



NARST

A global organization for improving
science education through research

99th NARST Annual International Conference

April 19 - 22, 2026 | Seattle, WA



DIGITAL PROGRAM

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99th NARST Annual International Conference



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99th NARST Annual International Conference

General Information

Information about NARST

NARST is a global organization for improving science teaching and learning through research. Since its inception in 1928, NARST has promoted research in science education and the communication of knowledge generated by the research. The ultimate goal of NARST is to help all learners achieve science literacy.

The Association is incorporated as a non-profit corporation in the State of Minnesota. The official publication is the *Journal of Research in Science Teaching (JRST)*. NARST encourages presentations of a wide variety of investigations in all aspects of science education, including action, historical, philosophical, ethnographic, experimental, and evaluative research studies. Reports of empirical research, critical reviews, and theoretical works are encouraged. In October 2010, to reflect the Association's growing international focus and membership, the Board approved referring to the Association by its acronym only. At the April 2011 Board Meeting, the tagline for the Association was approved by the Board. Thus, the Association's name and tagline is:

NARST— A global organization for improving science education through research.

Research areas of interest to NARST members include curriculum development and organization, assessment and evaluation, learning theory, teacher education, programs for exceptional students (special needs and talents), equity studies, policy, and methods of teaching.

NARST Mission Statement

NARST is a global organization of professionals committed to the improvement of science teaching and learning through research. Since its inception in 1928, NARST has promoted research in science education and the communication of knowledge generated by the research.

The ultimate goal of NARST is to help all learners achieve science literacy. NARST promotes this goal by: **1)** encouraging and supporting the application of diverse research methods and theoretical perspectives from multiple disciplines to the investigation of teaching and learning in science; **2)** communicating science education research findings to researchers, practitioners, and policy makers; and **3)** cooperating with other educational and scientific societies to influence educational policies.

Member Benefits

- Ten issues per year of the *Journal of Research in Science Teaching* (electronic version), with access to [JRST online](#) through Wiley InterScience.
- Access to the [NARST Member Forum](#). Stay connected and informed of NARST activities, position openings, committee and Research Interest Group events, graduate student events, and more.
- Discounted registration rate for the NARST Annual International Conference.
- Opportunities to apply for [scholarships and travel support](#).
- Access to [NARST Virtual Events](#) throughout the year. We encourage members to propose webinars, workshops, and other virtual events that align with NARST's mission. Committees, RIGs, strands, and NARST leadership offer events for members free of charge.
- Opportunities to volunteer for [committees](#) and [leadership positions](#).
- Opportunities to serve as a mentor for new members and early career scholars: [Sandra K. Abell Institute](#), [Mentor/Mentee Nexus](#), and more.



NARST

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NARST Programs and Events Code of Conduct Policy

NARST is committed to providing a safe, productive, and welcoming environment for all meeting participants and NARST staff. All participants, including, but not limited to, attendees, speakers, volunteers, exhibitors, sponsors, staff members, and all others are expected to abide by this Programs Code of Conduct. This Policy applies to all NARST meeting-related events, including those sponsored by organizations other than NARST but held in conjunction with NARST events, on public or private platforms.

Unacceptable Behavior is defined as:

- Harassment, intimidation, or discrimination in any form.
- Verbal abuse of any attendee, speaker, volunteer, exhibitor, sponsor, NARST staff member, other meeting guest or venue staff member.
- Examples of verbal abuse include, but are not limited to, verbal comments related to gender, sexual orientation, disability, physical appearance, body size, race, religion, national origin, inappropriate use of nudity and/or sexual images

in public spaces or in presentations, or threatening or stalking any attendee, speaker, volunteer, exhibitor, NARST staff member, service provider, other meeting guest, or venue staff member.

- Disruption of presentations during sessions, in the exhibit hall, or at other events organized by NARST throughout the meeting.
- Participants should not copy or take screen shots of Q&A or any chat room activity that takes place in the virtual space.

NARST reserves the right to take any action deemed necessary and appropriate, including immediate removal from the meeting without warning or refund, in response to any incident of unacceptable behavior, and NARST reserves the right to prohibit attendance at any future meeting, virtually or in person.

If you experience harassment or hear of any incidents of unacceptable behavior, NARST asks that you inform either NARST Executive Director, Mackenzie Kelley, ExecutiveDirector@narst.org or NARST Events Manager, Amy Sellheim Amy.Sellheim@management-hq.com so that we can take the appropriate action.

Code of Ethical Conduct

The purpose of the National Association of Research in Science Teaching (NARST) Code of Ethical Conduct is to articulate a set of aspirational principles to guide and support members as they engage in professional activities—research, teaching, and service. NARST members are science education professionals who include researchers, practitioners, and graduate students from various cultures worldwide. These aspirational principles align with and support the mission of the organization to help all members achieve, develop, and contribute meaningfully to the improvement of science teaching and learning through research. NARST expects its members to adhere to the highest ethical standards. The Code of Ethical Conduct serves as a guide to the everyday professional conduct of science educators.

Unfamiliarity with NARST's Code of Ethical Conduct is not a valid defense for engaging in or failing to challenge observed unethical behavior. We accomplish this through our Code of Ethical Conduct where there is:

A. Professional Competence

Science education professionals strive to maintain the highest levels of competence in their work; they recognize the limitations of their expertise; and they undertake only those tasks for which they are qualified by education, training, or experience. They recognize the need for ongoing education in order to remain professionally competent; and they utilize the appropriate scientific, scholarly, professional, technical, and administrative resources needed to ensure honesty and integrity. Science education professionals conduct research, teach, practice, and provide service only within the boundaries of their competence, based on their education, training, supervised experience, or appropriate professional experience. They consult with other professionals when necessary for the benefit of their students, research participants, and clients. They maintain awareness of current scientific, scholarly, and professional information in their fields of activity and undertake continuing efforts to maintain competence in the skills they use. Importantly, professional competence must also include a willingness to accept

and integrate new information and experiences, regardless of the effect that process has on research outcomes.

B. Integrity

It is the social responsibility of science education professionals to maintain integrity in all conduct, publications, and forums, and give due credit to the contributions of others. Adhering to this standard means science education professionals do not fabricate, falsify, or plagiarize. Public comments on matters of importance that are relevant to science education must be made with care and accuracy. Adhering to this standard means science education professionals do not use deficit language, deceptive statements concerning research data, or otherwise knowingly make false, misleading or deceptive statements in practicing and presenting research. Comment and debate within the bounds of collegiality and professionalism that keep the organization moving forward and current with emergent issues and perspectives are encouraged. Adhering to this standard means science education professionals do not use dismissive remarks or gestures, restrict multiple voices, or use derogatory language. In short, science education professionals conduct their professional activities in ways that engender trust and confidence.

C. Professional and Scholarly Responsibility in Science Teaching, Learning, and Research

Science education professionals have a responsibility to use research practice and policy to advance NARST members' understanding of the teaching and learning of science in all learning contexts—formal, informal, local, and global—through research, practice, and policy. They adhere to the highest scholarly and professional standards within their field of expertise and accept responsibility for adherence to those standards. Science education professionals should regard the tutelage of graduate students and early career faculty as a trust conferred by the organization for which they work, as well as NARST, for the promotion of these individuals' learning and professional development.

Science education professionals understand that they form a community and show respect for other science education professionals even when they disagree on theoretical, methodological, or personal approaches to professional activities. In activities involving marginalized populations, it is essential that responsible science education professionals seek out the voices and experiences of members of these groups and treat them as critical to their scholarship. While always endeavoring to be collegial, science education professionals must never let the desire to be collegial outweigh their shared responsibility for ethical behavior. When appropriate, they consult with colleagues, NARST's Equity and Ethics Committee, or organizational entities such as their institutional review board in order to prevent, avoid, or challenge unethical conduct.

D. Respect for People's Rights, Dignity, and Diversity

Science education professionals respect the rights, dignity, and worth of all people in their professional activities. They treat other professionals, students, research participants, and members of the organization fairly, respectfully, and without exploitation or harassment. Science education professionals acknowledge the rights of others to hold values, attitudes, and opinions that differ from their own and take reasonable steps to avoid harm to others in the conduct of their work. They learn with others, share ideas honestly, give credit for others' contributions, and encourage others to contribute their unique skills, knowledge, and interests in professional environments. Science education professionals are sensitive to cultural, individual, and role differences in teaching, studying, and providing service to groups of people with distinctive characteristics, as well as the power differential that might result from such differences.

Science education professionals carefully avoid discrimination and bias toward individuals and groups based on race, gender, age, religion, ethnicity, nationality, sexual orientation, gender

expression, gender identity, presence of disabilities, educational background, socioeconomic status, or other personal attributes. They refrain from making biased assumptions about others and perpetuating demeaning attitudes and stereotypes. Science education professionals do not accept any forms of discrimination and actively challenge implicit and explicit forms of discrimination.

E. Social Responsibility

Science education professionals are aware of their scientific and professional responsibility to the communities and societies in which they live. This awareness extends to their involvement and service to an increasingly diverse and international NARST community. NARST members are guided by the values and standards that reflect the professional literature. They strive to promote equity and the public good by advancing scientific and scholarly knowledge. Science education professionals are aware of the differences in society and culture that impact scholarly knowledge and academic work. They value and embrace the public trust in research and teaching and are concerned about their ethical behavior and the behavior of other science education professionals that might compromise that trust. Science education professionals should reasonably expect of themselves and others to be guided by a code of ethics that supports efforts to resolve ethical dilemmas.

References

AERA Council. (2011). Code of ethics: American Educational Research Association. *Educational Researcher*, 40(3), 145-146.

American Sociological Association. (1999). Code of ethics and policies and procedures of the ASA committee on professional ethics. Retrieved from:

<http://www.asanet.org/membership/code-ethics>

American Psychological Association. (2017). Ethical principles of psychologists and code of conduct. Retrieved from:

<https://www.apa.org/ethics/code/>

Research Interest Groups (RIGs) Information

COMPUTATIONAL SCIENCE PRACTICES (CSP-RIG)

The purpose of the Computational Science Practices Research Interest Group (CSP-RIG) is to promote research and innovation to expand computational science practices in science education. The synergy between computational practices and science makes it critical to include computational science practices (CSPs) early, often, and equitably in K-12 science classrooms. Yet, these synergies remain largely untapped in science education. The CSP-RIG will serve as a collaborative space for researchers promoting CSP integration into science education. This RIG will promote the uptake of CSPs, addressing inequities in science education by providing access to innovative practices for more teacher educators, teachers, and students. Given the lack of opportunities for scholars to discuss CSPs and their integration with science, this RIG will provide a space to build a community of CSP researchers. This RIG will promote the advancement of knowledge about CSPs in science education and will disseminate and share members' research-based practices with the NARST and broader science education communities.

Dr. Mandy Peel, apeel@nmsu.edu

Dr. Janice Mak, Janice.Mak@asu.edu

CONTINENTAL AND DIASPORIC AFRICA IN SCIENCE EDUCATION RIG (CADASE)

The purpose of CADASE RIG is to (a) encourage science educators to engage in research aimed at meeting the needs of people of African descent; and (b) provide intellectual, professional, and personal space for science educators engaged in such research. This RIG will provide opportunities for science education researchers to integrate the study of culture, ethnicity, gender, race, and social class as lenses for performing critical analyses and evaluations of prevailing theory and practice of science education on the lives of people of African descent. A variety of theoretical and methodological frameworks will be used to address issues in science curriculum, learning, teaching, assessment and evaluation, and policy issues in both K-14 formal and informal venues in different contexts.

Chair: **Rona Robinson-Hill**, rmrobinsonhi@bsu.edu

Steering Committee Chair: **Jonathan Hall**, jihall@csusb.edu

Steering Secretary: **Heather Lavender**, hflavend@syr.edu

Steering Treasurer: **Stanton Belford**
sbelfor2@utsouthern.edu

EXPLORING PROFESSIONAL AVENUES IN SCIENCE EDUCATION IN NONTRADITIONAL DOMAINS (EXPAND RIG)

The EXPAND RIG supports researchers who pursue and advance science education work outside traditional academic institutions. This group provides a collaborative space for graduate students, early-career scholars, and established researchers working in non-traditional academic settings, including nonprofits, industry, government, research firms, and community organizations. The RIG promotes networking, mentorship, and professional development focused on diverse research trajectories, and highlights scholarship that engages directly with practitioners, policymakers, and communities. By broadening the field's understanding of research impact and elevating voices across sectors, EXPAND aligns with NARST's mission to advance quality science learning for all and strengthens support for researchers navigating careers beyond the tenure-track.

Dr. Ti'Era Worsley, tworsley@nvcc.edu

Dr. Sierra Morandi, smorandi@fsu.edu

LATINO/A RIG (LARIG)

The Latino/a RIG supports social networks that further research agendas regarding Latino/a science learners. LARIG also serves as a support and mentoring alcoba (space) for Latin@s/Latino science educators and others interested in Latin@ science education.

Chair: **Uma Ganesan**, uma.ganesan@utrgv.edu

Chair-Elect: **Miriam Ortiz**, miriam.ortiz01@utrgv.edu

Contemporary Methods for Science Education Research

The broad purpose of this RIG is to advance the mission of NARST by maintaining the rigor of science education studies, as well as promoting more standardized research practices across the organization such that we are better able to learn from and synthesize each other's work. The intent is that these outcomes will, in turn, allow us to keep advancing the field and maintain the relevance of our research to improving science teaching and learning.

Chair: **Brock Couch**, brockcouch44@gmail.com

Communications Officer: **Stephanie Stanley**
sstanley5@una.edu

Engineering Education RIG (ENE-RIG)

The purpose of the RIG in Engineering Education is to synergize research in science and engineering education, promote rigorous research in engineering education, and provide a collaboration and discussion space supporting intellectual and professional exchange and networking.

Chair: **Monica Cardella**, mcardell@fiu.edu

Co-Chair: **Christopher Wright**

Indigenous Science Knowledge Research Interest Group (ISK-RIG)

The ISK-RIG was set up to showcase and provide support to current and future research works of a growing number of Indigenous Knowledge Systems (IKS) researchers working within indigenous communities throughout the world who are members of NARST. This group includes active members from Africa and the African Diaspora, Alaska, Australia, Canada, Indigenous populations of the Americas, Asia and the Pacific, the Middle East, Thailand, Nordic Regions, New Zealand, Scandinavia, the West and East Indies, etc. The goal is to increase awareness of what indigenous knowledge systems can contribute to research.

Chair: **Julie Robinson**, julie.robinson@und.edu

Co-Chair: **Bhaskar Upadhyay**, bhaskar@umn.edu

Secretary: **Rouhollah Aghasaleh**, ra292@humboldt.edu

Treasurer: **Pauline Chinn**, chinn@hawaii.edu

Research in Artificial Intelligence-Involvement Science Education (RAISE)

This RAISE RIG aims at employing AI to extend the landscape of science education, increase the capacity of all participants in the venture to face worldwide challenges, and significantly address the equity and ethical problems in the world broadly. This RIG will (a) support cutting-edge innovations using AI to address learning, teaching, assessment, equity and policy issues in science education; (b) communicate the cutting-edge research involving AI to all researchers, practitioners, and policymakers; and (c) encourage junior scholars in the field to pursue AI innovations within science education research as it is broadly practiced.

Chair: **Xiaoming Zhai**, Xiaoming.zhai@uga.edu

Co-Chair: **Kent J. Crippen**, kcrippen@coe.ufl.edu

Asian and Pacific Islander Science Education Research (APISER)

The APISER RIG will promote diversity, equity, and inclusion in science education research using the lenses relevant to Asian and Pacific Islander cultures, ethnicities, gender, and class, as well as the intersections of these markers. It will also serve as an intellectual network to support and mentor current and future Asian and Pacific Islander scholars within and outside of the United States, including NARST members interested in API related research endeavors.

Dr. Hosun Kang, hosunk@uci.edu

Dr. Edna Tan, etan@uncg.edu

Lesbian, Gay, Bisexual, Transgender, Queer, Plus Science Education Research Group (LGBTQ+ RIG)

This RIG provides opportunities for science education researchers to explore and discuss issues relevant to the LGBTQ+ community related to a wide range of topics including science curriculum, learning, teaching, assessment or evaluation, and policy issues in both K-16 formal and informal educational contexts. RIG members promote diversity, equity, and inclusion in science education and science education research. The LGBTQ+ RIG serves as a peer support, mentoring, and inclusive space for folks who identify as LGBTQ+. The LGBTQ+ RIG provides a formalized space inclusive of queer folk and queer research.

Dr. Sara Porter, scheredi@uncg.edu

Dr. Colby Toefel-Grehl, colby.tg@usu.edu

2025-2026 NARST Leadership Team

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President-Elect

Maria Varelas (2028)

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Edna Tan (2030)

University of North Carolina-Greensboro

Dana Vedder-Weiss (2030)

Ben-Gurion University of the Negev

Strand Key

Strand 1:	Science Learning: Development of Student Understanding
Strand 2:	Science Learning: Contexts, Characteristics, and Interactions
Strand 3:	Science Teaching—Primary School: Characteristics and Strategies (Grades PreK-6)
Strand 4:	Science Teaching—Middle and High School: Characteristics and Strategies (Grades 5-12)
Strand 5:	College Science Teaching and Learning (Grades 13-20)
Strand 6:	Science Learning in Informal Contexts
Strand 7:	Pre-service Science Teacher Education
Strand 8:	In-service Science Teacher Education
Strand 9:	Discontinued
Strand 10:	Curriculum, Evaluation, and Assessment
Strand 11:	Cultural, Social, and Gender Issues
Strand 12:	Technology for Teaching, Learning, and Research
Strand 13:	History, Philosophy, Sociology, and Nature of Science
Strand 14:	Environmental Education and Sustainability
Strand 15:	Policy, Reform and Program Evaluation

2025-2027 Strand Coordinators

Strand 1: Science Learning— Development of Student Understanding

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Tata Institute of Fundamental Research

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Strand 8: In-service Science Teacher Education

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Strand 12: Technology for Teaching, Learning, and Research

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University of Southampton

Strand 14: Environmental Education and Sustainability

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Strand 15: Policy, Reform, and Program Evaluation

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Laura Wheeler	Marie Johanna Univer	Mon-Lin Monica Ko	Peggy Harte
Laura Zangori	Marina May	Monsour Zakariyah	Peng He
Lauren Browning	Marti Canipe	Mourad El Karkri	Perla Ramos Carranza
Lauren Dudley	Mary Olayanju	Moyu Zhang	Peter Cormas
Lauren Harper	Mary Whitfield	Ms Mutiara Syifa	Peter Idowu
Lauren Madden	Matt Adams	Muhammad Abd Hadi Bunyamin	Peter Rillero
Lauren Wagner	Matt Nyman	Muhammad Purwanto	Petra Bezeljak
Layla Ye Zang	Matt Stewart	Mushfique Ashique	Philllip Dixon
Leah Master	Matthew Blank	Na'ama Av-Shalom	Piata Allen
Lena Lenz	Matthew Weinstein	Narendra Deshmukh	Priya Pugh
Leon Yufeng Wu	Matthias Klassen	Nazia Tasnim	Priyanka Parekh
Leroy Großmann	Meagan Graves	Neta Shaby	Qian Wu
Lezly Taylor	Meena Kharatmal	Niki Koukoulidis	Qianqian Gao
Lia Betancourt	Meg Gardner	Nikola Schild	Qianyu Teng
Like Deng	Megan Ennes	Nils Bergander	Qingna Jin
Linsey Brennan	Megan Silander	Nina Minkley	Quan Wang
Lisa Borgerding	Meghan Macias	Noam Brenner	Quentin Biddy
Lisa Marco-Bujosa	Mehmet Aydeniz	Norris Erhabor	Quentin Sedlacek
Liz Carletta	Melanie Kinskey	Noushin Nouri	Rachel Benzoni
Lu Wang	Melissa Livingston	Nushrat Hoque	Rachel Chaffee
Lucky Nonyelum	Melissa Mendenhall	Olayinka Mohorn	Rachel Stronach
Lutz Kasper	Mengqian Wang	Olayinka Oyewole	Rafael Pelletti
Lynn Huff	Mercy Funke Ogunsola Bandele	Olivia Magnuson	Rahmi Qurota Aini
Lynne Zummo	Michael Cassidy	Olusegun Fashakin	Razan Hamed
M. Gail Jones	Michael Giamellaro	Oluwatosin Akande	Rebecca Hite
Magdalena Pando	Michael Mauricio	Omowumi Frieyo	Rebecca Sansom
Mahnaz Zolfaghari	Michele Weston	Özlem Önal	Rebecca Swanson
Maiza Trigo	Michelle Brown	Öznur Avcı	Rebekah Hammack
Maizie Dyess	Min Jung Lee	Parin Chawalit	Regis Komperda
Manal Almalki	Min Li	Patricia Moreira Seguel	Ren Mendoza
Mandy Peel	Mindy Chappell	Patricia Patrick	Rena Orofino
Manuela Mejia	Minjung Ryu	Patrick Smith	Richard Bex
Mao-Jen Tseng	Miranda Allen	Paul Moran	Richard Lamb
Maram Al Aqra			

Program Proposal Reviewers

Richard Sannert	Shauna Schechtel	Tanya Churaman	Xiao Huang
Rida Munir	Sheikh Ahmad Shah	Tara Barnhart	Xiaomei Yan
Rika Mardiana	Shelley Rap	Taylor Mule	Xiaoyu Tang
Robert Idsardi	Shikhar Kashyap	Tej Dalvi	Xijuan Li
Roe Peretz	Shirly Avargil	Teresa Massey	Xin Xia
Roger Erb	Shiva Javanmardi	Terrance Burgess	XinJia Ma
Ron Blonder	Shondricka Burrell	Terrell Morton	Xinyu He
Rosa Mykyta-Chomsky	Shumin Zhao	Thanh Le	Xiuju Li
Roshni Bano	Sibel Erduran	Thomas McKenna	Yael Feldman-Maggor
Rudan Wang	Sierra Morandi	Ti'Era Worsley	Yang Zhang
Ruth Edri	Sissy Wong	Tilman Steinmetz	Yessy Eka Ambarwati
Ryan Nixon	Song Wang	Tim Hartelt	Yetunde Adaramola
Saed Sabah	Soon Lee	Tina Vo	Yetunde Mabadeje
Sahar Alameh	Soonhye Park	Tirza Vargas	Yilmaz Kara
Sakine Çiftaslan	Soo-Yean Shim	Tom Reshef Israeli	Ying-Chih Chen
Salwa Ali	Spencer Eusden	Tongtong Guan	Yi-Ning Huang
Sam Evans	Stacy Olitsky	Trevion Henderson	Yiru Wang
Samantha Nevado	Stefanie Marshall	Troy Sadler	Yiwen Li
Samantha Viano	Stephanie Tracey	Uchenna Miles	Yong Xie
Sara Heredia	Stephanie Wilkerson	Ülkü Seher Budak	Youngjin Choi
Sara Satanassi	Stephen Burgin	Uma Ganesan	Yu Shuwen
Sarah August-Henry	Stephen Trembath-Reichert	Umar Adam	Yu-Hui Chang
Sarah Voss	Stephen Witzig	Usman Ijaz	Yu-Jan Tseng
Sarika Kewalramani	Steven Courchesne	Valarie Akerson	Yujing Guo
Scarlett Calvin	Sule Aksoy	Valeria Vendries	yurdagul Bogar
Scott Cohen	Suna Ryu	Vanessa de Andrade	Yushuang Liu
Selcuk Kilinc	Susannah Sandrin	Vered Alboher Agmon	Yuxi Huang
Selvet Ece Genek	Sushma Sardana	Victor Murphy	Zachary Patterson
Sevim Bezen	Suzanne Patzelt	Wanjoo Ahn	Zahra
Shallom Lumor	Syed Nauman Wazir	Wardell Powell	Baradaranshoraka
Shan Lin	Sylvia Faustine	Wei-Ting Li	Zeyu Han
Shanel Lightfoot	Taiwo Ogundapo	Weiwei He	Zeyuan Wang
Shani Goldstein	Tajinder Saroya	William Lindsay	Zhen Xu
Shannon Davidson	Tamar Fuhrmann	William McComas	Zhimeng Jiang
Shannon Navy	Tamar Ginzburg	William Romine	Zoubeida Dagher
Shanshan Lu	Tamara Heck	Winter Allen	
Shari Watkins	Tamara Turski	Wonyong Park	
Sharon Ndubuisi		Xianqing Bao	

