school culture: Pillars of a transformative STEM approach. *Journal of Pedagogical Research*. 6(2). 72-90. <https://dx.doi.org/10.33902/JPR.202213550>

Waters, C. C. (2018). *Exploring K-5 STEM educators' perceptions of a successful elementary school*. (Publication No. 0000-0001-9962-7679) [Doctoral dissertation, University of Houston-Clear Lake]. Texas Digital Library.

TECHNICAL REPORTS

Waters, C. (2022). *ee360 grant report: Using environmental education to increase pre-service teachers' self-efficacy of science and differentiation: 2021– 2022*. Washington, DC: Association of Fish & Wildlife Agencies.

PRESENTATIONS & WORKSHOPS CONDUCTED

NATIONAL AND REGIONAL CONFERENCES

Waters, C. (2022). To STEM or not to STEM: Exploring Female Perceptions on STEM. National Science Teaching Association. Houston, TX.

Waters, C. & Garelli, R. (2022). Effective discourse strategies for creating inclusive classrooms. National Science Teaching Association. Houston, TX.

Waters, C. (2022). Impact of school leadership on developing a STEM-driven school culture. Southwest Educational Research Association. Paper presentation. New Orleans, LA.

- Curtis, M. & **Waters, C.** (2022). GeoInquiries: An online GIS activity bridging STEM and social studies in elementary schools. Southwest Educational Research Association. Paper presentation. New Orleans, LA.
- Waters, C.** (2021). Foundations of a successful STEM school. Southwest Educational Research Association. Paper presentation. Virtual Conference.
- Curtis, M. & **Waters, C.** (2021). The 2020 STEMulus is here! Cross-curricular teaching STEM and social studies education. Southwest Educational Research Association. Paper presentation. Virtual Conference.
- Waters, C.** (2018). STEM: A Defining Situation. National Science Teachers Association (NSTA). Atlanta, GA.
- Shupla, C., **Waters, C.**, & Colston, W. (2016). Moon mania: Modeling Lunar Phases. National Science Teachers Association (NSTA) Area Conference. Minneapolis, MN.
- Shupla, C., **Waters, C.**, & Colston, W. (2016). Seasons in the Sun. National Science Teachers Association (NSTA) Area Conference. Minneapolis, MN.
- Shupla, C., **Waters, C.**, & Grout, J. (2016). Heating things up: Using CER with seasonal data. National Science Teachers Association (NSTA) STEM Forum & Expo. Denver, CO.
- Shupla, C., **Waters, C.**, & Grout, J. (2016). Looking at light: Analyzing reflectance spectra. National Science Teachers Association (NSTA) STEM Forum & Expo. Denver, CO.
- Lopez, T., Hickman, D., Russell, G., & **Waters, C.** (2014). National Excellence in Urban Schools Transformation Symposium. National Center for Urban School Transformation. San Diego, CA.

STATE CONFERENCES

- Waters, C.** (2022). Is a STEM-driven school culture good for all elementary students?. Greater Houston Area STEM Conference. Houston, TX.
- Waters, C.** (2022). Women in STEM. Greater Houston Area STEM Conference. Houston, TX.
- Waters, C.** (2021). Leadership and culture: Fostering a STEM-driven growth mindset. Greater Houston Area Virtual STEM Conference. Houston, TX.
- Curtis, M. & **Waters, C.** (2021). STEMming future social studies education. Greater Houston Area Virtual STEM Conference. Houston, TX.
- Waters, C.** (2020). Creating a successful STEM elementary school. Texas STEM Conference. Austin, TX.
- Waters, C.** (2019). Key Components of a successful STEM elementary school. TxATE Conference. Austin, TX.
- Curtis, M. & **Waters, C.** (2019). STEMmulating Interest in Social Studies Education. TxATE Conference. Austin, TX.
- Waters, C.** (2019). Exploring a Successful STEM Elementary School. Greater Houston Area STEM Conference. Houston, TX.
- Shupla, C. & **Waters, C.** (2015). Looking at the Light Spectra in the Science Classroom. T-STEM Conference. Galveston, TX
- Shupla, C., **Waters, C.**, Grout J. (2013). TESTA Presents-Components of the Universe. Conference of Association of Science Teachers 2013. Houston, TX
- Waters, C.**, Grout, J., & Ruggeri, A. (2013). I Feel the Earth Move Under my Feet. Conference of Association of Science Teachers (CAST) 2013. Houston, TX

Waters, C. (2011). Geophysical investigation of an abandoned cemetery. Prairie View A&M University. Prairie View, TX.

Waters, C. and Grout, J. November 2009. Plate Tectonics. CAST Conference of Association of Science Teachers 2009. Houston, TX

WORKSHOPS/IN-SERVICE PRESENTATIONS

Weiser, B. & **Waters, C.** (2022, March). Aquatic WILD. Houston, TX. UHCL Student Teacher Development.

Weiser, B. & **Waters, C.** (2021, October). Aquatic WILD. Houston, TX. UHCL Student Teacher Development.

K-12 TEACHER TRAINING WORKSHOPS CONDUCTED

Waters, C. & Yoes, H. (2020). Earth Story backward planning. Fall Regional Convening. Pasadena, TX.

Yoes, H. & **Waters, C.** (2020). Calibrating Playing with Forces. Fall Regional Convening. Pasadena, TX.

Waters, C. & Price, L. (2019). Writing in science. Spring Regional Convening. Pasadena, TX.

Waters, C. & Shupla, C. (2017). Lunar Exploration Summer Intern Program. Lunar and Planetary Institute. Clear Lake, TX.

Waters, C. (2017). Quintile reports. Thompson Intermediate. Houston, TX.

Waters, C. (2016). Heating things up: Using CER with seasonal data. Pasadena ISD Science Focus. Pasadena, TX.

Waters, C. & Martinez, P. (2016). Motion Graphs. Pasadena ISD Science Focus. Pasadena, TX.

Shupla, C. & **Waters, C.** (2015). Moon Mania: Lunar Phases. Lunar and Planetary Institute. Clear Lake, TX.

Shupla, C. & **Waters, C.** (2015). Let's Talk Tides. Lunar and Planetary Institute. Clear Lake, TX.

Shupla, C. & **Waters, C.** (2015). Topography and Satellite Images. Lunar and Planetary Institute. Clear Lake, TX.

Shupla, C. & **Waters, C.** (2015). Seasons. Lunar and Planetary Institute. Clear Lake, TX.

Shupla, C. & **Waters, C.** (2015). Characteristics of the Universe. Lunar and Planetary Institute. Clear Lake, TX.

Shupla, C. & **Waters, C.** (2015). Characteristics of the Universe: Stars and Galaxies. Harris County Department of Education Science Center. 1-Day training for 8th grade science teachers provided by the Lunar and Planetary Institute and Harris County Department of Education. Houston, TX.

Shupla, C. & **Waters, C.** (2015). Moon Mania: Lunar Phases and Tides. Harris County Department of Education Science Center. 1-Day training for 8th grade science teachers provided by the Lunar and Planetary Institute and Harris County Department of Education. Houston, TX.

Waters, C. (2015). Moon Mania: Lunar Phases. Pasadena ISD Science Focus. San Jacinto Intermediate.

Waters, C. (2015). Discovering Plate Boundaries. Beverly Hills Intermediate. ½-Day training for all 8th grade science teachers provided by the Pasadena ISD. Houston, TX.

Waters, C. & Shupla, C. (2014). Plate Tectonics. Harris County Department of Education Science Center. 1-Day training for 8th grade science teachers provided by the Lunar and Planetary Institute and Harris County Department of Education. Houston, TX.

- Waters, C.** (2013). *Digital Scrapbooking for Students*. Thompson Intermediate. Houston, TX.
- Waters, C.** (2012). *Wacky Word Walls that Work!*. Thompson Intermediate. Houston, TX.
- Waters, C.** (2010). *CAST Potpourri Sharing Session for Science*. Pasadena ISD. Pasadena, TX

INVITED GUEST SPEAKER

- Waters, C.** (2020). *Data-driven differentiation*. University of Texas Arlington. Invited by Dr. Mary Curtis and Brenda Harris.
- Waters, C.** (2019). *STEM and project-based learning*. University of Houston-Clear Lake. Invited by Dr. Sandy Watson.
- Waters, C.** (2019). *UHCL Common Reader Program. Big Reveal and Student Panel*. Invited by Dr. Anne Gessler. <https://www.uhclthesignal.com/wordpress/2019/05/13/common-reader-program-reveals-new-book-for-2019-2020/>
- Waters, C.** (2018). *The Super S's: Inspiring and motivating girls in the Social Sciences and STEM*. Texas Council for Social Studies. Pasadena, TX. Invited by Dr. Anita Lewis and Sandy Curtis.
- Waters, C.** (2015). *STEM Seminar: How can intermediate school females be inspired & motivated to pursue a STEM career*. University of Houston-Clear Lake. Invited by Dr. Sue Brown.