NARST Presidents

1928 W. L. Eikenberry	1954 George G. Mallinson	1980 John W. Renner	2004 Charles W. (Andy) Anderson
1929 W. L. Eikenberry	1955 Kenneth E. Anderson	1981 Stanley L. Helgeson	2005 John R. Staver
1930 W. L. Eikenberry	1956 W. C. Van Deventer	1982 Stanley L. Helgeson	2006 James A. Shymanksy
1931 Elliot R. Downing	1957 Waldo W. Blanchet	1983 Carl F. Berger	2007 Jonathan F. Osborne
1932 Elliot R. Downing	1958 Nathan S. Washton	1984 Ann C. Howe	2008 Penny J. Gilmer
1933 Francis D. Curtis	1959 Thomas P. Fraser	1985 Ertle Thompson	2009 Charlene M. Czerniak
1934 Ralph K. Watkins	1960 Vaden W. Miles	1986 David P. Butts	2010 Richard A. Duschl
1935 Archer W. Hurd	1961 Clarence H. Boeck	1987 James P. Barufaldi	2011 Dana L. Zeidler
1936 Gerald S. Craig	1962 Herbert A. Smith	1988 Linda DeTure	2012 J. Randy McGinnis
1937 Walter G. Whitman	1963 Ellsworth S. Obourn	1989 Patricia Blosser	2013 Sharon J. Lynch
1938 Hanor A. Webb	1964 Cyrus W. Barnes	1990 William G. Holliday	2014 Lynn A. Bryan
1939 John M. Mason	1965 Frederic B. Dutton	1991 Jane Butler Kahle	2015 Valarie L. Akerson
1940 Otis W. Caldwell	1966 Milton P. Pella	1992 Russell H. Yeany	2016 Mary M. Atwater
1941 Harry A. Carpenter	1967 H. Craig Sipe	1993 Emmett L. Wright	2017 Mei-Hung Chiu
1942 G. P. Cahoon	1968 John M. Mason	1994 Kenneth G. Tobin	2018 Barbara Crawford
1943 Florence G. Billig	1969 Joseph D. Novak	1995 Dorothy L. Gabel	2019 Gail Richmond
1944 Florence G. Billig	1970 Willard D. Jacobson	1996 Barry J. Fraser	2020 Tali Tal
1945 Florence G. Billig	1971 Paul D. Hurd	1997 Thomas R. Koballa, Jr.	2021 Eileen R. C. Parsons
1946 C. L. Thield	1972 Frank X. Sutman	1998 Audrey B. Champagne	2022 Renée Schwartz
1947 Earl R. Glenn	1973 J. David Lockard	1999 Joseph S. Krajcik	2023 Gillian Roehrig
1948 Ira C. Davis	1974 Wayne W. Welch	2000 David F. Treagust	2024 Jomo Mutegi
1949 Joe Young West	1975 Robert E. Yager	2001 Sandra K. Abell	2025 Jerome Shaw
1950 N. Eldred Bingham	1976 Ronald D. Anderson	2002 Norman G. Lederman	2026 Jennifer Adams
1951 Betty Lockwood	1977 O. Roger Anderson	2003 Cheryl L. Mason	
1952 Betty Lockwood	1978 Roger G. Olstad		
1953 J. Darrell Barnard	1979 James R. Okey		

NARST Executive Directors

(NARST created the position of Executive Secretary in 1975; the title was changed to Executive Director in 2003)

1975–1980 Paul Joslin	1990–1995 John Staver	2007–2017 Bill Kyle
1980–1985 Bill Holliday	1995–2000 Art White	2018–2021 Helen Schneider Lemay
1985–1990 Glenn Markle	2000–2002 David Haury	2021–2024 Lisa Martin-Hansen
	2002–2007 John Tillotson	2024–Present Mackenzie Kelley

JRST Editors

1963–1966 J. Stanley Marshall	1994–1999 William C. Kyle, Jr.	2011–2015 Joseph S. Krajcik
1966–1968 H. Craig Sipe	1999–2001 Charles W. (Andy) Anderson	Angela Calabrese Barton
1969 James T. Robinson	James J. Gallagher	2016–2020 Fouad Abd-El-Khalick
1970–1974 O. Roger Anderson	August	Dana L. Zeidler
1975–1979 David P. Butts	2002–2005 Dale R. Baker	2021–2025 Felicia Moore Mensah
1980–1984 James A. Shymansky	Michael D. Piburn	Troy Dow Sadler
1985–1989 Russell H. Yeany, Jr.	2006–2010 J. Randy McGinnis	2026–2030 Matthew Kloser
1990–1993 Ronald G. Good	Angelo Collins	Edna Tan
		Dana Vedder-Weiss

Emeritus Members

Alan McCormack	George Bodner	Julia Clark	Rachel Mamlok-Naaman
Albert Nous	Gerald Krockover	Larry Enochs	Richard Haney
Altaf Qadeer	Gian Pedemonte	Larry Yore	Richard Walding
Andree Tiberghien	Glenn Berkheimer	Leonie Rennie	Robert Dehaan
Ann Osman	Glenn Markle	Linda Phillips	Robert Poel
Avi Hofstein	Gottfried Merzyn	Lowell Bethel	Robert Sherwood
Barbara Crawford	Guilford Bartlett	Lynn Bryan	Robert Williams
Carl Angell	Hans Andersen	Mansoor Niaz	Rodney Doran
Charles Anderson	Helmut Dahncke	Manuel Sequeira	Roger Olstad
Charles McFadden	Herbert Thier	Marianne Barnes	Ronald Anderson
Dale Baker	Ivo Lindauer	Marlene Thier	Ryda Rose
David Haury	J. Prather	Mary Atwater	Sherry Southerland
David Kennedy	J. Swift	Michael Agin	Stanley Helgeson
Donald Riechard	Jacqueline Mallinson	Michael Padilla	Sue Tunnicliffe
Donald Schmidt	James Poth	Michael Piburn	Sung Jae Pak
Doris Simonis	James Shymansky	Nitza Barnea	Uri Ganiel
Ed Van Den Berg	Jane Kahle	Obed Norman	Vincent Lunetta
Edward Smith	Jay Lemke	Onno De Jong	Wayne Welch
Eileen Parsons	Jim Minstrell	Paul Joslin	William Holliday
Ellen Simmons	John Christopher	Peter Hewson	William Jaffarian
Elsa Feher	Joseph Novak	Peter Okebukola	



NARST Award Recipients

Distinguished Contributions to Science Education through Research Award

This award is presented at the Annual International Conference but is bestowed only when an outstanding candidate, or candidates, has been identified. It is given to recognize individuals who, through research over an extended period of time, have made outstanding and continuing contributions, provided notable leadership, and made a substantial impact in the area of science education.

Year	Awardee(s)	Year	Awardee(s)
1986	Anton E. Lawson	2012	Charles W. (Andy) Anderson Larry Yore
1987	Paul DeHart Hurd	2013	Dale R. Baker
1988	John W. Renner	2014	Glen Alkenhead Richard Gunstone Frances Lawrenz
1989	Willard Jacobson	2015	Richard A. Duschl Meshach Mobolaji Ogunniyi
1990	Joseph D. Novak	2016	Lynn D. Dierking John N. Falk Dana L. Zeidler
1991	Robert L. Shrigley	2017	Avi Hofstein
1992	Pinchas Tamir	2018	Marissa Rollnick Jonathan Osborne
1993	Jack Easley, Jr.	2019	Mary M. Atwater Maria Pilar Jiménez-Aleixandre
1994	Marcia C. Linn	2020	Judy Dori Saouma Bou Jaoude
1995	Wayne W. Welch	2021	Valarie Akerson Greg Kelly
1996	Carl F. Berger	2022	Fouad Abd-El-Khalick Gail Jones
1997	Rosalind Driver	2023	Franz X. Bogner Okhee Lee
1998	James J. Gallagher	2024	Angela Calabrese Barton Julie Luft
1999	Peter J. Fensham	2025	Sherry Southerland
2000	Jane Butler Kahle	2026	Mei-Hung Chiu Sibel Erduran Troy Sadler
2001	John K. Gilbert		
2002	Audrey B. Champagne		
2003	Barry J. Fraser		
2004	Robert E. Yager Paul Black		
2005	John C. Clement		
2006	David Treagust		
2007	Kenneth Tobin		
2008	Dorothy Gabel		
2009	Peter W. Hewson Leonie Jean Rennie Wolff-Michael Roth		
2010	Reinders Duit Joseph Krajcik		
2011	Norman Lederman		



NARST Award Recipients

Outstanding Doctoral Research Award (Sponsored by Wiley)

This award is given annually for the Doctoral Research judged to have the greatest significance in the field of science education from among all theses and dissertations nominated this year for the award.

Year	Awardee(s)	Advisor(s)
1992	Rene Stofflett	Dale R. Baker
1993	Julie Gess-Newsome	Norman G. Lederman
1994	Carolyn W. Keys	Burton E. Voss
1995	Jerome M. Shaw	Edward Haertel
1996	Christine M. Cunningham	William L. Carlsen
1997	Jane O. Larson	Ronald D. Anderson
1998	Kathleen Hogan	Bonnie K. Nastasi
1999	Fouad Abd-El-Khalick	Norman G. Lederman
2000	Danielle Joan Ford	Annemarie S. Palinscar
2001	Iris Tabak	Brian Reiser
2002	Mark Girod	David Wong
2003	Hsin-Kai Wu	Joseph Krajcik
2004	David L. Fortus	Ronald Marx Joseph Krajcik
2005	Thomas Tretter	Gail M. Jones
2006	Stacy Olitsky	Kenneth Tobin
2007	Julia Plummer	Joseph S. Krajcik
2008	Victor Sampson	Douglas Clark
2009	Lei Liu	Cindy E. Hmelo-Silver
2010	Heather Toomey	Phillip Bell Zimmerman
2011	Jeffrey J. Rozelle	Suzanne M. Wilson
2011	Catherine Eberbach	Kevin Crowley

2012	Melissa Braaten	Mark Windschitl
2013	Lori Fulton	Jian Wang
2014	Daniel Birmingham	Angela Calabrese Barton Anne-Lise Halvorsen
2015	Allison Godwin	Geoffrey Potvin
2016	Anna MacPherson	Jonathan Osborne
2017	Anita Schuchardt	Christian Schunn
2018	Katherine Wade-Jaimes	Renée Schwartz
2019	Anita S. Tseng	Jonathan F. Osborne
2020	Netta Shaby	Orit Ben Zvi-Assaraf
2021	Eben Witherspoon	Christian D. Schunn
2022	Won Jung Kim	Angela Calabrese Barton Alicia Alonzo
2023	Gary William Wright III	Cesar Delgado
2024	Grace P. Carroll K. "Ren" Rende Mendoza	Soonhye Park Carla Johnson
2025	Sam Lee Daniel R. Pimentel	Katherine L. McNeill Janet Carlson and Bryan Brown
2026	Dr. Sage Andersen Scott Cohen	María González-Howard Patrick J. Enderle



NARST Award Recipients

Early Career Research Award

The Early Career Research Award is given annually to the early researcher who demonstrates the greatest potential to make outstanding and continuing contributions to research in science education. The recipient will have received his/her Doctoral degree within five years of receiving the award.

Year	Awardee(s)
1993	Wolff-Michael Roth
1994	Deborah J. Tippins
1995	Nancy B. Songer
1996	Mary B. Nakhleh
1997	Peter C. Taylor
1998	J. Randy McGinnis
1999	Craig W. Bowen Gregory J. Kelly
2000	Angela Calabrese Barton
2001	Julie A. Bianchini
2002	Alan G. Harrison
2003	Fouad Abd-El-Khalick
2004	Grady J. Venville

2005	Randy L. Bell
2006	Heidi Carlone
2007	Bryan A. Brown
2008	Hsin-Kai Wu
2009	Troy D. Sadler
2010	Thomas Tretter
2011	Katherine L. McNeill
2012	Victor Sampson
2013	Alandeom W. Oliveira
2014	Cory Forbes
2015	Benjamin C. Herman
2016	Richard L. Lamb
2017	Ying-Chih Chen David Stroupe
2018	Doug Lombardi

2019	Hosun Kang Eve Manz
2020	Brian Donovan Dana Vedder Weiss
2021	Lama Jaber
2022	Maria González-Howard Laura Zangori
2023	Natalie S. King Christina Krist
2024	K.C. Busch Terrell R. Morton
2025	Marcus Kubsch
2026	Megan Ennes Li Ke

NARST Fellows Award

The NARST Fellow Program is an award program that honors and recognize excellence in science education research and service. This program promotes and advances the NARST mission in science education, and the role of science education in the local and global community, by designating NARST members as Fellows.

Year	Awardee(s)
2021	Bryan A. Brown Richard A Duschl Gillian Roehrig
2022	Peter A. Okebukola
2023	Julie Bianchini Ron Blonder Patricia Friedrichsen
2024	Elizabeth Mavhunga Carla Zembal-Saul Renee' Schwartz Christina Schwarz Lynn Bryan

2025	Janet Carlson M. Gail Jones Hosun Kang Katherine L. McNeill Felicia Moore Mensah Eileen Parsons Bhaskar Upadhyay
2026	Tali Tal Elizabeth Davis Aslı Sezen-Barrie Mercy Ogunsola-Bande Umesh Ramnarain

Excellence in Mentoring Award

The NARST Excellence in Mentoring Award recognizes an exceptional mentor from the NARST community who has impacted graduate student growth both professionally and personally.

Year	Awardee(s)
2024	Janet Carlson
2025	Ron Blonder
2026	Dr. Angela Chapman



NARST Award Recipients

The *Journal of Research in Science Teaching (JRST)* Award

The *JRST* Award was awarded annually to the author or authors of the *Journal of Research in Science Teaching* article judged to be the most significant publication for the Volume year. It was awarded annually between 1974 and 2015.

Year	Awardee(s)	Year	Awardee(s)	Year	Awardee(s)
1974	Donald E. Riechard Robert C. Olson	1990	Richard A. Duschl Emmett L. Wright	2006	Troy D. Sadler Dana L. Zeidler
1975	Mary Budd Rowe	1991	E. P. Hart I. M. Robottom	2007	Jerome Pine Pamela Aschbacher Ellen Roth Melanie Jones Cameron McPhee Catherine Martin Scott Phelps Tara Kyle Brian Foley
1976	Marcia C. Linn Herbert C. Thier	1992	John R. Baird Peter J. Fensham Richard E. Gunstone Richard T. White	2008	Christine Chin
1977	Anton E. Lawson Warren T. Wollman	1993	Nancy R. Romance Michael R. Vitale	2009	Kihyun Ryoo Bryan Brown
1978	Dorothy L. Gabel J. Dudley Herron	1994	E. David Wong	2010	Helen Patrick Panayota Mantzicopoulos Ala Samarapungavan
1979	Janice K. Johnson Ann C. Howe	1995	Stephen P. Norris Linda M. Phillips	2011	Daphne Minner Jeanne Century Abigail Jurist Levy
1980	John R. Staver* Dorothy L. Gabel* Linda R. DeTure	1996	David F. Jackson, Elizabeth C. Doster Lee Meadows Teresa Wood	2012	Julie A. Luft Jonah B. Firestone Sissy S. Wong Irasema Ortega Krista Adams Eun Jin Bang
1981	William C. Kyle, Jr.	1997	C. W. J. M. Klassen P. L. Linjse	2013	Edys S. Quellmalz Michael J. Timms Matt D. Silberglitt Barbara C. Buckley
1982	Robert G. Good* Harold J. Fletcher* F. David Boulanger	1998	Julie Bianchini	2014	Joseph Taylor Susan Kowalski Christopher Wilson Stephen Getty Janet Carlson
1983	Jack A. Easley, Jr.	1999	Phillip M. Sadler	2015	Matthew Kloser
1984	Marcia C. Linn Cathy Clement Stephen Pulos	2000	Allan G. Harrison J. Grayson David F. Treagust		
1985	Julie P. Sanford	2001	Fouad Abd-El-Khalick Norman G. Lederman		
1986	Anton E. Lawson	2002	Andrew Gibert Randy Yerrick		
1987	Russell H. Yeany Kueh Chin Yap Michael J. Padilla	2003	Sofia Kesidou Jo Ellen Roseman		
1988	Kenneth G. Tobin James J. Gallagher	2004	Jonathan Osborne Sue Collins Mary Ratcliffe Robin Millar Richard Duschl		
1988	Robert D. Sherwood* Charles K. Kinzer* John D. Bransford* Jeffrey J. Franks* Anton E. Lawson*	2005	Jonathan Osborne Sibel Erduran Shirley Simon		
1989	Glen S. Aikenhead				

*Tie



NARST Award Recipients

The NARST Outstanding Paper Award

The NARST Outstanding Paper Award was awarded annually for the paper or research report presented at the NARST Annual International Conference that was judged to have the greatest significance and potential in the field of science education. It was awarded annually between 1975 and 2015.

Year	Awardee(s)	Year	Awardee(s)	Year	Awardee(s)
1975	John J. Koran	1988	Barry J. Fraser Kenneth G. Tobin	2003	Wolff-Michael Roth
1976	Anton E. Lawson	1989	James J. Gallagher Armando Contreras	2004	Joanne K. Olson* Sharon J. Lynch* Joel Kuipers Curtis Pyke Michael Szesze
1977	NO AWARD	1990	Patricia L. Hauslein Ronald G. Good Catherine Cummins	2005	Chi-Yan Tsui David Treagust
1978	Rita Peterson	1991	Nancy R. Romance Michael Vitale	2006	Leema Kuhn Brian Reiser
1979	Linda R. DeTure	1992	Patricia Heller Ronald Keith Scott Anderson	2007	Eugene L. Chiappetta Tirupalavanam G. Ganesh Young H. Lee Marianne C. Phillips
1980	M. James Kozlow Arthur L. White	1993	Wolff-Michael Roth	2008	Guy Ashkenazi Lana Tockus-Rappoport
1981	William Capie Kenneth G. Tobin Margaret Boswell	1994	Wolff-Michael Roth Michael Bowen	2009	Jrene Rahm
1982	F. Gerald Dillashaw James R. Okey	1995	Wolff-Michael Roth	2010	Mark W. Winslow John R. Staver Lawrence C. Sharmann
1983	William C. Kyle, Jr. James A. Shymansky Jennifer Alport	1996	Nancy J. Allen	2011	Matthew Kloser
1984	Darrell L. Fisher Barry J. Fraser	1997	NO AWARD	2012	Shelly R. Rodriguez Julie Gess-Newsome
1985	Hanna J. Arzi* Ruth Ben-Zvi* Uri Ganiel* Russell H. Yeany Kueh Chin Yap Michael J. Padilla	1998	Wolff-Michael Roth Reinders Duit Michael Komorek Jens Wilbers	2013	Edward G. Lyon
1986	Barry J. Fraser* Herbert J. Walberg* Wayne W. Welch*	1999	Lynn A. Bryan	2014	Ying-Chih Chen Soonhye Park Brian Hand
1987	Robert D. Sherwood	2000	Joseph L. Hoffman Joseph S. Krajcik	2015	Lori M. Ihrig Michael P. Clough Joanne K. Olson
		2001	Allan G. Harrison		
		2002	Carolyn Wallace Keys Eun-Mi Yang Brian Hand Liesl Hohenshell		

*Tie

Research Worth Reading Awards (RWR)

Year	Awardee(s)	Year	Awardee(s)
2026	Jessica L. Alzen, Jason Y. Buell, Kelsey Edwards, Brian J. Reiser, Cynthia Passmore, Bill Penuel, Chris D. Griesemer, Yang Zhang Characterizing variations in the figured worlds of teachers and students in science class	2026	Regina McCurdy The science relevancy bridge: Connecting intersectionality and science identity in science learning experiences
		2026	Daniel Pimentel Learning to evaluate sources of science (mis) information on the internet: Assessing students' scientific online reasoning



NARST Award Recipients

Outstanding Masters Thesis Award

This award was established in 1995 to be given annually for the Master's Thesis judged to have the greatest significance in the field of science education. It was last awarded in 2002.

Year	Awardee	Major Professor	Advisor
1995	Moreen K. Travis	Carol L. Stuessy	
1996	Lawrence T. Escalada	Dean A. Zollman	
1997	C. Theresa Forsythe	Jeffrey W. Bloom	
1998	Renee D. Boyce		Glenn Clark
1999	Andrew Gilbert		Randy K. Yerrick
2000	Rola Fouad Khishfe		Fouad Abd-El-Khalick
2002	Laura Elizabeth Slocum		Marcy Hamby Towns

Classroom Applications Award

The Classroom Applications Award was established in 1979. The award was given annually to authors whose papers were presented at the previous NARST Annual International Conference and judged to be outstanding in terms of emphasizing classroom application of research in science education. The award was last presented in 1991.

Year	Awardee(s)				
1980	Livingston S. Schneider John W. Renner	1982 <i>Four Equal Awards</i>	Louise L. Gann Seymour Fowler	1986 <i>Four Equal Awards</i>	Sarath Chandran David F. Treagust Kenneth G. Tobin
	Heidi Kass Allan Griffiths		Dorothy L. Gabel Robert D. Sherwood		Darrell L. Fisher Barry J. Fraser
	Ramona Saunders Russell H. Yeany		Thomas L. Russell		Dorothy L. Gabel Stanley L. Helgeson Joseph D. Novak John Butzow V. K. Samuel
	Joe Long James R. Okey Russell H. Yeany		Joseph C. Cotham		Linda Cronin Meghan Tweist Michael J. Padilla
	M. James Kozlow Arthur L. White	1983 <i>Three Equal Awards</i>	Robert D. Sherwood Larry G. Enochs Dorothy L. Gabel	1987 <i>Four Equal Awards</i>	Dorothy L. Gabel V. K. Samuel Stanley L. Helgeson Saundra McGuire Joseph D. Novak John Butzow
1981	Dorothy L. Gabel Robert D. Sherwood Larry G. Enochs		Mary Westerback Clemencia Gonzales Louis H. Primavera		Uri Zoller Ben Chaim
	Wayne Welch Ronald D. Anderson Harold Pratt		Kenneth G. Tobin Hanna J. Arzi Ruth Ben-Zvi Uri Ganiel		James D. Ellis Paul J. Kuerbis
	Mary Ellen Quinn Carolyn Kessler	1984 <i>Three Equal Awards</i>	Charles Porter Russell H. Yeany	1988 <i>Four Equal Awards</i>	Dale R. Baker Michael D. Piburn Dale S. Niederhauser
	P. Ann Miller Russell H. Yeany		Dan L. McKenzie Michael J. Padilla		David F. Jackson Billie Jean Edwards Carl F. Berger
			Margaret Walkosz Russell H. Yeany		
			Kevin C. Wise James R. Okey		

NARST Standing Committees

Awards Committee	
Final Year	Board Liaison
2028	Shari Watkins American University
Outstanding Doctoral Research Award	
Final Year	Committee Leadership
2026	Dina Tsybulsky (Chair) Technion, Israel
2027	Julianne Wenner (Incoming Chair) Clemson University
Members	
2026	Mindy Chappell University of Illinois Urbana-Champaign
2026	Mary Short George Washington University
2026	Stephanie Batres Spezza University of Illinois - Chicago
2026	David Stroupe Michigan State University
2026	Noemi Waight University at Buffalo
2027	Tamar Fuhrmann Teachers College/Columbia University
2028	Neha Anand Midway University
2028	Shannon Davidson University of Alabama
2028	Ayça K. Fackler University of Missouri
2028	Symone Gyles University of California, Irvine
2028	Lama Jaber Florida State University
2028	Li Ke University of Washington
2028	Shelley Rap Weizmann Institute of Science
2028	Tammie Visintainer San Jose State University

Early Career Research Award	
Final Year	Committee Leadership
2026	Uchenna Emenaha (Chair) The University of Texas at San Antonio
2027	Meg Blanchard (Incoming Chair) North Carolina State University
Members	
2026	Juan Diaz Mount Aloysius College
2026	Katherine Doerr Mount Aloysius College
2027	Elizabeth (Betsy) Davis University of Michigan
2027	Gary William Wright University of Missouri
2027	Hyesun You University of Iowa
2028	Rowhea Elmesky University of Washington in St. Louis
2028	Preeti Gupta Member AMNH
2028	Daniel Morales-Doyle University of Illinois Chicago
2028	Wardell A. Powell Framingham State University
2028	Neta Shaby University of Southampton

NARST Standing Committees

Awards Committee (cont.)	
Distinguished Contributions to Science Education Through Research	
Final Year	Committee Leadership
2026	Saouma BouJaoude (Chair) American University of Beirut, Lebanon
2027	Okhee Lee (Incoming-Chair) New York University
Members	
2026	Carla Johnson NC State University
2026	Gail Jones NC State University
2027	Ron E. Gray Northern Arizona University
2028	Angela Calabrese Barton University of Michigan
2028	Pei-Ling Hsu University of Texas at El Paso
2028	Jenny Martin Australian Catholic University
2028	Bhaskar Upadhyay University of Minnesota
NARST Fellow Award	
Final Year	Committee Leadership
2026	Lezly Taylor (Chair) Virginia Polytechnic Institute and State University
2027	Helena Aptyka (Incoming-Chair) University of Cologne, Germany
Members	
2026	Flavia Kigozi University of Witwatersrand, South Africa
2026	Laura B. Schneider St. Mary's College of Maryland, OpenSciEd
2027	Ron E. Gray Northern Arizona University
2028	Elizabeth Edmondson Virginia Commonwealth University
2028	Katherine McNeill Boston College

Elections Committee	
Final Year	Committee Leadership
2026	Nazan U. Bautista (Immediate Past Chair) Miami University
2027	Muhammad Abd Hadi Bunyamin (Chair) Universiti Teknologi Malaysia
2028	Preethi Titu (Incoming-Chair) Kennesaw State University
Members	
2026	Angela Chapman University of Texas Rio Grande Valley
2026	Susie M. Cohen Trinity International University
2026	Tim Klavon Black Hills State University
2027	Jonah B. Firestone Washington State University
2027	Samuel Severance Northern Arizona University
2028	Meredith Bittel University of Kansas
2028	Sonya Martin Seoul National University
Board Member Liaison	
2027	Heba EL-Deghaidy American University in Cairo

NARST Standing Committees

Equity and Ethics Committee	
Final Year	Committee Leadership
2026	Regina McCurdy (Immediate Past Chair) University of North Carolina at Charlotte
2027	Iliana Esther De La Cruz (Chair) Texas A&M University
2028	Maria R. Maulucci (Incoming-Chair) Barnard College
Members	
2026	Laura Peña-Telfer Georgia State University
2027	Bolaji Bamidele Utah State University
2027	Devasmita (Deva) Chakraverty Indian Institute of Management Ahmedabad
2027	Dominick Fantacone SUNY Cortland Director of Research and Sponsored Programs
2027	Khanh Q. Tran Purdue University
2028	Ashley Easley University of Michigan, Ann Arbor
2028	Monica Miles Member University of Buffalo
2028	Ali Muller Rowan University
2028	Greses Perez Tufts University
Board Member Liaison	
2028	Terrell Morton University of Illinois Chicago

Membership Committee	
Final Year	Committee Leadership
2026	Joi Merritt (Chair) James Madison University
2028	Theila Smith (Incoming-Chair) NYC Department of Education
Members	
2026	Jonathan Bowers Michigan State University
2026	Alyssa Freeman Middle Tennessee State University
2026	Grant Gardner Middle Tennessee State University
2027	Ilayda Kilic Kocaeli University, Turkey
2027	Khadija Zogheib Florida State University
2028	Rebekah Hammack Purdue University
2028	Shulamit Kaponâ Technion Israel Institute of Technology
2028	Jonathan Mccausland Ioana University
2028	Johan Noel Tabora Northwestern University
Board Liaison	
2026	Selcen Guzey Purdue University

NARST Standing Committees

Graduate Student Committee

The Graduate Student Committee is composed of graduate student members appointed by the President-elect. The committee is chaired by the Graduate Student Representative, a non-voting (ex-officio) liaison to the NARST Board. A Board Director is appointed to serve as an ex officio advisor to the committee.

Final Year	Committee Leadership
2026	Xin Xia (Co-Chair) University of Virginia
2027	Arya Karumanthra (Co-Chair) Indiana University
Members	
2026	Austin R. Jenkins Purdue University
2026	Muhammad Guntur Purwanto (Guntur) University of Minnesota
2026	Kristal Louise Turner University of Calgary, Canada
2027	Selvet Ece Genek The Ohio State University
2027	Dilara Goren Bogazici University, Turkey
2027	Wei-Ting Li National Sun Yat-sen University, Taiwan
2027	Souhaila Nassar Boston University
2027	George Schafer Drexel University
2027	Stephanie Tracey Clemson University
Board Member Liaison	
2026	Collins Moga University of Mass Dartmouth

International Committee

Final Year	Committee Leadership
2026	Arif Rachmatullah (Co-Chair) SRI International
2027	Sahar Alameh (Co-Chair) University of Kentucky
Members	
2026	Estelle Blanquet University of Bordeaux - France
2026	Christelle Fayad Texas Christian University
2027	Shirly Avargil Technion Junior Faculty, Israel
2027	María Helena Salas Cossio Universidad Alberto Hurtado
2027	Keren Dalyot Weizmann Institute of Science, Israel
2027	Tim Hartelt University of Kassel
2027	Argyris Nipyrakis University of Crete, Greece
2027	Giulia Tasquier University of Bologna, Italy
2028	Keren Dalyot Weizmann Institute of Science, Israel
Board Member Liaison	
2026	Sara Salloum Ohio University

NARST Standing Committees

Program Committee	
Final Year	Committee Leadership
2027	Jennifer D. Adams (Co-Chair) University of Calgary, Canada
2028	Maria Varelas (Co-Chair) University of Illinois Chicago
Continuing	Mackenzie Kelley NARST Executive Director
Members	
2026	Rouhollah Aghasaleh Polytechnic University, Humboldt
2026	Rachel van Aswegen University of Virginia
2026	Selina Lynn Bartels Valparaiso University
2026	Julie C. Brown University of Florida
2026	Sanlyn Buxner University of Arizona
2026	Mila Rosa Librea Garden University of North Texas
2026	Robbie L. Higdon James Madison University
2026	TingTing Li Michigan State University
2026	Stefanie L. Marshall Michigan State University
2026	Kelli Paul Indiana University
2026	Quentin Sedlacek Southern Methodist University
2026	Anita Schuchardt University of Minnesota

2026	Jill Wertheim WestEd
2026	Moyu (Molly) Zhang New York University
2027	Xornam Apedoe University of San Francisco
2027	Christine Bernhardt University of Maryland
2027	Jason Buell Northwestern University
2027	Sanlyn Buxner University of Arizona
2027	Uma Ganesan University of Texas Rio Grande Valley
2027	Christa Haverly Chicago Public Schools
2027	Erdogan Kaya The University of Texas at Arlington
2027	Kathryn Lanouette William & Mary School of Education
2027	Wonyong Park University of Southampton
2027	Takeshia Pierre Tufts University
2027	Elizabeth Xeng de los Santos CA Commission on Teacher Credentialing
2027	Ryan Summers University of North Dakota
2027	Hong H. Tran Purdue University
2027	Moyu (Molly) Zhang New York University

NARST Standing Committees

Professional Learning and Institutes Committee	
Committee Leadership	
2026	Amelia W Gotwals (Immediate Past-Chair) Michigan State University
2027	David Owens (Chair) Alabama School of Fine Arts
2028	Stephen B. Witzig (Incoming-Chair) University of Massachusetts Dartmouth
Members	
	Maram Al Aqra Sharajh Educational Academy
	Courtney Benal University of South Carolina
	Shondricka Burrell Morgan State University
	Kason Cheung Ka Ching The Education University of Hong Kong
	Cole Hatchard STEM Innovation Academy High School
	Jing LIN Beijing Normal University
	Vanessa Louis Marsal Family School of Education University of Michigan
	Justin McFadden University of Louisville
	Sara Wilmes Member Univ. of Luxemburg

	Alexander Paulchell-Lehan University of Arizona
	Fredyrose Ivan Pinar De La Salle Medical and Health Sciences Institute
	Swagata Sarkar Purdue University
	Cheyenne Woods California State University, Fresno
	Ella Yonai University of Georgia
	Yang Zhang Northwestern University
	Bo Zhu, Ph.D American Institute for Research
Board Liaison	
2026	Shiang-Yao Liu National Taiwan Normal University

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NARST is able to continue its mission because of your support and generosity. By contributing, you'll help ensure that our work continues. We welcome donations of all sizes and payment plans – whether it's a one-time gift, a monthly contribution or part of a matching gifts program.

<https://members.narst.org/donations/>



New to NARST, Pearls With Purpose invites you to Look Good, Feel Good, and Make Your Difference by supporting women rescued in developing countries. Genuine pearls, larimar, crystals, and gemstones from nine developing countries. 64% goes back to the artisans.

NARST Standing Committees

Research Committee	
Final Year	Committee Leadership
2026	Bryan H. Nichols (Immediate Past-Chair) Florida Atlantic University
2027	Colby Tofel-Grehl (Chair) Utah State University
2028	Alexander Bohn (Incoming-Chair) Northern Virginia Community College
Members	
2026	Michael Giamellaro Oregon State University
2026	Cesar Delgado North Carolina State University
2026	Mina Sedaghatjou Rowan University
2026	Carrie-Anne Sherwood Southern Connecticut State University
2027	Beth A. Covitt University of Montana
2027	Alexander Bohn Northern Virginia Community College
2027	Saramma Chandy Mumbai University
2028	Yurdagül Bogar Hakkari University
2028	Melissa Mendenhall Utah Valley State
2028	Maiza de Albuquerque Trigo University of Luxembourg
2028	Karen Woodruff Kean University
2028	Ezgi Yesilyurt, Ph.D. Weber University
Board Liaison	
2026	Meredith Park Rogers Indiana University

Scholarships Committee	
Final Year	Committee Leadership
2026	Jennifer Bateman (Immediate Past-Chair) Georgia Southern University
2027	Jomo Mutegi (Chair) Old Dominion University
Members	
2026	Christina Baze Northern Arizona University
2027	Julie Bianchini University of California, Santa Barbara
2027	Nivedh Jayanth Purdue University
2027	Marcus Kubsch Freie Universität Berlin
2027	Clara Mabour Tufts University
2027	Alexis Markavage Indiana University
2027	James Minogue NC State University
2027	Hopegay Williams University of West Indies, Mona
2028	Jonathan M. Barcelo Saint Louis University (Philippines)
2028	Danielle Malone Purdue University
2028	Jonathan Mccausland Iona University
2028	Peter Oyewole Kent State University
2028	Adepeju Prince Kent State University
2028	Senay Purzer Purdue University
2028	Rona Robinson-Hill Ball State University
2028	Jorge Solís University of Texas at San Antonio
Board Liaison	
2027	Kristin Guncel University of Arizona

NARST Standing Committees

Social Media, Website and Communications Committee

Final Year	Committee Leadership
2026	Gary Weiser (Immediate Past-Chair) Bill and Melinda Gates Foundation
2027	Stephanie Teeter (Chair) North Carolina State University
2028	Suzanne Poole Patzlelt (Incoming-Chair) Touro University, New Jersey
Members	
2026	Linsey Brennan Michigan State University
2026	Marti Canipe Northern Arizona University
2026	Steven Worker University of California, Agriculture and Natural Resources

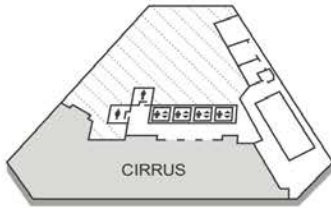
2027	Katerina Pia Gunter San Francisco State University
2027	Olayinka Mohorn University of Memphis
2027	Christina Schwarz Michigan State University
2028	Tyler Harper-Gampp North Carolina State University
2028	Ryan Summers University of North Dakota
2028	Carol C. Waters University of Houston-Clear Lake
Board Member Liaison	
2026	Patrick Enderle Georgia State University

Future NARST Meeting Dates

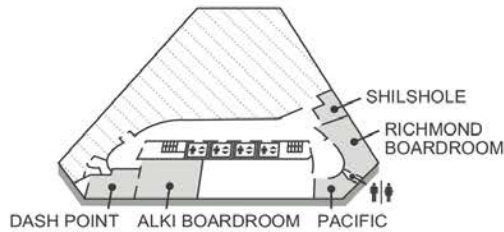
2027	March 14 - 17	Boston, MA
2028	March 19 - 22	Montreal, CA

Floor Plans and Capacity Charts

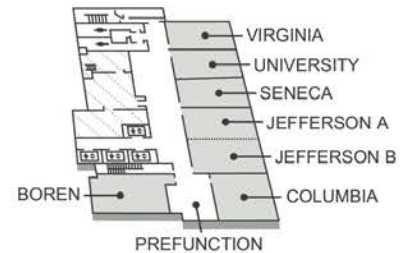
35th Floor – Pike Street Tower



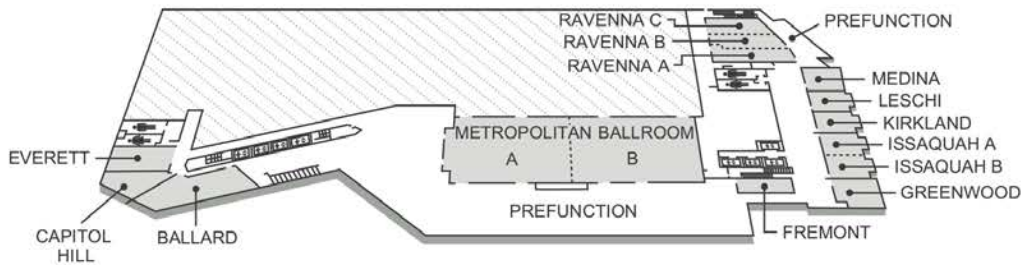
Fourth Floor – Pike Street Tower



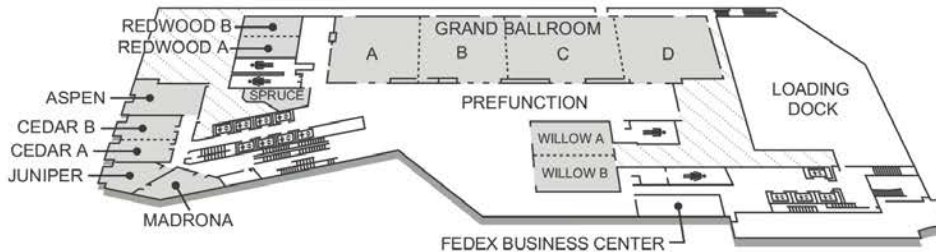
Fourth Floor – Union Street Tower



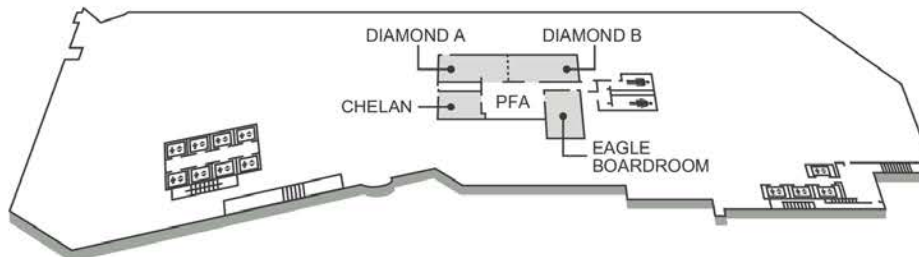
Third Floor



Second Floor



First Floor – Lobby Level

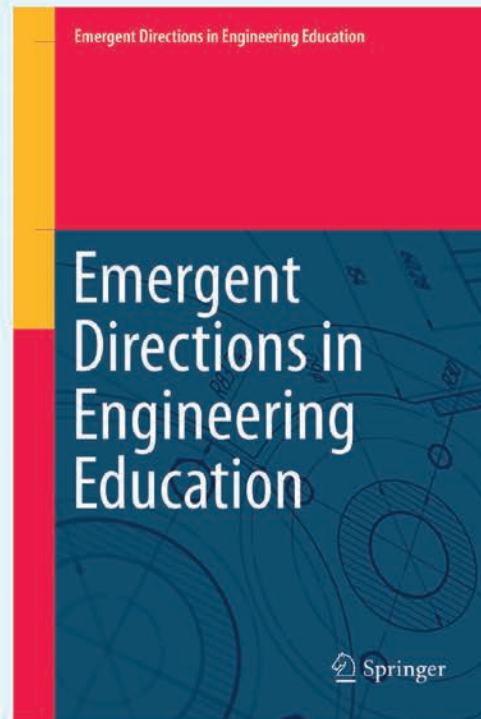


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Kent J. Crippen



Series Editor:
Jeffrey Buckley



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NARST Conference and Virtual Events Accessibility Guidelines for Presenters

Slide Deck Presentations

(Adapted from AERA, AAAS, and the American Anthropological Association)

Design & Readability

- Use high-contrast text on solid backgrounds
- Use sans-serif fonts (minimum 18 pt)
- Keep slides clean and uncluttered
- Limit to ≤5 bullet points per slide
- Keep bullet points short (ideally one line)

Presentation Practices

- Read all text directly as presented on slides before expanding
- Clearly describe all visuals, including:
 - Images
 - Graphs & charts
 - Maps
 - Videos
- Provide context and meaning, not just description

Multimedia & Accessibility

- Use closed captions when spoken language is essential
- Provide audio description OR pause to explain visuals
- **Note:** ASL interpreters do not translate video content

Accessibility Check

Run an accessibility check to ensure:

- Proper color contrast
- Logical reading order (title → text → visuals)
- Alt text for all images
- Accessible tables

Poster Presentations

(Adapted from Yale Library Accessibility Guidelines)

Color & Visual Design

- Ensure strong contrast between text and background
- Do NOT rely on color alone to convey meaning → Use patterns, labels, or textures
- Avoid red/green-only distinctions (colorblind accessibility)

Typography

- Use sans-serif fonts
- Recommended sizes:
 - Title: 72 pt+ (ideal 158 pt)
 - Headings: 42 pt+ (ideal 56 pt)
 - Body: 24 pt+ (ideal 36 pt)
 - Captions: 18 pt+ (ideal 24 pt)

Layout & Organization

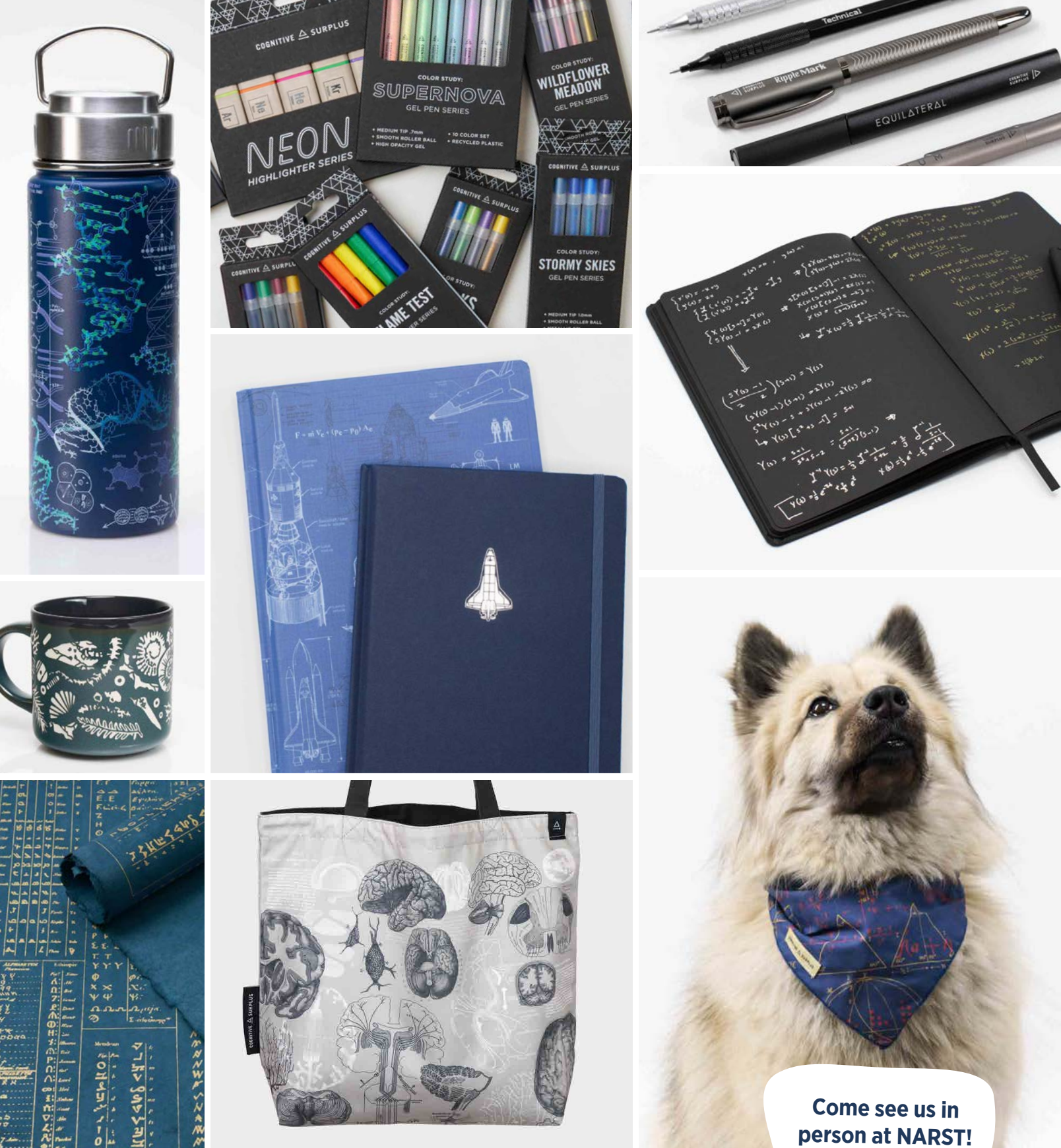
- Use spacing (negative space) to create structure
- Group related content clearly
- Guide readers using:
 - Numbering
 - Arrows
 - Clear section flow

Cultural & Navigation Considerations

- Be mindful of different reading directions
- Use visual cues to support navigation across audiences

Digital & Shared Posters

- Use built-in accessibility features (PowerPoint, Word, etc.)
- Ensure correct reading order:
 - PowerPoint: *Arrange* → *Selection Pane*
- Add alt text to all visuals
- Use “Save as Adobe PDF” (NOT “Print to PDF”) to preserve accessibility
- Use document styles for screen reader compatibility



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NARST 2027 Conference Theme

Prepared by Maria Varelas, NARST President-Elect

Braiding Pasts, Presents, and Futures: Crossing Borders in Performing Science Education Research

NARST is turning 100 years old! As our association is reaching its centennial milestone, we are all called to reflect, to act, and to imagine the future of science education and science education research. This invites us to rekindle commitments to diversity of people, scholarship, communities, approaches, and journeys that constitute our collective pursuit of strengthening science literacy. It is a time to celebrate our varied histories, trajectories, identities, languages, geographies, and ways of being and engaging in the world, learn from the past, and envision spaces and places where science education transforms lives.