SERVICE to the PROFESSION

International Professional Organizations

Journal of Pedagogical Research. (2021). Peer-reviewed international scientific journal that publishes the articles on any area of education. (Reviewer)

STEM Education Strand. (2022). Association for Science Teacher Education (ASTE) International Conference. Chicago, IL, January 11-14, 2023. (Reviewed submitted proposals)

Strand 3 – Science Teaching – Primary School (Grades preK-6): Characteristics and Strategies. (2021). *National Association of Research in Science Teaching (NARST) Annual International Conference, Vancouver, Canada, March 27-30, 2022. (Reviewed submitted proposals)*

Strand 4 – Science Teaching – Middle and High School (Grades 5-12): Characteristics and Strategies. (2021). *National Association of Research in Science Teaching (NARST) Annual International Conference, Vancouver, Canada, March 27-30, 2022. (Reviewed submitted proposals)*

Strand 7 – Pre-service Science Teacher Education. (2021). *National Association of Research in Science Teaching (NARST) Annual International Conference, Vancouver, Canada, March 27-30, 2022. (Reviewed submitted proposals)*

National Professional Organizations

Connected Science Learning. (2022). National Science Teaching Association's peer-reviewed practitioner journal for highlighting STEM education experiences that bridge the gap between in-school and out-of-school settings. (Reviewer.)

JASON Learning. (2021). Teacher Advisory Council Member.

Journal of STEM Education: Innovations and Research. (2022). Peer-reviewed journal that aims to promote high-quality education at all levels in science, mathematics, engineering, and technology through articles that provide information that is well-founded in STEM content. (Reviewer)

Journal of STEM Education: Innovations and Research. (2021). Peer-reviewed journal that aims to promote high-quality education at all levels in science, mathematics, engineering, and technology through articles that provide information that is well-founded in STEM content. (Reviewer)

Science Scope. (2022). National Science Teaching Association (NSTA)'s peer-reviewed practitioner journal for middle level and junior high school science teachers. (Reviewer.)

Regional/Multi-State Professional Organizations

Division I – Educational Administration Policy, Leadership, & Program Evaluation. (2021). *Southwest Educational Research Association (SERA) Annual Meeting*, New Orleans, LA, Feb. 23-25, 2022. (Reviewed submitted proposals)

Division I – Educational Administration Policy, Leadership, & Program Evaluation. (2020). *Southwest Educational Research Association (SERA) Annual Meeting*, Virtual Conference, Feb. 2021. (Reviewed submitted proposals)

Division II – Instruction, Learning & Cognition. (2021). *Southwest Educational Research Association (SERA) Annual Meeting*, New Orleans, LA, Feb. 23-25, 2022. (Reviewed submitted proposals)

Division II – Instruction, Learning & Cognition. (2020). *Southwest Educational Research Association (SERA) Annual Meeting*, Virtual Conference, Feb. 2021. (Reviewed submitted proposals)

Division VI – Graduate Student Seminars for Work in Progress (2022). *Southwest Educational Research Association (SERA) Annual Meeting*, New Orleans, Feb. 2022. (Division VI Discussant)

University Service

EDCI Comps Review Committee

7-12 Composite Science Committee

EDCI Advisory Committee (2015-2020)

Elections Committee

Middle School Pipeline Committee

STEM Conference Steering Committee

STEM Conference Exhibitor Subcommittee (Chair)

Student Exemptions Subcommittee

K-12 PROFESSIONAL SERVICE

UHCL STEM Liaison to Pasadena ISD - STEAM Fairs (2021 – present)

PROFESSIONAL AND ACADEMIC MEMBERSHIPS

American Educational Research Association (AERA)

Association for Science Teacher Education (ASTE)

Association for Supervision and Curriculum Development (ASCD)

Association of Teacher Educators (ATE)

National Association for Research in Science Teaching (NARST)

National Science Teachers Association (NSTA)

Southwest Educational Research Association (SERA)

Science Teachers Association of Texas (STAT)

Texas Association of Teacher Educators (TxATE)