The Akan people's 'sankofa,' the Greeks' 'anamnisi,' the Māori people's 'ka mua, ka muri,' the Jewish people's 'l'dor v'dor,' the Arab culture's 'irji' lita'khudh al-hikma,' Latin America's 'rescate de la memoria movements,' and ample other cultural wisdom inspire us to reach back to construct what we may have forgotten, silenced, lost, missed, and achieved. These ways of remembering illuminate our present praxis and craft the promise of imagined new futures. Considering science education as practices that can empower life and liberty for all peoples compels us to embrace expansive views of how knowledge is produced, valued, and used. It challenges us to disrupt hierarchies that constrain access and transformation and to uphold the axiom that high-quality science education is a human right. The Greek song O Thromos / The Street—"The street had its own history; Someone wrote it with paint on

the wall; It was only one word, 'freedom'; And then they said children wrote it"—invigorates for me this calling. It inspires interrogating our pasts, learning from children, youth, adults, and elders with whom we live, work, teach, and study, and pondering how science education scholarship contributes to vibrant communities, to freedom in all its forms, and to hope for humanity.

At the NARST centennial conference, let us ponder about knowledges and identities, share wide-ranging scholarship, elevate varied voices, grapple with challenges and opportunities, and leverage the arts as a way of knowing and being. Let us engage with realities while problem posing and problem solving, support one another through mentorship, learn from each other, and consider critical love in our research and in our interactions to re-collect and re-cognize. Science education and the research pursued by NARST members have shaped, and been shaped by, who we have been, who we are becoming, and who we will be as an association entering its second century. It is my hope that the 2027 centennial conference creates places and spaces for our growing, diverse, global community to perform collaboration, mutual learning, the wisdom of many, and border crossing in topics, framings, methods, and presentation formats. In doing so, we can amplify goals and aspirations of science education scholarship and practice that strive toward transformation.

Science education and the research pursued by NARST members have shaped, and been shaped by, who we have been, who we are becoming, and who we will be as an association entering its second century.

- Maria Varelas, NARST President



NARST

A global organization for improving
science education through research

100th NARST Annual International Conference

Boston, MA | March 14-17, 2027



*Braiding Pasts, Presents, and Futures:
Crossing Borders in Performing Science Education Research*



Virtual Conference Day 9 April 2026

Majd Zouda*, University of Toronto,
Canada

Strand 11 Stand-alone Paper Set 1

**Strand 1: Science Learning: Development
of student understanding**

9-Apr-26, 8:30-10:00

Location: Zoom 1

Stand-Alone Paper

*Uncovering the effect of drawing and
self-explanation strategies on learning
outcomes in science education*

shuwen yu*, beijing normal university,
China

manman Tian, Zhuhai Wanzai Primary
school, China

sihui zhu, beijing normal university, China

Stand-Alone Paper

*Mapping Systems Thinking
Pedagogies in Social Science
Education: Implications for Science
Teaching and Learning*

Roe Peretz*, The Technion, Israel

Stand-Alone Paper

*Challenging Marginalization:
Intersectional Counter-narratives of
Undergraduate Minoritized Women in
Engineering*

Nicola Law*, Teachers College, Columbia
University, USA

Felicia Mensah, Teachers College,
Columbia University, USA

Stand-Alone Paper

*Relationships to STEM Knowledge in
an Elite School*

Stand-Alone Paper

*Fostering Young Women's Physics
Identity: Longitudinal Analysis of an
Inquiry-Based Intervention Program
on Climate Physics*

Paula Becker*, Heidelberg University of
Education, Germany

Peter Wulff, Ludwigsburg University of
Education, Germany

Multi-Strand (1/2/3) Stand-alone Paper Set

9-Apr-26, 8:30-10:00

Location: Zoom 2

**Strand 1: Science Learning: Development
of student understanding**

Stand-Alone Paper

*The impacts of media-multitasking on
the use of reading strategies and
effects in science reading*

Yajing Gu*, BNU, China

Lei Huang, CCNU, China

**Strand 1: Science Learning: Development
of student understanding**

Stand-Alone Paper

*Tipping the Balance: Sources of
Confusion in Understanding Dynamic
Equilibrium*

Tamara Dawud*, University of Haifa, Israel
Sebahat Gok, Northwestern University,
USA

Sharona T. Levy, University of Haifa, Israel
Uri Wilensky, Northwestern University,
USA

Strand 1: Science Learning: Development of student understanding

Stand-Alone Paper

Development and Application of Electric Circuit Models in Electric Vehicle Design

Cynthia Lima*, The University of Texas at San Antonio, USA

Jorge Solis, The University of Texas at San Antonio, USA

Nikolaos Gatsis, The University of Texas at San Antonio, USA

Strand 2: Science Learning: Contexts, Characteristics and Interactions

Stand-Alone Paper

“Be Humane”: Care Shaping Epistemic Negotiations in Scientific Experimental Design

Wenya Yang*, Ruixiang Experimental School, China

Wanjun Ding, Ruixiang Experimental School, China

Kangni Chen, Ruixiang Experimental School, China

Hua Hu, East China Normal University, China

Strand 3: Science Teaching — Primary School (Grades preK-6): Characteristics and Strategies

Stand-Alone Paper

Unpacking Modeling-Based Learning in Kindergarten: A Micro-Level Discourse Analysis

Loucas Louca*, European University Cyprus, Cyprus

Strand 12 Stand-alone Paper Set

Strand 12: Technology for Teaching, Learning, and Research

9-Apr-26, 8:30-10:00

Location: Zoom 3

Stand-Alone Paper

Differences in Teachers' Artificial Intelligence Behavioral Intentions: A Comparative Study of Vietnam and Taiwan

Xuan-Cuong Trinh*, National Dong Hwa University, Taiwan

Shih-Wen Chen, National Dong Hwa University, Taiwan

Xuyen Nguyen Thi My, National Dong Hwa University, Taiwan

Stand-Alone Paper

An Open versus Commercial Digital Biology Textbook: Student Performance, Access, Use and Textbook Purchasing Trends

Christine Schlendorf*, Farmingdale State College, USA

Janaiah Hipps, Farmingdale State College, USA

Denise Lopez, Farmingdale State College, USA

Stand-Alone Paper

Enhancing High School Students' Self-Regulation with an AI-supported Engineering Design Process

Esen Uzuntiryaki Kondakci, Middle East Technical University, Turkey

Irem Incecay, Middle East Technical University, Turkey

Elif Yilmazoglu, Middle East Technical University, Turkey

Selcuk Kilinc*, Texas A&M University, USA

Stand-Alone Paper

When AI is Involved: An Exploratory Study of Pre-service Teachers Planning Science Lessons with ChatGPT

Xinyu He, University of Georgia, USA

Emily Adah Miller, University of Georgia, USA

Tingting Li, Washington State University, USA

Multi-Strand (14/12) Stand-alone Paper Set

9-Apr-26, 8:30-10:00

Location: Zoom 4

Strand 12: Technology for Teaching, Learning, and Research

Stand-Alone Paper

Core Competencies of Teachers in the Age of AI: Teacher as Designer in Science Education

Taesoo An*, Seoul National University, Korea, Republic of

Sonya Martin*, Seoul National University, Korea, Republic of

Strand 12: Technology for Teaching, Learning, and Research

Stand-Alone Paper

Should We Use Artificial Intelligence for Science Learning Assessment?

Eunbyul Cho*, Seoul National University, Korea, Republic of

Sonya Martin*, Seoul National University, Korea, Republic of

Strand 14: Environmental Education and Sustainability

Stand-Alone Paper

Youth Disorientation in Times of Climate Crises: A Three-Lenses Framework for Agency

Giulia Tasquier*, University of Bologna, Italy

Francesca Pongiglione, University Vita-Salute San Raffaele, Italy

Elena Ricci, University of Verona, Italy

Strand 14: Environmental Education and Sustainability

Stand-Alone Paper

Clicking Toward Climate Justice: Reimagining Digital Platforms for Collective Action

Andrea Weinberg*, Arizona State University, USA

Michelle Jordan*, Arizona State University, USA

Victoria Desimoni, Arizona State University, USA

Iveta Silova, Arizona State University, USA

Rajul Pandya, Arizona State University, USA

Strand 14: Environmental Education and Sustainability

Stand-Alone Paper

Through different eyes: Intuitive and cultural worldviews as predictors of learning in a climate exhibit

Indiana Plant*, University of Utah, USA

Catie Nielson, University of Nevada, Las Vegas, USA

Jordan Giron, University of Utah, USA

Lynne Zummo, University of Utah, USA

**Multi-Strand Poster Session
(breakout rooms)**

9-Apr-26, 10:30-12:00

Location: Zoom 1

**Strand 2: Science Learning: Contexts,
Characteristics and Interactions
Poster**

*Making Space for Science: How a
STEM Makerspace Shapes Elementary
Students' Science Attitudes.*

Anthony Timpano*, Curtin University,
Australia

Rachel Sheffield, Curtin University,
Australia

Rekha Koul, Curtin University, Australia

**Strand 2: Science Learning: Contexts,
Characteristics and Interactions
Poster**

*Characterizing the Ecological Factors
Influencing First-Year STEM College
Students' Engagement*

Uche Osuji*, Georgia State University, USA

Suazette Mooring, Georgia State
University, USA

Ciara Glover, Georgia State University, USA

**Strand 2: Science Learning: Contexts,
Characteristics and Interactions
Poster**

*Scoping Citizen Science for formal
science education connection-making*

Erin Sperling, Wilfrid Laurier University,
Canada

C. Michael Bowen*, Mount Saint Vincent
University, Canada

**Strand 7: Pre-service Science Teacher
Education
Poster**

*Design-Based Research for Fostering
Criticality Through a One Health
Perspective: A Microbiota-Focused
Learning Sequence*

Irene González-Costa*, Universidade De
Santiago de Compostela, Spain

Blanca Puig, Universidade De Santiago de
Compostela, Spain

Paloma Blanco-Anaya, Universidade De
Santiago de Compostela, Spain

**Strand 7: Pre-service Science Teacher
Education
Poster**

*Development of MORE-Link schema
and its validation in enhancing pre-
service chemistry teachers' scientific
information reasoning*

Like Deng*, the Faculty of Artificial
Intelligence in Education, Central China
Normal University, China

**Strand 8: In-service Science Teacher
Education
Poster**

*Examining the impact of teachers'
beliefs about student ability to their
changes in practice*

Andrea Phillips*, Utah Valley University,
USA

Meredith Park Rogers, Indiana University,
USA

Strand 8: In-service Science Teacher Education

Poster

When students' literacy proficiency frames the negotiation of care ethics in planning for science education

Rafael Lopes*, USP, Brazil

Daniela Scarpa, USP, Brazil

Danusa Munfurd, UFABC, Brazil

Strand 10: Curriculum and Assessment

Poster

Do instructors' learning assessment practices align with the course's expected learning outcomes?

Hong Tran*, Virginia Tech, USA

Edward Berger, Virginia Tech, USA

Anyerson Cuervo-Basurto, Virginia Tech, USA

Strand 12: Technology for Teaching, Learning, and Research

Poster

Transitioning Cognitive Acceleration through Science Education to Digital: Exploring Alternatives to Experimental Tools

Mourad El Karkri*, University of Jaén, Spain

Marta Romero-Ariza, University of Jaén, Spain

Antonio Quesada, University of Jaén, Spain

Israel Díaz-Santibañez, University of Jaén, Spain

Strand 12: Technology for Teaching, Learning, and Research

Poster

Empowering Equity in STEM: A Research-Based Robotics Camp for

Equity-Deserving Youth in Southwestern Ontario

David Potocek*, St. Clair College, Canada

Karamjeet Dhillon, St. Clair College, Canada

John Lopez, St. Clair College, Canada

Sonja Popovski, St. Clair College, Canada

Strand 12: Technology for Teaching, Learning, and Research

Poster

Evaluating AI Technology's Potential and Limitations in Formative Assessment for Elementary Science Projects

Irit Hof-Nahor*, Oranim Academic College, Israel

Strand 13: History, Philosophy, Sociology, and Nature of Science

Poster

Case Study of Preservice Teachers' NOS-Specific PCK in a History and Philosophy of Science Course

Connor Taylor*, Appalachian State University, USA

Nathan Rocheleau, Appalachian State University, USA

Khadija Fouad, Appalachian State University, USA

Strand 13: History, Philosophy, Sociology, and Nature of Science

Poster

Integrating Drama into Family Resemblance Approach-Based NOS Teaching: Insights from Pre-service Teachers

Demet Sahin Kalyon*, Tokat Gaziosmanpasa University, Turkey

Zoubeida R. Dagher, University of Delaware, USA

Strand 14: Environmental Education and Sustainability

Poster

Drama Practices in Science Education: A Review of Graduate Theses on Sustainable Development Goals

Sakine Çiftaslan*, Yıldız Technical University, Turkey

Bülent Güven, Canakkale Onsekiz Mart University, Turkey

Fatih Kana, Canakkale Onsekiz Mart University, Turkey

Strand 14: Environmental Education and Sustainability

Poster

Pre-service Teachers' Perspectives in Response to their Climate Emotions

Emily Olsen*, The Pennsylvania State University, USA

Aubrey Grzywacz, The Pennsylvania State University, USA

Julia Plummer, The Pennsylvania State University, USA

Multi-Strand Roundtable Discussions (breakout rooms)

9-Apr-26, 10:30-12:00

Location: Zoom 2

Strand 2: Science Learning: Contexts, Characteristics and Interactions
WIP Roundtable

Science Interest: Elementary and Middle School Science Experiences Inside and Outside the Classroom

Katherine Dabney*, Virginia Commonwealth University, USA

Gerhard Sonnert, Harvard-Smithsonian Center for Astrophysics, USA

Susan Sunbury, Harvard-Smithsonian Center for Astrophysics, USA

Philip Sadler, Harvard-Smithsonian Center for Astrophysics, USA

Strand 5: College Science Teaching and Learning (Grades 13-20)
Roundtable

Sustaining Academic Motivation Among Science Education Master's Students During the Pandemic: Perceptions and Adaptations

Nurcan SARIASLAN, Ministry of National Education, Turkey

Cansel Kadioglu Akbulut*, Tokat Gaziosmanpasa University, Turkey

Strand 11: Cultural, Social, and Gender Issues
WIP Roundtable

Parenting while pursuing STEM degrees in Higher education: experiences and institutional practices
Tirza Vargas Giron*, Southern Illinois University, USA

Strand 11: Cultural, Social, and Gender Issues
Roundtable

Photovoicing the affective journeys of women science teachers in Bangladeshi secondary schools
Shamnaz Arifin Mim*, McGill University, Canada

Strand 11: Cultural, Social, and Gender Issues

Roundtable

Underrecognized: Examining Underrepresented Physics, Astronomy, and Engineering Students' Perceived Recognition

Christy Metzger*, University of Delaware, USA

Strand 12: Technology for Teaching, Learning, and Research

Roundtable

Who Gives Better Feedback—Humans or AI? Integrating AI into Science Microteaching Feedback Cycles

Franklin Allaire*, University of Houston-Downtown, USA

Strand 13: History, Philosophy, Sociology, and Nature of Science

9-Apr-26, 10:30-12:00

Location: Zoom 2

Roundtable

The Nature of Science in Physics Education: Perspectives from Malaysian Secondary Teachers

Siti Hidayana Nassiri, Universiti Teknologi Malaysia, Malaysia

Muhammad Abd Hadi Bunyamin*, Universiti Teknologi Malaysia, Malaysia

Noorzana Khamis, Universiti Teknologi Malaysia, Malaysia

Multi-Strand (2/7) Stand-alone Paper Set

9-Apr-26, 10:30-12:00

Location: Zoom 3

Strand 7: Pre-service Science Teacher Education

Stand-Alone Paper

Mindset in Physics and AI Use Behaviors in the Digital Transformation Era

İpek Derman*, Hacettepe University, Turkey

Sevim Bezen, Hacettepe University, Turkey

Strand 12: Technology for Teaching, Learning, and Research

Stand-Alone Paper

From Tool to Teammate: Reimagining Student-AI Collaboration in Engineering Design-Based STEM

Selcuk Kilinc*, Texas A&M University, USA

Elif Yilmazoglu, Middle East Technical University, Turkey

İrem İncecay, Middle East Technical University, Turkey

Esen Uzuntiryaki Kondakci, Middle East Technical University, Turkey

Strand 12: Technology for Teaching, Learning, and Research

Stand-Alone Paper

Enhancing STEM Education with Generative AI: Insights from Students and a Teacher in Thailand

Parin Chawalit*, California State University, San Bernardino – MA in STEM Education (Class of 2025), USA

Xinying Yin*, California State University-San Bernardino, USA

**Strand 12: Technology for Teaching,
Learning, and Research**

Stand-Alone Paper

Generative AI as Science Tutors: Can LLMs Combine High-Level Problem Solving and Advanced Tutoring?

Paul Tschisgale*, Leibniz Institute for Science and Mathematics Education, Germany

Peter Wulff, Ludwigsburg University of Education, Germany

**Strand 12: Technology for Teaching,
Learning, and Research**

Stand-Alone Paper

A Friend, Instructor, Browser, Partner? Interaction Modes in Student–AI Science Learning Conversation

Carolina Sotério*, Teachers College, Columbia University, USA

Tamar Fuhrmann, Teachers College, Columbia University, USA

Jonathan Pang, Teachers College, Columbia University, USA

Paulo Blikstein, Teachers College, Columbia University, USA

Strand 5 Stand-alone Paper Set

Strand 5: College Science Teaching and Learning (Grades 13-20)

9-Apr-26, 10:30-12:00

Location: Zoom 4

Stand-Alone Paper

A Systematic Review of Theoretical and Conceptual Frameworks in STEM Education Research

Dhanya Attipetty*, University of Minnesota, USA

Anita Schuchardt, University of Minnesota, USA

Stand-Alone Paper

What does our curriculum allow for? Exploring the lived curriculum in science education

Shauna Schechtel*, Queen's University, Canada

Amanda Bongers, Queen's University, Canada

Stand-Alone Paper

Enhancing Conceptual Understanding with an AI Tutor: A Field Study in Undergraduate Physics

Tilman Steinmetz*, University of Tübingen, Germany

Burde Jan-Philipp, University of Tübingen, Germany

Peter Gerjets, The Leibniz-Institut für Wissensmedien, Germany

Stand-Alone Paper

Negotiating social and epistemic participation in undergraduate physics group work

Tom Reshef-Israeli*, Technion - Israel Institute of Technology, Israel

Shulamit Kapon, Technion - Israel Institute of Technology, Israel

Stand-Alone Paper

Active Learning Through Reflection Journals in Introductory Biology

Christel Whitehead*, University of Alabama Birmingham, USA

Peggy Biga, Texas State University, USA

Mary Ann Bodine Al-Sharif, University of Alabama Birmingham, USA

Multi-Strand (3/6/13) Stand-alone Paper Set

9-Apr-26, 12:30-14:00

Location: Zoom 1

Strand 3: Science Teaching — Primary School (Grades preK-6): Characteristics and Strategies

Stand-Alone Paper

Developmental Patterns in Early Childhood Scientific Thinking: Critical Inquiry, Hypothesis Testing, Analytical Interpretation and Metacognition

Elif OZTURK*, Giresun University, Turkey

Strand 6: Science Learning in Informal Contexts

Stand-Alone Paper

Impact of Personalized Narrative on Audience Engagement with Light Pollution Planetarium Show

Elise Abbott*, The Pennsylvania State University, USA

Julia Plummer, The Pennsylvania State University, USA

Christopher Palma, The Pennsylvania State University, USA

Hailey Bowers, The Pennsylvania State University, USA

Clinton Kellick, The Pennsylvania State University, USA

Thomas Gaudin, The Pennsylvania State University, USA

Strand 6: Science Learning in Informal Contexts

Stand-Alone Paper

Exploring the Impact of Facilitating Afterschool STEM Activities on College Students' Interest, Confidence, and Skills

Alexandria Hansen, California State University, Fresno, USA

Amaya De Vore*, California State University, Fresno, USA

Myunghwan Shin, California State University, Fresno, USA

Strand 13: History, Philosophy, Sociology, and Nature of Science Stand-Alone Paper

Mapping the landscape of stem and ssi integration: research trends and educational implications

Dilek Karışan*, aydin adnan menderes uni, Turkey

Dana Zeidler, university of south florida, USA

Strand 13: History, Philosophy, Sociology, and Nature of Science Stand-Alone Paper

Learning about Science by Doing Real Science: Fostering NOS Understanding through Citizen Science

Haya Ben Simon*, Technion, Israel

Leah Yifrach*, Technion, Israel

Dina Tsybulsky, Technion, Israel

Strand 4 Stand-alone Paper Set

Strand 4: Science Teaching — Middle and High School (Grades 5-12): Characteristics and Strategies

9-Apr-26, 12:30-14:00

Location: Zoom 2

Stand-Alone Paper

Improving Students' Conceptual Understanding of Cell Division and CT through Unplugged CT Science Module

Ceren Çem*, Yıldız Technical University,
Turkey

Mustafa Topçu, Yıldız Technical University,
Turkey

Stand-Alone Paper

*The Effects of Web 2.0-Supported
Argumentation on Students' Science
Achievement and Attitude toward
Technology*

Birsu Bozkurt*, Yıldız Technical University,
Turkey

Mustafa Topçu, Yıldız Technical University,
Turkey

Stand-Alone Paper

*Effect of Educational Digital Game-
Supported Science Lessons on Middle
School Students' Academic
Achievement in Science*

Sakine Çiftaslan*, Yıldız Technical
University, Turkey

Aslı Görgülü Arı, Yıldız Technical
University, Turkey

Strand 11 Stand-alone Paper Set 2

Strand 11: Cultural, Social, and Gender Issues

9-Apr-26, 12:30-14:00

Location: Zoom 3

Stand-Alone Paper

*The roles of epistemological versus
factual security in evolution
acceptance by religious students*

Andrea Phillips*, Utah Valley University,
USA

Jade Sorensen, Brigham Young University,
USA

Jamie Jensen, Brigham Young University,
USA

Traegan Webb, Brigham Young
University, USA

Stand-Alone Paper

*Breaking STEM Barriers Through
Robotics, Team Roles, and Gender
Dynamics*

Shani Goldstein*, Technion, Israel Institute
of Technology, Israel

Shahaf Rocker Yoel, Technion, Israel
Institute of Technology, Israel

Yehudit Judy Dori, Technion, Israel
Institute of Technology, Israel

Stand-Alone Paper

*Using Emotion to Understand a Black
Woman Preservice Teacher's Justice-
oriented Science Teaching and
Identity Development*

Erin Cox*, University of Michigan, USA

Elizabeth Davis, University of Michigan,
USA

Stand-Alone Paper

*Are We Telling the Right Stories? The
Narrative Effect's Role in Developing
Equitable Science Pedagogy*

Megan Allen*, Harvard Graduate School of
Education, USA

Enrique Suárez, University of
Massachusetts Amherst, USA

Stand-Alone Paper

*Women's Belonging and Longing: The
Affective Push and Pull Within and
Beyond Physics*

Shamnaz Arifin Mim*, McGill University,
Canada

Allison Gonsalves*, McGill University,
Canada

Strand 6 Stand-alone Paper Set
Strand 6: Science Learning in Informal Contexts

9-Apr-26, 14:30-16:00

Location: Zoom 1

Stand-Alone Paper

Reimagining Science Capital through Accessible Museum Experiences for Brazilian Blind and Deaf Visitors

Gabriela Heck, Federal University of Rio Grande do Sul (UFRGS), Brazil

Jessica Norberto Rocha*, CECIERJ foundation, Brazil

Stand-Alone Paper

"Look, I Am Bendy": Embodied, Constructionist STEM Learning During a Biomedical Engineering Activity

Zahra Baradaran Shoraka*, University of Iowa, USA

Kay Ramey*, University of Iowa, USA

Stand-Alone Paper

Barriers and Supports in Rural Informal STEM Learning: A Sociocultural and Structural Perspective

Julia Moro*, University of South Carolina, USA

Devan Jones, University of South Carolina, USA

Stand-Alone Paper

Productive Talk as Identity Work in a Virtual STEM Program for Girls of Color.

Sharon Ndubuisi*, Florida State University, USA

Kadijah Zogheib*, Florida State University, USA

Valerie Dada, Babcock University, Nigeria

Stand-Alone Paper

Capturing chemistry in situ: Student interactions and skills in an energy-themed chemical escape room

Shelley Rap*, Weizmann Institute of Science, Israel

Inbal Salomon-Hai, Weizmann Institute of Science, Israel

Ron Blonder, Weizmann Institute of Science, Israel

Strand 7 Stand-Alone Paper Set
Strand 7: Pre-service Science Teacher Education

9-Apr-26, 14:30-16:00

Location: Zoom 2

Stand-Alone Paper

Integrating Socioscientific Issues and STEM in Microteaching: A Practical Approach for Pre-Service Science Teachers

Dana Zeidler, usf, USA

Dilek Karisan*, aydin adnan menderes uni, Turkey

Stand-Alone Paper

Three Lenses on Learning: Analyzing Preservice Teacher Model Revision Through Sociocultural, Cognitive, and Multimodal Frameworks

Jaclyn Murray*, Mercer University, USA

Alex St. Louis*, Mercer University, USA

Stand-Alone Paper

Pre-Service Secondary Science Teachers' Ideas About Disinformation and How They Should Address It

Elizabeth Hufnagel*, University of Maine, USA

Stand-Alone Paper

Long-term changes in Elementary BEd students' conceptions of science: Comparing responses across decades

C. Michael Bowen*, Mount Saint Vincent University, Canada

Gerald Tembrevilla, Mount Saint Vincent University, Canada

Stand-Alone Paper

Analysis of elementary PST collaboration during interdisciplinary and inquiry-based curriculum development using design-based thinking approaches

Margery Gardner*, Colgate University, USA

Karen Harpp*, Colgate University, USA

Joyce Zheng*, Colgate University, USA

Strand 8 Strand-alone Paper Set

Strand 8: In-service Science Teacher Education

9-Apr-26, 14:30-16:00

Location: Zoom 3

Stand-Alone Paper

Teachers' Perceptions Following AI-Driven Professional Development in Unmanned Vehicles Instruction

Amona Abu-Younis Ali*, Technion – Israel Institute of Technology, Faculty of Education in Science and Technology, Israel

Shahaf Rocker Yoel, Technion – Israel Institute of Technology, Faculty of Education in Science and Technology, Israel

Dov Dori, Technion – Israel Institute of Technology, Faculty of Data and Decisions Science, Israel

Yehudit Judy Dori, Technion – Israel Institute of Technology, Faculty of Education in Science and Technology, Israel

Stand-Alone Paper

Investigating Secondary Science Teachers' Epistemic Beliefs, Motivations, and Perceptions of Modeling Instruction in Reform-Oriented PD

Khalid Alharbi*, North Carolina State University, USA

Soonhye Park, North Carolina State University, USA

Laura Chalfant, North Carolina State University, USA

Grace Carroll, North Carolina State University, USA

Katherine Glover, North Carolina State University, USA

Matt Reynolds, North Carolina State University, USA

Lynn Huff, North Carolina State University, USA

Scott Ragan, North Carolina State University, USA

Jason Painter, North Carolina State University, USA

Stand-Alone Paper

Developing Effective Strategies for Challenges in Acquiring Relational Reasoning Skills - an Indicator of Teachers' Expertise

Vered Agmon*, Iasi university, Israel

Stand-Alone Paper

*Comparing the Burnout Trends of
Early Career STEM Teacher Leavers
and Stayers*

Shannon Navy*, Kent State University, USA

Ella Yonai, Auburn University, USA

Closing Remarks

9-Apr-26, 16:00-

Location: Zoom 1



Conference Day 1 19 April 2026

New Member Welcome Session

19-Apr-26, 7:00-

Location: Willow A (L2)

Social Event

Organizers

Joi Merritt, ¹James Madison University,
Harrisonburg, VA, USA

Rebekah Hammack, Purdue University,
West Lafayette, IN, USA

Shuly Kapon, Technion-Israel Institute of
Technology, Haifa, Israel

Contributors

Rebekah Hammack, Purdue University,
West Lafayette, IN, USA

Shuly Kapon, Technion-Israel Institute of
Technology, Haifa, Israel

Pre-conference workshops

19-Apr-26, 8:10-11:45

Pre-Conference Workshop

*Centering Joyful Transgression and
Radical Imagination: Equity and
Ethics Considerations*

Location: Willow A (L2)

Organizers

María S. Rivera Maulucci, Barnard College
Columbia University

Iliana De La Cruz

Dominick Fantacone, SUNY Cortland, USA

Pre-Conference Workshop

*Mapping Research for Science Media
Literacy: From Why to What and How*

Location: Ravenna AB (L3)

Organizers

Jonathan Osborne, Stanford University,
USA

Douglas Allchin, Stanford University, USA

Pre-Conference Workshop

*Behind the editor's desk: Learning to
publish and review for the Journal of
Research in Science Teaching (JRST)*

Location: Ravenna C (L3)

Organizers

Matthew Kloser, University of Notre Dame,
USA

Dana Vedder-Weiss, Ben Gurion
University of the Negev

Edna Tan, University of North Carolina
Greensboro, USA

Contributors

Dana Vedder-Weiss, Ben Gurion
University of the Negev, Israel

Matthew Kloser, University of Notre Dame,
USA

Edna Tan, University of North Carolina
Greensboro, USA

Elif Ozulku, University of Notre Dame, USA

Till Bruckerman, Leibniz University
Hannover, Germany

Miray Tekkumru-Kisa, University of Illinois,
USA

Gur Arie Livni Alcasid, University of the
Negev, Israel

19-Apr-26, 8:10-11:45

Pre-Conference Workshop

Engaging with Animals: Incorporating Interspecies Empathy into Science Education Research & Pedagogy

Location: Issaquah AB (L3)

Organizers

Bryan Nichols, Florida Atlantic University, FL, USA

Sarah Brenkert, Florida Atlantic University, FL, USA

Emily Bernhardt, Florida Atlantic University, FL, USA

Pre-Conference Workshop

Integrating Science with Machine Learning for Upper Elementary Grades

Location: Greenwood (L3)

Organizers

Ezgi Yesilyurt, Utah State University, UT, USA

Contributors

Dilara Kara-Zorluoglu, University of Nevada Las Vegas, NV, USA

Refika Turgut, University of South Carolina-Upstate, SC, USA

Erdogan Kaya, The University of Texas at Arlington, TX, USA

Ezgi Yesilyurt, Utah State University, UT, USA

Elif Adibelli-Sahin

Hasan Deniz, University of Nevada, Las Vegas, NV, USA

Pre-Conference Workshop

Science Education Research as Non-Extractive, Community-Centered Praxis: Responding to Pressing Challenges Together

Location: Capitol Hill (L3)

Organizers

Uma Ganesan, The University of Texas Rio Grande Valley, TX, USA

Miriam Ortiz, The University of Texas Rio Grande Valley, TX, USA

Contributors

Miriam Ortiz, The University of Texas Rio Grande Valley, TX, USA

Angela Chapman, The University of Texas Rio Grande Valley, TX, USA

Alejandro Gallard, Georgia Southern University, GA, USA

Uma Ganesan, The University of Texas Rio Grande Valley, TX, USA

Enrique Suarez, University of Massachusetts-Amherst, USA

María González-Howard, The University of Texas at Austin, USA

Alexander Eden, Salem State University, USA

Pre-Conference Workshop

Cultural and Place-Based Learning from Duwamish Community Members Indigenous Science Knowledge Research Interest Group (ISK RIG)

Location: Ballard (L3)

Organizers

Julie Robinson, University of North Dakota, ND, USA

Filiberto Barajas-Lopez, University of North Dakota, ND, USA

Pre-Conference Workshop

*Playful Futurism for Radical
Imagination in Science Education*

Location: Kirkland (L3)

Organizers

Isis Howard, University of Calgary, Canada

Mindy Chappell, University of Illinois, USA

Pre-Conference Workshop

*Contributing to Theory through
Science Education Research*

Location: Columbia (L4)

Organizers

Katharine Doerr, Malmö University,
Sweden

Contributors

Kevin Nguyen, Sonoma State University,
USA

Katerina Günter, Umeå Universitet,
Sweden

Bjørn Johannsen, University College
Copenhagen, Denmark

Tatiane Russo-Tait, University of Georgia
Athens, GA, USA

Katharine Doerr, Malmö University,
Sweden

Graduate Student Luncheon

19-Apr-26, 11:45-12:45

Location: Metropolitan Ballroom A/B (L3)

Social Event

Graduate Student Luncheon

Organizers

Collins Moga, University of Massachusetts
Dartmouth, Massachusetts, USA

Arya Karumanthra, Indiana University
Bloomington, Indiana, USA

Xin Xia, University of Virginia,
Charlottesville, Virginia, USA

Presidential Welcome

19-Apr-26, 13:00-13:15

Location: Grand Ballroom (L2)

Plenary Session

Keynote Address

19-Apr-26, 13:15-14:30

Location: Grand Ballroom (L2)

*Dance as Resistance: Embodiment,
Joy, and Radical Imagination*

Speaker

Ms. Melba Ayco, founder and Artistic
director of Northwest Tap Connection

Cultivating Scientific Explanations and Argumentation

**Strand 1: Science Learning: Development
of student understanding**

19-Apr-26, 14:45-16:15

Location: Ravenna AB (L3)

Stand-Alone Paper

*Exploring the Relationship between
Changes in Dialogue and Student
Language Use in Generative Science
Classrooms*

Alison Warren*, Purdue University, USA

Brian Hand, University of Iowa, USA

Derek Rodgers, University of Iowa, USA

Stand-Alone Paper

*Socially Mediated Metacognition in
Socioscientific Issues: How*

*Conversational Dynamics Shape
Collaborative Reasoning*

Sumaiya Tabassum*, University of
Nebraska–Lincoln, USA
Alex Sobotka, Iowa State University, USA
Asghar Gill, University of Nebraska–
Lincoln, USA
Jenny Dauer, University of Nebraska–
Lincoln, USA

Stand-Alone Paper

*Linking Scientific Argumentation and
Epistemic Beliefs to Cultivate
Informed Learners: Evidence from
Survey Analysis*

Jing Lin*, Beijing Normal University, China
Letong Zhang, Renmin University of
China, China
Knut Neumann*, Leibniz Institute for
Science and Mathematics Education at
Kiel University, Germany
Mei-Hung Chiu, Taiwan Normal University,
Taiwan

Stand-Alone Paper

*Moving beyond the claim: Examining
how elementary science students
construct evidence-based
explanations during science
gameplay*

Georgia Hodges*, University of Georgia,
USA
Kayla Flanagan, University of Georgia, USA
Lourdes Gaibisso, University of Mississippi,
USA

***Talk, Debate, and Collaborative
Meaning-Making in Science
Education***

**Strand 2: Science Learning: Contexts,
Characteristics and Interactions**

19-Apr-26, 14:45-16:15

Location: Jefferson A (L4)

Stand-Alone Paper

*Processual Responsiveness in
Facilitating the Cogenerative
Dialogues between High School
Students and Scientists*

Pei-Ling Hsu*, University of Texas at El
Paso, USA

Stand-Alone Paper

*The Relationship Between
Argumentation and Debate
Opportunities and PISA Performance*

Andy Cavagnetto*, Washington State
University, USA
Shenghai Dai, Washington State
University, USA

Stand-Alone Paper

*Tracing Knowledge Construction
through Talk Turns in Collaborative
CURE Labs: An Evolutionary
Perspective*

omowumi frieyo*, washington state
university, USA
YETUNDE ADARAMOLA, washington state
university, USA
Patrick Ochieng, washington state
university, USA
Andy Cavagnetto, washington state
university, USA

Stand-Alone Paper

*Writing (Righting) Ethical
Uncertainty? Tracing Young Children's
More-than-Human Sensemaking
Across an Integrative Science-Literacy
Unit*

Jon Wargo*, University of Michigan, USA

**Organizational Sensemaking and
Reframing of Elementary Science
Practices**

**Strand 3: Science Teaching — Primary
School (Grades preK-6): Characteristics
and Strategies**

19-Apr-26, 14:45-16:15

Location: Seneca (L4)

Stand-Alone Paper

*Teachers' Persistence With a Science
Education Innovation After Research
Incentives and Accountability Are
Withdrawn*

Patrick Smith*, Horizon Research, Inc.,
USA

Sarah Carrier*, NC State University, USA

Christine Goforth, North Carolina Museum
of Natural Sciences, USA

Lindsey Sachs, Horizon Research, Inc., USA

Stand-Alone Paper

*We can't stray outside of our
packaged curriculum: Teacher
autonomy and elementary science
instruction*

Laura Wheeler*, Brigham Young
University, USA

Stand-Alone Paper

*Making Time, Making Sense: Cross-
Level Organizational Sensemaking to*

*Re-Frame Elementary Science
Practices*

Michelle Brown*, State College Area
School District, USA

Carla Zembal-Saul, The Pennsylvania
State University, USA

**Advancing Chemistry and Physics
Learning Through Innovative
Pedagogies**

**Strand 4: Science Teaching — Middle and
High School (Grades 5-12): Characteristics
and Strategies**

19-Apr-26, 14:45-16:15

Location: Juniper (L2)

Stand-Alone Paper

*Integrating Complexity with PCK:
Dynamics of Teacher Learning in
Chemistry Classrooms*

Supawit Kanitjinda*, Kasetsart University,
Thailand

Chatree Faikhamta, Kasetsart University,
Thailand

Stand-Alone Paper

*A Fields-Based Approach to Energy
Understanding: An RCT on the Role of
Self-Efficacy*

Nikola Schild*, IPN, Germany

Knut Neumann*, IPN, Germany

Jeffrey Nordine*, University of Iowa, USA

Stand-Alone Paper

*Characteristics of Student Guidance in
a Chemistry-based Educational
Escape Room*

Hagai Zeira*, Technion, Israel Institute of
Technology, Israel

Shirly Avargil, Technion, Israel Institute of
Technology, Israel

Stand-Alone Paper

Cross-Country Comparison of Chemistry Teachers' Experience with Emergency Remote Teaching

Shirly Avargil*, Technion Israel Institute of Technology, Israel

Anat Shauly, Technion Israel Institute of Technology, Haifa, Israel

Jenna Koenen, Technical University of Munich, Germany

AI and Technology in STEM Learning

Strand 5: College Science Teaching and Learning (Grades 13-20)

19-Apr-26, 14:45-16:15

Location: Aspen (L2)

Stand-Alone Paper

Self-Directed Learning Profiles and the Influence of Technology-Based Interventions Among STEM Undergraduates

Arif Rachmatullah*, SRI International, USA

Krystal Thomas, SRI International, USA

Jessica Mislevy, SRI International, USA

Stand-Alone Paper

Investigating Student Perceptions of AI-Generated Feedback and Scores for Physics Argumentation Essays

Winter Allen*, Department of Physics and Astronomy, Purdue University, USA

Anand Shanker, Purdue University, USA

N. Sanjay Rebello, Department of Physics and Astronomy, Purdue University, USA

Stand-Alone Paper

Game-Based vs. Simulation-Based Instruction: exploring the sequencing effect on the understanding of the Photoelectric Effect

Razan Hamed*, Purdue University, USA

Koushiki Pohit, Purdue University, USA

Sanjay Rebello, Purdue University, USA

Museum Innovation & Transformation

Strand 6: Science Learning in Informal Contexts

19-Apr-26, 14:45-16:15

Location: Virginia (L4)

Stand-Alone Paper

A Framework for Systematic Radical Reimagining of Science Museums

Alexandria Muller, Rowan University, USA

Stand-Alone Paper

Strife as civic practice: Ideational expansion amid social conflict in a climate science exhibit

Lynne Zummo*, University of Utah, USA

Kaitlyn Kinshella, University of Utah, USA

Emma Gargroetzi, University of Texas at Austin, USA

Jordan Giron, University of Utah, USA

Benjamin Janney, University of Utah, USA

Ajla Aufer, University of Utah, USA

Stand-Alone Paper

Exploring exhibit development within university informal science learning centers

Hailey Bowers*, Pennsylvania State University, USA

Julia Plummer, Pennsylvania State University, USA

Preparing Preservice teachers for Inclusive Science Teaching

Strand 7: Pre-service Science Teacher Education

19-Apr-26, 14:45-16:15

Location: Columbia (L4)

Stand-Alone Paper

Translanguaging as a Path to Onto-Epistemic Heterogeneity: Preparing Preservice Teachers for Multilingual Science Classrooms

Leticia Garza*, University of Texas, USA

Maria Gonzalez-Howard*, University of Texas, USA

Stand-Alone Paper

All Means All: Lesson Study for Inclusive Elementary Science Teaching

Bianor Valente*, Escola Superior de Educação de Lisboa, Portugal

Paulo Maurício, Escola Superior de Educação de Lisboa, Portugal

Stand-Alone Paper

Exploring Preservice Elementary Science teachers' perception of Inclusive Instruction and Science Identity Formation.

Chike Elue*, University of Nevada, Las Vegas, USA

Stand-Alone Paper

Elevating radical hope in how elementary preservice teachers position multilingual learners' multimodal resources for sensemaking

Samuel Lee*, California State University, Long Beach, USA

María González-Howard, University of Texas at Austin, USA

Epistemic Positioning and Practices in Preservice Teachers

Strand 7: Pre-service Science Teacher Education

19-Apr-26, 14:45-16:15

Location: Jefferson B (L4)

Stand-Alone Paper

Exploring Epistemic Orientation to Develop Preservice Teachers' Engagement in Science Practices

Yetunde Adaramola*, Washington State University, USA

Patrick Ochieng, Washington State University, USA

Andy Cavagnetto, Washington State University, USA

Stand-Alone Paper

The Role of Prior Knowledge and Abductive Reasoning in Scientific Experimental Design among Pre-service Teachers

Naeun Lee*, Korea National University of Education, Korea, Republic of

Ilho Yang, Korea National University of Education, Korea, Republic of

Stand-Alone Paper

Grasp the Grasp of Evidence: Science Teachers' Understanding and Use of Evidentiary Reasoning

Won Jung Kim*, Santa Clara University, USA

Stand-Alone Paper

Epistemological Reflections on Using a Scientific Method Heuristic in a Preservice Teacher Module

Annemarie Hattingh, University of Cape Town, South Africa

Angela Stott*, University of the Free State, South Africa

The centrality of emotion in teacher learning

Strand 8: In-service Science Teacher Education

19-Apr-26, 14:45-16:15

Location: Cedar AB (L2)

Stand-Alone Paper

"That's why I remain a teacher":

Emotion and professional learning of highly experienced STEM teachers

Michael Mauricio*, The University of Texas at San Antonio, USA

Jorge Solis, The University of Texas at San Antonio, USA

Kristen Lindahl, The University of Texas at San Antonio, USA

Bedrettin Yazan, The University of Texas at San Antonio, USA

Stand-Alone Paper

Frustration as an Asset in STEM

Learning: STEM Mentors' Reframing of Frustration into Productive Inquiry

Abiodun Babalola, University of Alabama, USA

Shannon Davidson, University of Alabama, USA

Joy Anogwih, University of Alabama, USA

Stand-Alone Paper

Felt Transgressions and Material Joy: Teacher Learning in Electronic Textiles Professional Development

Joanna Goode*, University of Oregon, USA

Casey Tiemann, University of Oregon, USA

Adrienne Pinsoneault, University of Oregon, USA

Stand-Alone Paper

Emotionally Activating Science Practices: A Study of Teacher Lesson Reflections Based on Control Value Theory

Ella Yonai*, Auburn University, USA

Julie Luft, University of Georgia, USA

Brooke Whitworth, University of South Carolina, USA

Exploring instructional relevance across the assessment system: from classroom to state assessments

Strand 10: Curriculum and Assessment

19-Apr-26, 14:45-16:15

Location: Ravenna C (L3)

Related Paper Set

Alignment Study Methodology for Curriculum-Anchored Assessments

Aneesha Badrinarayan, Education First, USA

Katie Van Horne*, Concolor Research, USA

Related Paper Set

Supporting HQIM Implementation and Science Assessment Through Instructional Relevance at the State Level

Tana Luther*, Louisiana Department of Education, USA

Related Paper Set

Designing 3D performance assessments for instructional relevance

Jill Wertheim*, WestEd, USA

Lauren Stoll, WestEd, USA

Catherine Zozakiewicz, WestEd, USA

Related Paper Set

Designing Curriculum-Embedded Assessment for Instructional Relevance

Amelia Gotwals, Michigan State University, USA

Related Paper Set

Designing Curriculum-Aligned Interim Assessments for Instructional Relevance at the District Level

TJ Heck, Cognia, USA

Community Partnerships within Science Education Research:

Building Trust and Reciprocity

Strand 11: Cultural, Social, and Gender Issues

19-Apr-26, 14:45-16:15

Location: Willow A (L2)

Symposium

Community Partnerships within Science Education Research: Building Trust and Reciprocity

Julie Robinson*, University of North Dakota, USA

Sarah Voss*, Western Washington University, USA

Dimitri Smirnoff*, University of Minnesota, USA

Jadda Miller*, University of California Davis, USA

Nicole Chlebek*, Florida International University, USA

Lama Jaber*, Florida State University, USA

Peresang Sukinarhimi*, National Sun Yat-sen University,, Taiwan

Lin-Chien Tung1*, National Sun Yat-sen University,, Taiwan

Josie Melton, Western Washington University, USA

Gender, interaction, and relationality among youth in STEM

Strand 11: Cultural, Social, and Gender Issues

19-Apr-26, 14:45-16:15

Location: Willow B (L2)

Stand-Alone Paper

Epistemic Tools to Encourage Epistemic Risk Taking in Middle School Science

Kathryn Bateman*, The Pennsylvania State University, Harrisburg, USA

Brandin Conrath*, Virginia Commonwealth University, USA

Stand-Alone Paper

Equal Numbers, Unequal Roles: Gendered Problem-Solving in STEM Digital Games

Xinyao Cai*, The University of Hong Kong, Hong Kong

Chen Chen, The University of Hong Kong, Hong Kong

Stand-Alone Paper

Infrastructuring for Climate Justice in STEM-Rich Making: The Role of Critical Relationality

Angela Calabrese Barton*, University of Michigan, USA
Wisam Sedawi, University of Michigan, USA
Edna Tan, university of north carolina, USA

AI-Supported Scientific Argumentation & Reasoning
Strand 12: Technology for Teaching, Learning, and Research
19-Apr-26, 14:45-16:15
Location: Ballard (L3)

Stand-Alone Paper
From Beliefs to Better Arguments: How Trust in GenAI Shapes Student Improvement in Socio-Scientific Argumentation
Chi-Jung Sui*, National Academy for Educational Research, Taiwan

Stand-Alone Paper
Designing an AI Chatbot Tool to Support Scientific Argumentation
Field Watts*, Educational Testing Service, USA
Lei Liu, Educational Testing Service, USA
Teresa Ober, Educational Testing Service, USA
Yi Song, Educational Testing Service, USA
Euvelisse Jusino-Del Valle, Educational Testing Service, USA
Xiaoming Zhai, University of Georgia, USA

Environmental Identities, Hazard Literacy, and Critical Discourses
Strand 14: Environmental Education and Sustainability
19-Apr-26, 14:45-16:15
Location: Issaquah AB (L3)

Stand-Alone Paper
Assessing Hazard Literacy in adults: Science Education for Disaster Risk Reduction and preparedness
Youngjin Choi*, Hazard Literacy Center, Korea, Republic of
Mikyung Sim, Hazard Literacy Center, Korea, Republic of
Jihee Lee, Hazard Literacy Center, Korea, Republic of
Hyunju Lee, Ewha Womans University, Korea, Republic of
Donghee Shin, Ewha Womans University, Korea, Republic of

Stand-Alone Paper
Latent profiles of Korean adults' hazard literacy: Using the Hazard Literacy Competency Test (HLCT)
Jihee Lee*, Ewha Womans University, Korea, Republic of
Mikyung Sim, Ewha Womans University, Korea, Republic of
Youngjin Choi, Ewha Womans University, Korea, Republic of
Donghee Shin, Ewha Womans University, Korea, Republic of
Su-Young Kim, Ewha Womans University, Korea, Republic of

Stand-Alone Paper
Determinants of Lower Environmental Identity among Asian Communities in Hawai'i

Jhuchun yang*, Institute of Education,
National Cheng Kung University, Taiwan
Paichi Pat Shein, Institute of Education,
Taiwan

Stand-Alone Paper

*Intellectual Virtues for the
Capitalocene: A Critical Discourse
Analysis of a Science Unit*

Ajay Sharma*, University of Georgia, USA
Irem Balta, University of Georgia, USA

*Joyful transgressions and radical
imaginings with and for Asian and
Pacific Islanders through Science
Teaching and Learning*

19-Apr-26, 14:45-16:15

Location: Redwood AB (L2)

Administrative Session

Organizers

Rishi Krishnamoorthy¹, University of
Toronto, Toronto, Canada
Edna Tan, University of North Carolina at
Greensboro, Greensboro, NC, USA

Contributors

Soo-Yean Shim, Seoul National University,
Korea, Republic of
Hye-eun Chu, Macquarie University,
Sydney, NSW, Australia
Sarah Hajama, Macquarie University,
Sydney, NSW, Australia
Johan Tabora, Northwestern University,
Evanston, Illinois, USA
Jessica Chen, Stony Brook University, USA
Felicia Leammukda, St.Cloud State
University, Minnesota, USA
Sarah Fankhauser, Oxford College of
Emory University, Oxford, Georgia, USA

***Making Science Visible: Connecting
Hands-On Projects with Minds-On,
Meaning-Oriented Learning***

**Strand 2: Science Learning: Contexts,
Characteristics and Interactions**

19-Apr-26, 16:30-18:00

Location: Jefferson A (L4)

Stand-Alone Paper

*The Impact of STEM-PBL on
Secondary School Students' Scientific
Literacy*

Chuan Li, Hebei Normal University, China
Qianqian Gao*, Hebei Normal University,
China
Jinghua Liu, Hebei Normal University,
China

Stand-Alone Paper

*Rethink Why Body Matters: Noticing
the Uncertainty Between Hands-On
and Minds-On Learning*

Haoxuan Yang*, East China Normal
University, China
Sihan Xiao, East China Normal University,
China
Jiaying Fan, Southwest University, China

Stand-Alone Paper

*Science Fair and Self-Determination:
The Case of One Biracial 4th Grade
Girl*

Scarlett Calvin*, University of Texas, USA
Emma Gargroetzi, University of Texas, USA
Leticia Garza, University of Texas, USA

Stand-Alone Paper

*Integrating Hands-On, Open, and
Meaning-Oriented Science to Foster*

Equitable Engagement in K-12 Classrooms

Olayinka Oyewole*, Florida State University, USA

Kolawole Kushimo*, University of Massachusetts Dartmouth, USA

Peter Idowu, Florida State University, USA

Oluwatosin Akande, University of Ibadan, Nigeria

Advancing Instructional Approaches in Elementary Science Education

Strand 3: Science Teaching — Primary School (Grades preK-6): Characteristics and Strategies

19-Apr-26, 16:30-18:00

Location: Seneca (L4)

Stand-Alone Paper

Effect of 5E Learning Model Integrated With 5R on Elementary Students' Scientific Language Development

Firuze Öztaş*, Hacettepe University, Turkey

Sevgi KINGIR, Hacettepe University, Turkey

Stand-Alone Paper

Adaptation of the Coding Readiness Assesment for Early Childhood Children into Turkish

Nazlı ÜLKER HANÇER, Yıldız Technical University, Turkey

Mustafa TOPÇU*, Yıldız Technical University, Turkey

Stand-Alone Paper

Anal"ing NGSS-Aligned Science Instruction for Multilingual Learners: A Discourse Analysis Using ELPD and WIDA Frameworks

Dan Jin*, University of Georgia, USA

Emily Adah Miller, University of Georgia, USA

Ruth Harman, University of Georgia, USA

Hong H. Tran, Purdue University, USA

Stand-Alone Paper

Developmental Potential of Self-Generated Analogy-Based Modeling in PMM

CHEN CHEN*, Department of Science Education, National Taipei University of Education, Taiwan

Jing Lin, Department of Science Education, National Taipei University of Education, Taiwan

Bringing NGSS to Life: Standards-Based and Place-Based Science Learning

Strand 4: Science Teaching — Middle and High School (Grades 5-12): Characteristics and Strategies

19-Apr-26, 16:30-18:00

Location: Juniper (L2)

Stand-Alone Paper

Bridging Standards and Place: Place-Based PBL in Rural STEM Classrooms

Courtney Bernal*, University of South Carolina, USA

Christine Lotter*, University of South Carolina, USA

DeNae Kizys*, University of South Carolina, USA

Dodie Limberg, University of South Carolina, USA

Bryndle Bottoms, University of South Carolina, USA

Joe Howell, University of South Carolina, USA

Brittany Sandonato, University of South Carolina, USA

Stand-Alone Paper

*From Field to Framework: Discovering
NGSS Elements in Nature Journals*

Jessica Farquhar*, Oklahoma State
University, USA

Stephanie Hathcock*, Oklahoma State
University, USA

Stand-Alone Paper

*A Longitudinal Case Study on Writing-
to-learn Strategies in Inquiry-based
Middle School Science Classrooms*

Raju Ahmmed*, Department of
Curriculum & Instruction, University of
Houston, USA

Jie Zhang, Department of Curriculum &
Instruction, University of Houston, USA

Sissy Wong, Department of Curriculum &
Instruction, University of Houston, USA

Laveria Hutchison, Department of
Curriculum & Instruction, University of
Houston, USA

Samuel Katende, Department of
Curriculum & Instruction, University of
Houston, USA

**Reflective and Real-World Learning
in STEM**

**Strand 5: College Science Teaching and
Learning (Grades 13-20)**

19-Apr-26, 16:30-18:00

Location: Aspen (L2)

Stand-Alone Paper

*Knowing About to Knowing Through:
First-Generation College Students'
Epistemic Agency in a Field Science
Camp*

Priyanka Parekh*, Northern Arizona
University, USA

Ron Gray*, Northern Arizona University,
USA

Stand-Alone Paper

*Exploring Joyful Transgressions in
STEM: Thematic Analysis of Student
Notebooks from a University
Sensemaking Course*

Thomas McKenna*, Boston University,
USA

Stand-Alone Paper

*Embedding Citizen Science in an
Undergraduate Marine Science Class
to Address Climate
Change/Biodiversity Issues*

Muhammad Ijaz*, University of
Massachusetts, USA

Stephen Witzig, University of
Massachusetts, USA

**STEM Motivation, Pathways &
Participation**

**Strand 6: Science Learning in Informal
Contexts**

19-Apr-26, 16:30-18:00

Location: Virginia (L4)

Stand-Alone Paper

*Motivations of Students from
Economically Disadvantaged
Backgrounds to Complete a Seven-
Month Science Internship*

Pei-Ling Hsu*, University of Texas at El
Paso, USA

Stand-Alone Paper

*Building Big Things for Community:
Youth infrastructuring present desires
into sustainable futures.*

Edna Tan*, University of North Carolina at Greensboro, USA

Angela Calabrese Barton, University of Michigan, USA

Ti'Era Worsley, Northern Virginia Community College, USA

Wisam Sedawi, University of Michigan, USA

Stand-Alone Paper

Developing Integrated STEM Teaching Self-Efficacy: Insights from U.S. and Australian Preservice Teachers

Deepika Menon*, University of Nebraska-Lincoln, USA

Sarika Kewalramani, Swinburne University of Technology, Australia

Stand-Alone Paper

Transforming STEM Research Access for Third-Year and Transfer Undergraduate Students

Karina Canaba*, The University of Texas at El Paso, USA

Angelica Monarrez*, The University of Texas at El Paso, USA

Jose Banuelos, The University of Texas at El Paso, USA

Stand-Alone Paper

Do Group Interaction and Engagement in STEM Activities Influence Pre-service Teachers' Acquisition STEM Teaching Competence

Hsiao-Lin Tuan*, National Changhua University of Education, Taiwan

Chi-Chin Chin, National Taichung University of Education, Taiwan

Chien-Ying Chou, National Changhua University of Education, Taiwan

Hui-Yi Peng, National Changhua University of Education, Taiwan

Stand-Alone Paper

Place-Sustaining STEM Learning, Situated Expectancy-Value Beliefs, and Career Interests

Guan Saw*, Claremont Graduate University, USA

Kimberly Megyesi-Brem, Claremont Graduate University, USA

Ryan Culbertson, Texas Tech University, USA

Jesus Gonzalez, The University of Texas Rio Grande Valley, USA

Eleazar Marquez, The University of Texas Rio Grande Valley, USA

Stand-Alone Paper

Early Childhood Preservice Opportunities to Learn to Teach Science and Engineering During Field Placement Experiences

Rosa Mykyta-Chomsky*, University of Delaware, USA

Jennifer Gallo-Fox, University of Delaware, USA

Maisha Mouli, University of Delaware, USA

Developing Preservice Teachers' STEM Teaching Competence

Strand 7: Pre-service Science Teacher Education

19-Apr-26, 16:30-18:00

Location: Columbia (L4)

***From Identity to Instruction:
Examining Preservice Teachers'
Growth in Science Teaching***

Strand 7: Pre-service Science Teacher Education

19-Apr-26, 16:30-18:00

Location: Jefferson B (L4)

Stand-Alone Paper

Beyond the Hook: Research on Elementary Teacher Candidates' Use of Children's Literature in Science Instruction

Alexis Markavage*, Indiana University, USA

John Mensah*, Indiana University, USA

Meredith Park Rogers, Indiana University, USA

Stand-Alone Paper

Case studies of Preservice Teacher Learning to Take Up Storyline Instruction with Critical Intentionality

Sage Andersen*, SUNY Cortland, USA

María González-Howard*, The University of Texas at Austin, USA

Stand-Alone Paper

Motivation and Science Identity Changes in Pre-Service Elementary Teachers Following a Science CURE

Amandeep Kaur*, Texas State University, USA

Sunni Taylor, Texas State University, USA

Kristy Daniel, Texas State University, USA

Carrie Bucklin*, Texas State University, USA

Stand-Alone Paper

Visualizing Dialogic Shifts in Preservice Science Teachers Using Equity Maps

Mandy Dunphy*, Baylor University, USA

Krystle Moos, Baylor University, USA

Brian Hand, University of Iowa, USA

Developing teacher agency through transformative professional learning

Strand 8: In-service Science Teacher Education

19-Apr-26, 16:30-18:00

Location: Cedar AB (L2)

Stand-Alone Paper

Reimagining Science Teaching: Promoting teacher agency through a research-practice partnership for Bee Hunting convergent research

Isabel Delgado*, University of Puerto Rico, USA

Sara Ocasio*, University of Puerto Rico, USA

Stand-Alone Paper

Enacting Agency: An Ecological Perspective on Teachers' Experiences of an Integrated Curriculum

Dilara Kara-Zorluoglu*, University of Nevada, Las Vegas, USA

Ezgi Yesilyurt, Utah State University, USA

Erdogan Kaya, The University of Texas at Arlington, USA

Refika Turgut, University of South Carolina-Upstate, USA

Elif Adibelli-Sahin, Development Workshop, Turkey

Hasan Deniz, University of Nevada, Las Vegas, USA

Stand-Alone Paper

In-Service Teachers Cultivating Student Agency through Safety Science: A Year-Long Fellowship Case Study

Emmanuel Adeloju*, Arizona State University, USA

Michelle Jordan*, Arizona State University, USA

Sarah Suloff, Arizona State University, USA

Nicole Oster, Arizona State University, USA

Andrea Weinberg, Arizona State University, USA

Stand-Alone Paper

Toward Climate Justice: Developing Critical Transformative Teacher Agency

Wisam Sedawi*, University of Michigan, USA

Angela Calabrese-Barton, University of Michigan, USA

Batoul Abdalla, University of Michigan, USA

Rachel Sherwin, University of Michigan, USA

Measurement Innovations for Assessing Science Learning, Identity, and Career Development

Strand 10: Curriculum and Assessment

19-Apr-26, 16:30-18:00

Location: Ravenna C (L3)

Stand-Alone Paper

Measuring Entrepreneurial Career Development in STEM: Validation of the STEM Entrepreneurial Career Development Measure (SECDM)

Gizem Ozyazici*, Syracuse University, USA

Qiu Wang, Syracuse University, USA

John Tillotson, Syracuse University, USA

Stand-Alone Paper

Development and Validation of a Secondary Student Scientific Argumentation Competence Instrument in 'Biology and Environment'

Ying Zhou*, Jiujiang University, China

Jian Wang, Beijing Normal University, China

Stand-Alone Paper

A multifaceted measurement approach reveals student profiles that predict intentions to persist in computing

Austin Zuckerman*, Cornell University, USA

Gena Sbeglia, San Diego State University, USA

Ashley Juavinett, University of California San Diego, USA

Considering Researcher-Participant Relations in How We Approach STEM Education Research

Strand 11: Cultural, Social, and Gender Issues

19-Apr-26, 16:30-18:00

Location: Redwood AB (L2)

Related Paper Set

Mapping STEM Education Co-Design Relationships with Community Organizations

Brian Gravel, Tufts University, USA

Dionne Champion, TERC, USA

Eli Tucker-Raymond, Boston University Wheelock College, USA

Amon Millner, Olin College of Engineering, USA

Christopher Wright*, Drexel University, USA

Ayanna Allen-Handy, Drexel University, USA

L. Clara Mabour, Tufts University, USA

Related Paper Set

From Participant to Partner:

Empowering Students as Partners in Research and Dissemination Through Storytelling Workshops

Monica Cardella*, Florida International University, USA

Dorothy Gocol, Florida International University, USA

Related Paper Set

Learning from Multilingual and Multidialectal Communities: The Everyday Origins of Engineering Practices

Greses Perez*, Tufts University, USA

G.R. Marvez, Tufts University, USA

Philippa Eshun, Tufts University, USA

Clara Mabour, Tufts University, USA

Taisha Pierre, Tufts University, USA

Mia Jimenez, Tufts University, USA

Pragyee Shrestha, Tufts University, USA

Luis Suarez, Tufts University, USA

Student belonging, identity, and rightful presence in STEM

Strand 11: Cultural, Social, and Gender Issues

19-Apr-26, 16:30-18:00

Location: Willow B (L2)

Stand-Alone Paper

A Socially Transformative Approach to Teaching Genetics Among Secondary School Biology Students

Umar Adam*, Lagos State University, Nigeria

Samuel Okenla, Lagos State University, Nigeria

Jomo Mutegi, Old Dominion University, USA

Mujibat Akorede, Old Dominion University, USA

Mary Olayanju, Federal College of Education (Technical)), Nigeria

Seth Cudjoe, Old Dominion University, USA

Steevenson Rosema, Old Dominion University, USA

Stand-Alone Paper

Rightful Presence to Foster Educator Reflection and Student Belonging in STEM

Katherine King*, Georgia Institute of Technology, USA

Justina Jackson*, Georgia Institute of Technology, USA

Meltem Alemdar, Georgia Institute of Technology, USA

Stand-Alone Paper

A Structural Equation Model for Youths' STEM Identity Development: Impact of Contextual STEM Learning Experiences

Amdad Ahmed Awsaf*, Florida
International University, USA
Remy Dou, University of Miami, USA
Susan Sunbury, Harvard University, USA
Gerhard Sonnert, Harvard University, USA
Philip Sadler, Harvard University, USA

Stand-Alone Paper

*Between Two Worlds: Physics
Students Building Belonging and
Identity through Equity Work*
Carolina Cruz-Vinaccia*, McGill University,
Canada

**AI-Enhanced Assessment &
Automated Scoring**
**Strand 12: Technology for Teaching,
Learning, and Research**
19-Apr-26, 16:30-18:00
Location: Ballard (L3)

Stand-Alone Paper

*Prompted AI-Tutors to support
experimental problem solving*
Hendrik Maas*, Leibniz University
Hannover, Germany
Gunnar Friege, Leibniz University
Hannover, Germany

Stand-Alone Paper

*Automated Scoring of Constructed
Responses: BERT Performance on
Near- and Far-Transfer Biochemistry
Problems*
Cheng-Wen He*, University of Georgia,
USA
Peng He, Washington State University,
USA
Tingtin Li, Washington State University,
USA
Logan Fiorella, University of Georgia, USA

Paula Lemons, University of Georgia, USA

Stand-Alone Paper

*AI-Driven Analysis of Free-Response
Questions regarding Pedagogical
Content Knowledge in Questioning*
Jianlan Wang*, Texas Tech University, USA
Ibrahim Akdilek, Texas Tech University,
USA
Margarita Flores-Sicich, Texas Tech
University, USA

**"It Doesn't Have to Be This Way":
Confronting Epistemic Injustice in
Science Education**
**Strand 13: History, Philosophy, Sociology,
and Nature of Science**
19-Apr-26, 16:30-18:00
Location: Willow A (L2)

Symposium

*"It Doesn't Have to Be This Way":
Confronting Epistemic Injustice in
Science Education*
Ayça Fackler, The University of Missouri,
USA
David Stroupe*, The University of Utah,
USA
Déana Scipio, Islandwood, USA
Enrique Suárez, UMass Amherst, USA
Osnat Atias, University of Haifa, Israel
Ayelet Shavit, Israel Institute of
Technology, Israel
Ayelet Baram-Tsabari, Institute of
Technology, Israel
Yael Kali, University of Haifa, Israel
Christina Baze, Northern Arizona
University, USA
María González-Howard, The University of
Texas at Austin, USA
Chris Jadallah, UCLA, USA
Heidi Ballard, UC Davis, USA

Wisam Sedawi, University of Michigan, USA

Christina Krist, Stanford University, USA

Eve Manz, Boston University,

Angela Calabrese Barton, University of Michigan, USA

Educating for Environmental Action: Innovative Pedagogies and Learner Transformation

Strand 14: Environmental Education and Sustainability

19-Apr-26, 16:30-18:00

Location: Issaquah AB (L3)

Stand-Alone Paper

Developing competencies to action: Curriculum design and implementation in environmental education at the master's level

Shih-Yeh Chen*, Department of Science Education and Application, National Taichung University of Education, Taiwan

Han-Yu Wang, Department of Chemistry, National Taiwan Normal University, Taiwan

Shiang-Yao Liu, Graduate Institute of Science Education, National Taiwan Normal University, Taiwan

Stand-Alone Paper

From Knowledge to Action: Empowering Rural Youth as Marine Conservationists

Julie Brown*, University of Florida, USA

Kent Crippen*, University of Florida, USA

Anne Seraphine, University of Florida, USA

Hada Herring, University of Florida, USA

Stefanie Gazda, University of Florida, USA

Suzanna Mickey, University of Florida, USA

Shaelyn Kelliher, University of Florida, USA

Michael Walsh, University of Florida, USA

Stand-Alone Paper

Facilitating Ocean Sustainability Education through Immersive VR and Pre-training Strategies

Hsing-Ying Tu*, National Taiwan Normal University, Taiwan

Silvia Lee, National Taiwan Normal University, Taiwan

Tai-Sheng Hung, National Taiwan Normal University, Taiwan

Mentor/Mentee Nexus

19-Apr-26, 18:00-19:00

Location: Willow A (L2)

Social Event

Organizers

Khadija Zogheib, Florida State University

Shuly Kapon, Technion - Israel Institute of Technology, Haifa, Israel

Contributors

Shuly Kapon, Technion - Israel Institute of Technology, Haifa, Israel

Khadija Zogheib, Florida State University

President's Welcome Reception and Dance

19-Apr-26, 19:00-22:00

Location: Grand Ballroom (L2)

Social Event

Conference Day 2 20 April 2026

Mind and Sole Fun Run
20-Apr-26, 6:30-8:00
Location: Offsite

Social Event

Organizers
Angela Calabrese Barton, University of Michigan, USA
Julie Luft, University of Georgia, USA

Early Career Forum
20-Apr-26, 7:00-8:00
Location: Aspen (L2)

Social Event

Organizers
Grant Gardener, Middle Tennessee State University, Murfreesboro, TN, USA
Theila Smith, Brooklyn College (CUNY) and NYC Public Schools, Brooklyn, NY, USA
Joi Merritt, James Madison University, Harrisonburg, VA, USA

Contributors
Theila Smith, Brooklyn College (CUNY) and NYC Public Schools, Brooklyn, NY, USA
Joi Merritt, James Madison University, Harrisonburg, VA, USA
Grant Gardener, Middle Tennessee State University, Murfreesboro, TN, USA
USA. ³Middle Tennessee State University, Murfreesboro, TN, USA

Research Interest Group (RIG) Meetings
20-Apr-26, 7:00-8:00

Continental and Diasporic Africa in Science Education RIG (CADASE) Meeting
Location: Willow B (L2)

Latino/a RIG (LARIG) Meeting
Location: Cedar AB (L2)

Contemporary Methods for Science Education Research RIG Meeting
Location: Juniper (L2)

Engineering Education RIG (ENE-RIG) Meeting
Location: Ravenna AB (L3)

Indigenous Science Knowledge Research Interest Group (ISK-RIG) Meeting
Location: Ravenna C (L3)

Asian and Pacific Islander Science Education Research (APISER) Meeting
Location: Issaquah AB (L3)

Lesbian, Gay, Bisexual, Transgender, Queer, Plus Science Education Research Group (LGBTQ + RIG) Meeting
Location: Greenwood (L3)

Research in Artificial Intelligence-Involved Science Education (RAISE) Meeting

Location: Capitol Hill (L3)

Computational Science Practices Research Interest Group (CSP-RIG) Business Meeting

Location: Ballard (L3)

Exploring Professional Avenues in Science Education in Nontraditional Domains (EXPAND RIG) Business Meeting

Location: Columbia (L4)

Empowering Students Through Metacognitive Strategies
Strand 1: Science Learning: Development of student understanding

20-Apr-26, 8:15-9:45

Location: Ravenna AB (L3)

Stand-Alone Paper

Promoting Self-Regulated Learning in Chemistry Education Through Transparent Learning Objectives

Nils Bergander*, TU Dortmund University, Germany

Insa Melle, TU Dortmund University, Germany

Stand-Alone Paper

Should we individualize the way we deal with students' conceptions?

Tim Hartelt*, University of Kassel, Germany

Joelina Henniges, University of Kassel, Germany

Reimagining Power: Supporting Marginalized Participation and Resilience in Science Education
Strand 2: Science Learning: Contexts, Characteristics and Interactions
20-Apr-26, 8:15-9:45
Location: Jefferson A (L4)

Stand-Alone Paper

Distributions of Authority in Peer-to-Peer Interactions

Etta Pope*, Northwestern University, USA

Olga Vaskova, Northwestern University, USA

Jason Buell, Northwestern University, USA

Brian Resier, Northwestern University, USA

Stand-Alone Paper

Student Norms and Power Dynamics in Small-Group Modeling: Fostering or Constraining Marginalized Students' Participation

Soo-Yean Shim*, Seoul National University, Korea, Republic of

Sunghee Kim, Seoul National University, Korea, Republic of

Hun Jeong, Seoul National University, Korea, Republic of

Stand-Alone Paper

Using worlding to create spaces for joy for a more equitable and inclusive science education

Catherine Milne*, New York University, USA

Stand-Alone Paper

Teacher Boundaries and Student Resilience in Nature-Based Science Learning

Amy Crowell*, University of Iowa, USA

Kay Ramey*, University of Iowa, USA

Playful Pathways to Science Practices: Supporting Early Childhood Educators Through Professional Learning and Hybrid Spaces

Strand 3: Science Teaching — Primary School (Grades preK-6): Characteristics and Strategies

20-Apr-26, 8:15-9:45

Location: Seneca (L4)

Related Paper Set

Professional Learning to Empower Early Childhood Educators in Science and Engineering Practices Through Play-Based Learning

Rachel Larimore*, Samara Early Learning, USA

Alison Miller*, Bowdoin College, USA

Related Paper Set

Harnessing Hybrid Spaces: Bringing Outdoors In and Indoors Out to Support Play-Based Science and Engineering

Samantha Stevenson*, Bowdoin College, USA

Related Paper Set

From Direction to Facilitation: How Professional Learning Transforms Early Childhood Educators' Conceptions of Science & Play

Lauren Poniatowski, Bowdoin College, USA

Hildah Makori*, Bowdoin College, USA

Designing Science Learning for Future-Ready Students

Strand 4: Science Teaching — Middle and High School (Grades 5-12): Characteristics and Strategies

20-Apr-26, 8:15-9:45

Location: Ravenna C (L3)

Stand-Alone Paper

A Comparative Study of Knowledge Maps and Ontological Scaffolding in Complex Systems Thinking

Yi-Chen Lin*, Graduate Institute of Science Education, National Taiwan Normal University, Taiwan

Ting-Kuang Yeh, Department of Earth Sciences, National Taiwan Normal, Taiwan

Stand-Alone Paper

Science Classroom Goals and Defaults: Powerful Levers for Building Alternative Futures

Christopher Irwin*, Florida International University, USA

Nicholas Oehm, Florida International University, USA

Joshua Ellis, Louisiana State University, USA

Darryl Dickerson, University of New Mexico, USA

Stand-Alone Paper

Designing and Assessing a Science Unit for Improving Media Literacy

Mitchell Klocke*, Drake University, USA

Jerrid Kruse*, Drake University, USA

Lucas Menke, Drake University, USA

Sarah Borzo, Drake University, USA

Sarah Hunt, Drake University, USA
Maddie Kampf, Drake University, USA

Stand-Alone Paper

Examination of Changes in Students' Epistemological Beliefs, Critical Thinking Skills, and Science Process Skills

Feral Ogan-Bekiroglu*, Marmara University, Turkey
Erol Suzuk, Marmara University, Turkey
Cansu Sivgin, Marmara University, Turkey

Measuring and Tracking STEM Identity and Beliefs

Strand 5: College Science Teaching and Learning (Grades 13-20)

20-Apr-26, 8:15-9:45

Location: Aspen (L2)

Stand-Alone Paper

The Student Science Identity (SSI) Questionnaire: A Multi-Group Validation Study Among US College Students

Ava Breitbeck*, Syracuse University, USA
Gizem Ozyazici, Syracuse University, USA
John Tillotson, Syracuse University, USA
Qiu Wang, Syracuse University, USA

Stand-Alone Paper

Measurement Invariance of the Community of Inquiry Survey Framework Across Diverse In-person College Chemistry Environments

Regis Komperda*, San Diego State University, USA
Jungwon Kim, San Diego State University, USA

Stand-Alone Paper

Disciplinary Beliefs, Perceptions, and Performance: A Within-Student Comparison of Introductory Chemistry and Physics

Lindsay Wheeler*, University of Virginia, USA
Lynn Mandeltort, University of Virginia, USA
Eric Bredder, University of Virginia, USA
Josipa Roksa, University of Virginia, USA

Visitor Experience, Emotion & Engagement

Strand 6: Science Learning in Informal Contexts

20-Apr-26, 8:15-9:45

Location: Virginia (L4)

Stand-Alone Paper

What Engages Us in the Museum? Revisiting Science Museum Education through the Lens of Engagement
Yael Eshed silver*, Technion Israel Institute of Technology, Israel

Tali Tal, Technion Israel Institute of Technology, Israel

Stand-Alone Paper

AI and Human Thematic Mapping of Volunteer Motivation and Sustained Engagement in Citizen Science Program.

Meena Kharatmal, Texas State University, USA
Kristy Daniel*, Texas State University, USA
Kristi Becker*, Texas State University, USA
Jill Zipperer*, Texas State University, USA

Stand-Alone Paper

Emotional Experiences of Visitors in a Science Centre

Neta Shaby*, University of Southampton, United Kingdom

Nancy Staus*, Oregon State University, USA

Stand-Alone Paper

Relational Methodologies in Natural History Museum Evaluation: Visitor Learning through Embodiment and Cultural Storytelling

Rachel Chaffee*, American Museum of Natural History, USA

Gladys Rowe*, Indigenous Insights Collective, USA

Albeliza Perez*, American Museum of Natural History, USA

Ida Ayu Sakira Hermawan, American Museum of Natural History, USA

Preparing Culturally Responsive, Socioscientific Decision-Makers in Science Teacher Education

Strand 7: Pre-service Science Teacher Education

20-Apr-26, 8:15-9:45

Location: Columbia (L4)

Stand-Alone Paper

Exploring Preservice Science Teachers' Decision-Making Processes and Influencing Factors regarding Socioscientific and Sociotechnical Scenarios

Mustafa Topcu*, Yildiz Technical University, Turkey

Nejla Atabey, Mus Alparslan University, Turkey

Stand-Alone Paper

Growth of Personal Pedagogical Content Knowledge in Elementary Preservice Teachers Engaged with Socioscientific Issues Instruction

Melanie Kinskey*, Texas A&M University, USA

Crista Banks*, University of Alabama, USA

Jeff Papa*, Kent State University, USA

Stand-Alone Paper

Reviewing Design Principles to Develop Culture-Based Socio-Scientific Issues Training Programme for Indonesian Pre-service Science Teachers

Aprillyana Utami*, University of Southampton, United Kingdom

Andri Christodoulou, University of Southampton, United Kingdom

Marcus Grace, University of Southampton, United Kingdom

Stand-Alone Paper

"I Am a Researcher": Authentic Research Shaping Pre-Service Teachers' Researcher Identity and NOS/NOSI Understanding

Heidi Turcotte*, Georgia State University, USA

Renee Schwartz, Georgia State University, USA

Resources and challenges for emerging STEM teachers

Strand 8: In-service Science Teacher Education

20-Apr-26, 8:15-9:45

Location: Cedar AB (L2)

Stand-Alone Paper

Challenges or Assets: Early Career STEM Teachers' Perception of Students as Resources

Adepeju Prince*, Kent State University, USA

Shannon Navy, Kent State University, USA

Stand-Alone Paper

Teacher Movers: Longitudinal Study of Early Career Science and Math Teachers' Migration Decisions

Lisa Borgerding*, Kent State University, USA

Shannon Navy, Kent State University, USA

Adepeju Prince*, Kent State University, USA

Paulo Loureiro*, University of Georgia, USA

Stand-Alone Paper

Social Resource Access and Use for Early Career STEM Teachers.

Emily Hamada*, Eastern Washington University, USA

Robert Idsardi, Eastern Washington University, USA

Stand-Alone Paper

Mapping resilience: How summer break activities influence resilience trajectories of newly hired STEM teachers

Jose Pavez*, Western Illinois University, USA

Ella Yonai, Auburn University, USA

Shanon Navy, Kent State University, USA

Reimagining Science Education with Global and Societal Challenges at the Center

Strand 10: Curriculum and Assessment

20-Apr-26, 8:15-9:45

Location: Greenwood (L3)

Stand-Alone Paper

Exploratory Content Analysis: Food-Energy-Water Nexus in Chinese High School Biology Textbooks for Systems Thinking

Rudan Wang*, Purdue University, USA

Hui Hui Wang, Purdue University, USA

Hezhe Li*, Purdue University, USA

Shuangting Li, Purdue University, USA

Stand-Alone Paper

Astro-sociology Curriculum to Promote Science Identity and Global Citizenship

Chen Chen*, The University of Hong Kong, Hong Kong

Zeyu Han, The University of Hong Kong, Hong Kong

Kejian Qiu, Warwick University, United Kingdom

Gerhard Sonnert, Harvard University, USA

Stand-Alone Paper

Dialogic Argumentation about Health Equity in a Text-Based NGSS Biology Seminar

Jeanne Chowning*, Fred Hutchinson Cancer Center, USA

Regina Wu, Fred Hutchinson Cancer Center, USA

Kristen Bergsman, Fred Hutchinson
Cancer Center, USA
Kristin Bass, Rockman et al Cooperative
Inc., USA
Maggie Deagon, Rockman et al
Cooperative Inc., USA
Shelley Stromholt, Aspect Research +
Evaluation, USA

Stand-Alone Paper

*Reimagining school science:
Harnessing scientific thinking and
socio-scientific issues for student
engagement and empowerment*
Crystal Menzies*, University of California
Berkeley, USA
Kelly Grindstaff*, University of California
Berkeley, USA
Eric Greenwald*, University of California
Berkeley, USA
Janet Bellantoni*, University of California
Berkeley, USA
Ben Koo*, University of California Berkeley,
USA

Justice-Centered and Arts-based Science Teaching and Learning Across Spaces & Places

**Strand 11: Cultural, Social, and Gender
Issues**

20-Apr-26, 8:15-9:45

Location: Willow A (L2)

Symposium

*Justice-Centered and Arts-based
Science Teaching and Learning Across
Spaces & Places*

Mindy Chappell*, University of Illinois
Urbana Champaign, USA
Jonathan McCausland, Iona University,
USA
Maria Varelas, University of Illinois
Chicago, USA

Argyris Nipyrakis, University of Crete,
Greece
Betzabe Torres-Olave, University of
Groningen, Netherlands
Stephanie Batres Spezza, University of
Illinois Chicago, USA

Beyond Survival: Joyful Transgressions and Radical Imagination of Black Girls and Black Women Science Teachers

**Strand 11: Cultural, Social, and Gender
Issues**

20-Apr-26, 8:15-9:45

Location: Willow B (L2)

Related Paper Set

*Centering Spirit and Science: Black
Women Teachers Resisting Anti-
Blackness in the Curriculum*
Karin Mason*, Georgia State University,
USA
Renee Schwartz, Georgia State University,
USA
Natalie King, Georgia State University, USA
Patrick Enderle, Georgia State University,
USA

Related Paper Set

*I Should Know, I Once Was Her: Black
Women Science Teachers Engaging
Black Girls*

Teresa Massey*, Georgia State University,
USA
Renée Schwartz*, Georgia State University,
USA
Natalie King*, Georgia State University,
USA
Patrick Enderle*, Georgia State University,
USA

Related Paper Set

Sustainable Self-Care as Radical Resistance for Early Career Black Women Science Teachers

Jelissa Wright, Georgia State University, USA

Meagan Naraine, Georgia State University, USA

Natalie King, Georgia State University, USA

Andrea Dziengue, Georgia State University, USA

Related Paper Set

Dreaming Beyond the Lab Coat: Black Girls' Experiences in Advanced Science Courses

Jessica Snead*, Georgia State University, USA

Natalie King*, Georgia State University, USA

Renée Schwartz*, Georgia State University, USA

Patrick Enderle*, Georgia State University, USA

Learning Progression and GenAI for Supporting Teacher Instructional Adaptations and Student Three-Dimensional Learning

Strand 12: Technology for Teaching, Learning, and Research

20-Apr-26, 8:15-9:45

Location: Ballard (L3)

Related Paper Set

Toward Development: From Customizing Classroom Assessments with ADAPT-AI to Further Supporting 3D Learning Progression

Lalith Midde, Washington State University, USA

Hyeonji Lee, Washington State University, USA

Zeyuan Wang, Washington State University, USA

Tingting Li*, Washington State University, USA

Related Paper Set

Teachers Use of 3D Learning Progression to Adapt Local Instructional Materials: A Multiple Case Study

Zeyuan Wang*, Washington State University, USA

Peng He, Washington State University, USA

Timothy Fiser, Washington State University, USA

Yu Xue, Washington State University, USA

Namssoo Shin, Michigan State University, USA

Joseph Krajcik, Michigan State University, USA

Related Paper Set

Supporting Student 3D Learning Development with Learning Progression-based Classroom Assessments

Timothy Fiser*, Washington State University, USA

Peng He, Washington State University, USA

Zeyuan Wang, Washington State University, USA

Yu Wue, Michigan State University, USA

Joseph Krajcik, Michigan State University, USA

Related Paper Set

Leveraging GenAI to Generate Actionable Feedback on Student 3D

Learning: A Human-Centered Design Approach

Peng He*, Washington State University, USA

Kaiqi Yang, Michigan State University, USA

Honglu Liu, Washington State University, USA

Hang Li, Michigan State University, USA

Yucheng Chu, Michigan State University, USA

Jiliang Tang, Michigan State University, USA

Tingting Li, Washington State University, USA

New approaches and methods to NOS and scientific literacy

Strand 13: History, Philosophy, Sociology, and Nature of Science

20-Apr-26, 8:15-9:45

Location: Jefferson B (L4)

Stand-Alone Paper

Comparing Approaches of Analyzing Nature of Science Understandings Collected Using Open-Ended Measures

Jeanne Brunner*, University of Massachusetts Amherst, USA

Ryan Summers*, University of North Dakota, USA

Fouad Abd-El-Khalick, University of Massachusetts Amherst, USA

Stand-Alone Paper

A Case Study of Mentorship in a High School STEMM Research Internship

Bridget Mulvey*, Kent State University, USA

Graduate Student Research Symposium

20-Apr-26, 8:15-9:45

Location: Redwood AB (L2)

Administrative Session

Organizers

Georgie Schafer, Drexel University, Philadelphia, Pennsylvania, USA

Stephanie Tracey, Clemson University, Clemson, South Carolina, USA

Arya Karumanthra, Indiana University Bloomington, Indiana, USA

Writing, Publishing, and Reviewing for Science Education Journals

20-Apr-26, 8:15-9:45

Location: Issaquah AB (L3)

Administrative Session

Organizers

Edna Tan, UNC Greensboro, Greensboro, NC, USA

Dana Vedder-Weiss, Ben Gurion University of the Negev, Israel

Matthew Kloser, University of Notre Dame, Notre Dame, IN, USA

Contributors

Dana Vedder-Weiss, Ben Gurion University of the Negev, Israel

Matthew Kloser, University of Notre Dame, Notre Dame, IN, USA

Edna Tan, UNC Greensboro, Greensboro, NC, USA

David Stroupe, University of Utah, USA

Ron Gray, Northern Arizona University, USA

Scott McDonald, Pennsylvania State University, USA

M. Gail Jones, North Carolina State University, USA

Technology-Supported Learning for Engagement and Interdisciplinary Sensemaking

Strand 2: Science Learning: Contexts, Characteristics and Interactions

20-Apr-26, 10:00-11:30

Location: Jefferson A (L4)

Stand-Alone Paper

Interdisciplinary sensemaking with ChatGPT - Evidence for extended cognition

Ada Abes*, Technion, Israel

Asnat Zohar, Technion, Israel

Yam Arieli, Hebrew University, Israel

Shulamit Kapon, Technion, Israel

Stand-Alone Paper

When Context Is Constructed: Positioning Virtual Learning Environments on the Contextualization Spectrum

Michael Giamellaro*, Oregon State University, USA

Stand-Alone Paper

The Impact of Gamification on Student Motivation in Science Education: A Meta-Analysis

Kübra BAĞRIYANIK*, Artvin Coruh University, Turkey

Ulaş ÜSTÜN, Middle East Technical University, Turkey

Meral HAKVERDİ CAN, Hacettepe University, Turkey

Making Thinking Visible: Reasoning, Representation, and Classroom Discourse

Strand 4: Science Teaching — Middle and High School (Grades 5-12): Characteristics and Strategies

20-Apr-26, 10:00-11:30

Location: Ravenna C (L3)

Stand-Alone Paper

Students' Epistemic Modelling through Multimodal Representations

Kason Ka Ching Cheung*, The Education University of Hong Kong, China

Lan Yang, The Education University of Hong Kong, China

Stand-Alone Paper

Making Students' Reasoning Visible through a Novel Assessment Format: Claim-REASON TEST (CREATE)

Thineshan Puspanathan*, National Institute of Education, Nanyang Technological University, Singapore

Yann Shiou Ong*, National Institute of Education, Nanyang Technological University, Singapore

Huifen Xu, National Institute of Education, Nanyang Technological University, Singapore

Yew Jin Lee, National Institute of Education, Nanyang Technological University, Singapore

Stand-Alone Paper

Examining Science Teachers' Questioning Patterns for Learning Support : A Computational Grounded Theory Approach

Tongtong Guan*, Research Institute of Science Education, Faculty of Education, China

Jie Yang*, Research Institute of Science Education, Faculty of Education, China
Yonghe Zheng, Research Institute of Science Education, Faculty of Education, China

Stand-Alone Paper

Visible and Invisible Self-Regulation: Observational Scenarios from Science Classrooms

Katrin Saks, University of Tartu, Estonia
Kõue Heintalu*, University of Tartu, Estonia

Science Identity Development Across Undergraduate Pathways

Strand 5: College Science Teaching and Learning (Grades 13-20)
20-Apr-26, 10:00-11:30
Location: Aspen (L2)

Stand-Alone Paper

External Validation of Undergraduate Research Leads to Gains in Science Identity, Value, and Self-Efficacy

Mary Whitfield*, Edmonds College, USA
J. Shlichta*, Edmonds College, USA
Julia Smith*, University of Washington, USA

Stand-Alone Paper

High Stress, High Support: Scientific Conferences, Interactions and Identity Development for Undergraduate Women in Science

Stacy Olitsky*, Saint Joseph's University, USA

Stand-Alone Paper

Development of Science Identity through Student-Work

Gabriel LeBlanc*, The University of Tulsa, USA

Maivi Nguyen, The University of Tulsa, USA
Kathryn Hosbein, Middle Tennessee State University, USA

Stand-Alone Paper

Justice-Centered STEM Pedagogy and STEM Identity: Exploring Links Across Intersectional Identities in Higher Education

Juan Garibay, University of Virginia, USA
Lindsay Wheeler, University of Virginia, USA

Beyond the Tenure Track: A Workshop Exploring Career Opportunities in Non-Traditional and Informal Settings

Strand 6: Science Learning in Informal Contexts
20-Apr-26, 10:00-11:30
Location: Willow A (L2)

Symposium

Beyond the Tenure Track: A Workshop Exploring Career Opportunities in Non-Traditional and Informal Settings

Christa Haverly*, Chicago Public Schools, USA

Karen Hammerness*, American Museum of Natural History, USA

Ti'Era Worsley*, NOVA SySTEMic, USA

Jennifer Richards*, Northwestern University, USA

Déana Scipio*, IslandWood, USA

Preparing Future STEM Teachers for Deeper, Justice-Oriented Learning

Strand 7: Pre-service Science Teacher Education

20-Apr-26, 10:00-11:30

Location: Columbia (L4)

Stand-Alone Paper

Influence of Teacher Education on Science Teaching: The Role of High-Leverage Practices, Equity, and Sensemaking

Amber Bismack*, Oakland University, USA

Patricia Bills, Oakland University, USA

Boyun Kim, Oakland University, USA

Strand 7: Pre-service Science Teacher Education

20-Apr-26, 10:00-11:30

Location: Columbia (L4)

Stand-Alone Paper

Prospective Teachers Learning to Teach About Climate Justice: A Case Study

Julie Bianchini*, University of California, Santa Barbara, USA

Devon Azzam, University of California, Santa Barbara, USA

Kaylee Laub*, University of California, Santa Barbara, USA

Danielle Harlow, University of California, Santa Barbara, USA

Karin Lohwasser, University of California, Santa Barbara, USA

Strand 7: Pre-service Science Teacher Education

20-Apr-26, 10:00-11:30

Location: Columbia (L4)

Stand-Alone Paper

Preservice Science and Math Teachers Conceptions of and Teaching Practices for Deeper Learning

Matthew Bennett*, UC Santa Barbara, USA

Jing Su, UC Santa Barbara, USA

Yvette Doss, UC Santa Barbara, USA

Ying Gao, UC Santa Barbara, USA

Oishee Mujtaba, UC Santa Barbara, USA

Daniel Santana, UC Santa Barbara, USA

Mian Wang, UC Santa Barbara, USA

Danielle Harlow, UC Santa Barbara, USA

Science teachers' approaches to climate, energy, and justice

Strand 8: In-service Science Teacher Education

20-Apr-26, 10:00-11:30

Location: Cedar AB (L2)

Stand-Alone Paper

Science Teachers' Uptake of Multispecies Justice in Designing Phenology Lessons on Climate Change Impacts

Asli Sezen-Barrie*, University of California, USA

Mary Stapleton, Towson University, USA

Emily Cohen, University of Maryland Center for Environmental Science, USA

Stand-Alone Paper

Discursive Roles in Climate Science+Data Professional Learning: An Analysis of Learner Hat

Kimberly Jones*, University of Tennessee - Knoxville, USA

Kerri Wingert, Good Question Research, USA

Kristin Hunter-Thomson, Dataspire, USA

Anne Gold, CIRES CEEE - University of Colorado Boulder, USA

Karla Citlali Lemus Gordillo, CIRES CEEE - University of Colorado Boulder, USA

Jonathan Griffith, CIRES CEEE - University of Colorado Boulder, USA

Annette Brickley, Dataspire, USA

Joshua Rosenberg, University of Tennessee - Knoxville, USA

Jessica Bean, University of California Berkeley, USA

Stand-Alone Paper

Water as a Conduit for Exploring Environmental Justice in K-12 Classrooms

Kathryn Ribay*, San Jose State University, USA

Restructuring the Science Curriculum around Grand Challenges

Strand 10: Curriculum and Assessment

20-Apr-26, 10:00-11:30

Location: Greenwood (L3)

Related Paper Set

Teachers' Implementation of the Grand Challenge Curriculum

Rebecca Lesnefsky*, SUNY Cortland, USA

Natasha Segal*, Weizmann Institute, Israel

Related Paper Set

Centering Student Voices on Grand Challenges: A Cross-National Study

Heewoo Lee*, University of North Carolina at Chapel Hill, USA

Shira Passentin*, Weizmann Institute, Israel

Related Paper Set

Theoretical Foundations and Design Principles for a Grand Challenge Curriculum

David Fortus*, Weizmann Institute, Israel

Troy Sadler*, University of North Carolina at Chapel Hill, USA

Keren Dalyot, Weizmann Institute, Israel

Related Paper Set

Assessing Modeling Competencies in the Grand Challenges Curriculum

Nannan Fan*, University of North Carolina at Chapel Hill, USA

David Fortus, Weizmann Institute, Israel

Adi Moskovits, Weizmann Institute, Israel

Black youth, faculty, and curricular considerations

Strand 11: Cultural, Social, and Gender Issues

20-Apr-26, 10:00-11:30

Location: Juniper (L2)

Stand-Alone Paper

Centering Black Girls in STEM: A Culturally Relevant and BlackCrit Approach

Raketa Thomas*, University of North Carolina at Charlotte, USA

Uchenna Emenaha Miles*, University of Texas San Antonio, USA

Stand-Alone Paper

Understanding impostor phenomenon among Black faculty members in STEM: A US-based exploratory study

Devasmita Chakraverty*, Indian Institute of Management Ahmedabad, India

Stand-Alone Paper

Curious about Black Hair: A Study of the STEM Curriculum Interest of African Americans

Jomo Mutegei*, Old Dominion University, USA

Stand-Alone Paper

Synthesizing the Synthesis: A Review of Researcher Positionality in STEM Education Research about Black girls

Olayinka Mohorn-Mintah*, University of Memphis, USA

Monica Miles*, University at Buffalo, USA

Demetrice Smith-Mutegei*, Old Dominion University, USA

Alexis Riley*, New York University, USA

Catherine Quinlan, North Carolina Central University, USA

Joi Merritt, James Madison University, USA

Crystal Morton, Indiana University Indianapolis, USA

Cultural Considerations to Radically (Re)-Imagine STEM Education and Research

Strand 11: Cultural, Social, and Gender Issues

20-Apr-26, 10:00-11:30

Location: Willow B (L2)

Related Paper Set

Maintaining communalistic values to support the STEM matriculation of Black Diasporic men

Takeshia Pierre*, Tufts University, USA

Related Paper Set

Cross-Cultural Interactions in Community-Based Engineering Projects: Financial and Reputational Borders in Engineering Study Abroad Programs

Trevion Henderson*, Tufts University, USA

Collette Higgins, Tufts University, USA

Related Paper Set

Rooted in Resistance: Cultivating Critical Consciousness Through Pláticas in Engineering

Joel Mejia*, University of Cincinnati, USA

Related Paper Set

Climate Tech Journalism: Engineering Climate Futures through the Voices of Multilingual and Multidialectal Youth

Clara Mabour, Tufts University, USA

Greses Perez, Tufts University, USA

Kristen Wendell, Tufts University, USA

Fatima Rahman, Tufts University, USA

Chelsea Andrews, Tufts University, USA

Hybrid/AI-Enhanced Investigations & Model-Based Learning

Strand 12: Technology for Teaching, Learning, and Research

20-Apr-26, 10:00-11:30

Location: Ballard (L3)

Stand-Alone Paper

Exploring the implementation of GenAI in STEM education through the co-creation of learning activities

Federico Valeri*, Halmstad University, Sweden

Pernilla Nilsson, Halmstad University, Sweden

Anne-Marie Cederqvist, Halmstad
University, Sweden

Stand-Alone Paper

*Understanding Generative AI through
the SOLO Taxonomy: An Example
from Nanotechnology Education*
Yael Feldman-Maggor*, Ben Gurion
university of the Negev, Israel

Stand-Alone Paper

*Challenging the advantage of hybrid
investigations in the context of electric
circuits*
Elon Langbeheim*, Ben-Gurion University
of the Negev, Israel
David Krein, Ben-Gurion University of the
Negev, Israel

Stand-Alone Paper

*Integrating biomimicry into middle
school STEM: Using structure-function
analysis and modeling to inspire
engineering design*
Debra Bernstein*, TERC, USA
Kathryn Hobbs, TERC, USA
Michael Cassidy, TERC, USA
Kristen Wendell, Tufts University, USA
Gillian Puttick, TERC, USA
Ethan Danahy, Tufts University, USA
Celing Xu, Tufts University, USA
Tyrine Pangan, Tufts University, USA
William Church, CRCS, USA

Teacher learning in nature of science
**Strand 13: History, Philosophy, Sociology,
and Nature of Science**
20-Apr-26, 10:00-11:30
Location: Jefferson B (L4)

Stand-Alone Paper

*Nonformal Learning, Worlding, and
the Future of Science Education for
Preservice Childhood Educators*
Leah Master*, New York University, USA

Stand-Alone Paper

*Science Teachers' Incorporation of
NOS-based Activities into Their Lesson
Planning*
Büşra Aksöz*, Bogazici University, Turkey
Ebru Kaya, Bogazici University, Turkey

Stand-Alone Paper

*Pre-service science teachers'
perceptions of epistemic knowledge
when using experiments in chemistry
lessons*
Janne-Marie Bothor*, University of Kassel,
Germany
David-Samuel Di Fuccia, University of
Kassel, Germany

Stand-Alone Paper

*Exploring the Nature of Science
through AI-Based Experiments: A Look
into Pre-Service Teachers' Learning*
Jua Lee, Korea National University of
Education, Korea, Republic of
Suna Ryu*, Korea National University of
Education, Korea, Republic of

Environmental Identities, Cultural Contexts, and Education for Sustainability

Strand 14: Environmental Education and Sustainability

20-Apr-26, 10:00-11:30

Location: Issaquah AB (L3)

Stand-Alone Paper

'Civilized Behavior' Signs versus Nature-Friendly Education: A Cross-Cultural Analysis from a Science Education Perspective

Haoxuan Du*, UCL Institute of Education, United Kingdom

Michael Reiss, UCL Institute of Education, United Kingdom

Joanne Nicholl, UCL Institute of Education, United Kingdom

Kate Greer, UCL Institute of Education, United Kingdom

Stand-Alone Paper

Political Ecology of Environmental Education: Moral Narratives of Living in a Protected Indonesian Forest

Patricia Patrick*, Columbus State University, USA

Stand-Alone Paper

Ecological Presence in Education: Using Technology to Support Student Identity and Connection with Nature

Tyler Hansen*, Washington State University, USA

Colby Tofel-Grehl, Teachers College, USA

Equity, Identity, and Policy in Science Education

Strand 15: Policy, Reform, and Program Evaluation

20-Apr-26, 10:00-11:30

Location: Capitol Hill (L3)

Stand-Alone Paper

Surface Learning by Design: An Analysis of Texas Science Standards

Allison Esparza*, South Dakota State University, USA

Joanne Olson, Texas A&M University, USA

Stand-Alone Paper

Does Research Count in Shaping Science Education Policy? Evidence from England

Wonyong Park*, University of Southampton, United Kingdom

Carys Hughes, University of Southampton, United Kingdom

Chris Downey, University of Southampton, United Kingdom

Stand-Alone Paper

Bridging Boundaries: How State Computer Science Leader Networks Advance Equity

Stefanie Marshall*, Michigan State University, USA

Ain Grooms*, University of Wisconsin-Madison, USA

Joshua Childs*, University of Texas-Austin, USA

Grace Tukurah*, Michigan State University, USA

SJ Hemmerich, University of Wisconsin-Madison, USA

Stand-Alone Paper

*Investigating Science Identity
Development in a STEM Summer
Program*

Manal Almalki*, Walter Reed Army
Institute of Research, USA

Debra Yourick, Walter Reed Army Institute
of Research, USA

Stand-Alone Paper

*Toward an Organizational,
Professional, and Community Theory
of Science Teacher Retention*

Douglas Larkin*, Montclair State
University, USA

Suzanne Patzelt*, Touro University, USA

Liz Carletta, Montclair State University,
USA

Khadija Ahmed, Montclair State
University, USA

Mayra Muñoz, Montclair State University,
USA

A Case for Joyful Transgressions and Radical Imagination in Science Education Within the African Diaspora

20-Apr-26, 10:00-11:30

Location: Redwood AB (L2)

Administrative Session

Organizers

Rona Robinson-Hill, Ball State University,
Muncie, IN, USA

Jonathan Hall, California State University,
San Bernardino, CA, USA

Contributors

Malcolm Butler, University of North
Carolina at Charlotte, USA

NARST Connects

20-Apr-26, 10:00-11:30

Location: Kirkland (L3)

Discussion Session

Advancing Literacy and Innovation in Science Ed

20-Apr-26, 10:00-11:30

Location: Virginia (L4)

Administrative Session

Organizers

John Pecore, University of West Florida,
USA

Contributors

Laura Jacobs, Towson University, USA

Katherine Sharp, Missouri University of
Science and Technology, USA

Carly Carron, Missouri University of
Science and Technology, USA

Keira Walker, Missouri University of
Science and Technology, USA

Carson Dudley, Missouri University of
Science and Technology, USA

Awards Ceremony

20-Apr-26, 12:30-13:30

Location: Grand Ballroom (L2)

***Joy as Method, Community as Praxis:
Reimagining Science Education as
Collective Flourishing***

20-Apr-26, 13:30-14:30

Location: Grand Ballroom (L2)

Speakers:

Prof. Edwin Lindo
Dr. Kaleb Germinaro
Dr. Estell Williams

Co-Moderated by:

Dr. Terrell Morton
Dr. Daniel Morales-Doyle

***Advancing Systems Thinking and
Climate Literacy in K-12***

**Strand 1: Science Learning: Development
of student understanding**

20-Apr-26, 14:45-16:15

Location: Ravenna AB (L3)

Stand-Alone Paper

*High School Students' Knowledge-in-
Use of Energy Through the Systems-
Transfer Approach*

Weiwei He*, CREATE for STEM Institute,
Michigan State University, USA
Steve Bennett, CREATE for STEM Institute,
Michigan State University, USA
Jeffrey Nordine, Department of Teaching
and Learning, University of Iowa, USA
David Fortus, Weizmann Institute of
Science, Israel
Joseph Krajcik, CREATE for STEM Institute,
Michigan State University, USA

Stand-Alone Paper

*Three-Dimensional Learning about
Water as a Limited and Threatened
Resource*

Kristin Gunckel*, University of Arizona,
USA

Linda Morell, University of California
Berkeley, USA

Mingfeng Xue, University of North
Carolina Greensboro, USA

Paulchell-Lehan Alexander, University of
Arizona, USA

Malissa Hubbard, University of Arizona,
USA

Anna MacPherson, American Museum of
Natural History, USA

Dozier Sara, California State University
Long Beach, USA

Mark Wilson, University of California
Berkeley, USA

***JuST in the World- Expanding
Justice-Centered Ambitious Science
Teaching and Learning across
contexts***

**Strand 3: Science Teaching — Primary
School (Grades preK-6): Characteristics
and Strategies**

20-Apr-26, 14:45-16:15

Location: Redwood AB (L2)

Symposium

*JuST in the World- Expanding Justice-
Centered Ambitious Science Teaching
and Learning across contexts*

Déana Scipio*, IslandWood, USA

April Luehmann*, University of Rochester,
USA

Priya Pugh*, IslandWood, USA

Chris Jadallah*, University of California Los
Angeles, USA

Hannah Cooke*, University of Connecticut,
USA

Scott McDonald*, Pennsylvania State
University, USA

Elizabeth Starks, University of
Washington, Bothell, USA

Veronica McGowan*, University of Washington, Bothell, USA
Symone Gyles, University of California, Irvine, USA
Molly Wilson, University of Rochester, USA

Cultivating Joyful Transgression in Elementary Science Methods: A Collaborative Self-Study of AI Integration & Radical Imagination
Strand 3: Science Teaching — Primary School (Grades preK-6): Characteristics and Strategies
20-Apr-26, 14:45-16:15
Location: Willow A (L2)

Symposium

Cultivating Joyful Transgression in Elementary Science Methods: A Collaborative Self-Study of AI Integration & Radical Imagination
Thomas McKenna*, Boston University, USA
Deepika Menon*, University of Nebraska-Lincoln, USA
Badri Adhikari*, University of Missouri-St. Louis, USA
Carolyn Colley*, Sartori Elementary, USA
Meenakshi Sharma*, Mercer, USA
Christina Schwarz*, Michigan State University, USA
Emily Adah, University of Georgia, USA
Tingting Li*, Washington State University, USA
Melissa Luna, West Virginia University, USA
Min Sun, University of Washington, USA

Complexity in Science Education: Perspectives from Systems Thinking and Modeling

Strand 4: Science Teaching — Middle and High School (Grades 5-12): Characteristics and Strategies
20-Apr-26, 14:45-16:15
Location: Ravenna C (L3)

Related Paper Set

Connecting Classrooms to Climate Change: Teaching Building Energy Systems Through Systems Thinking and Modeling

Laura Zangori*, University of Missouri, USA
Jessica Justice, University of Missouri, USA
Delaney O'Brien, Colorado State University, USA
Jong Kim, University of Missouri, USA
Aysegul Akturk, Gebze Technical University, Turkey
Laura Cole, Colorado State University, USA

Related Paper Set

Systems Thinking and Modeling in Climate Education: A System Dynamics Approach for Middle School Students
Melda Demirtas, Inonu University, Turkey
Gaye Ceyhan*, Bogazici University, Turkey
Ibrahim Unal, Inonu University, Turkey

Related Paper Set

Scaffolding for Systems Thinking: Challenges and Mitigations
Ram Tamir, Ben Gurion University of the Negev, Israel
Tom Bielik*, Radboud University, Netherlands
Orit Ben-Zvi Assaraf, Ben Gurion University of the Negev, Israel

Related Paper Set

Relationships between pre-service science teachers' modeling metaknowledge and modeling practices

Kim Lobner*, IPN, Germany

Tom Bielik, Radboud University, Netherlands

Moritz Krell, IPN, Germany

Context Matters: Using a Resources Perspective to Model Learner Reasoning

Strand 5: College Science Teaching and Learning (Grades 13-20)

20-Apr-26, 14:45-16:15

Location: Aspen (L2)

Related Paper Set

Shifting into Sensemaking: Fluidity in biology students' epistemic cognition

Julia Svoboda*, Tufts University, USA

Sugat Dabholkar, Tufts University, USA

Scott Benjamin, Bunker Hill Community College, USA

Yiru Wang, Mount Holyoke College, USA

Related Paper Set

How Metacognition and Principle-based Reasoning Co-develop: A Case Study of Learning Flux in Biology

Alexander Waugh, Michigan State University, USA

Aeryn VanDerSlik, Michigan State University, USA

Safana Ismeal, University of Wisconsin Madison, USA

Hana Zhou, Michigan State University, USA

Sheela Vemu, Waubensee Community College, USA

Mary Pat Wenderoth, University of Washington, USA

Janet Branchaw, University of Wisconsin Madison, USA

Jennifer Doherty, Michigan State University, USA

Related Paper Set

Students' Knowledge Resources in a Problem-Solving-First Lesson

Paula Lemons*, University of Georgia, USA

Cheng-Wen He, University of Georgia, USA

Related Paper Set

More than meets the eye: The impact of context in scientific observation

Adrian Adams*, University of Utah, USA

Lauren Barth-Cohen, University of Utah, USA

Roundtables Session 1

20-Apr-26, 14:45-16:15

Location: Grand Ballroom (L2)

Strand 1: Science Learning: Development of student understanding

WIP Roundtable

Hearing the Stars, Seeing Our Words: A Science-SEL Journey Through Sonification

Shanel Lightfoot*, The University of Alabama College of Engineering, USA

Strand 2: Science Learning: Contexts, Characteristics and Interactions

WIP Roundtable

Laughing to learn: Humor as a gateway to epistemic safety in high school chemistry

Elizabeth Harris*, Stanford University, USA
Tracy Poulsen*, Brigham Young University, USA
Erin Whiting*, Brigham Young University, USA

**Strand 2: Science Learning: Contexts, Characteristics and Interactions
WIP Roundtable**

*Connecting Creativity with PCK:
Creating a Framework for Science
Teacher Education*

William Veal*, University of Charleston, USA
Vanessa Kind, University of Leeds, United Kingdom

**Strand 2: Science Learning: Contexts, Characteristics and Interactions
WIP Roundtable**

*Research on the influencing factors of
scientific critical thinking of junior high
school students*

Chaochao Jia*, China Research Institute
for Science Popularization, China
Xiuju Li, China Research Institute for
Science Popularization, China
Ren Lei, China Research Institute for
Science Popularization, China
Yuele Huang, China Research Institute for
Science Popularization, China
Mengqian Wang, China Research Institute
for Science Popularization, China
Tao Yang, Beijing Normal University, China

**Strand 2: Science Learning: Contexts, Characteristics and Interactions
WIP Roundtable**

*Leveraging Science Communication
in Fostering Science Literacy and
Science Identity Among Biology
Graduate Students.*

Meena Kharatmal, Texas State University, USA
Tyler Harper-Gampp, Texas State University, USA
Tiara Thompson, Texas State University, USA
Carolyn Jess, Texas State University, USA
Jill Zipperer, Texas State University, USA
Kristy Daniel*, Texas State University, USA

**Strand 2: Science Learning: Contexts, Characteristics and Interactions
WIP Roundtable**

*Exploring Teacher Tolerance for
Ambiguity: Implications for Authentic
and Equitable Science Instruction*

Christopher Wilson*, BSCS Science Learning, USA
Cynthia Passmore*, University of California, Davis, USA
Molly Stuhlsatz, BSCS Science Learning, USA
Cari Herrmann Abell, BSCS Science Learning, USA
Jeffrey Snowden, BSCS Science Learning, USA
Dennis Lee, BSCS Science Learning, USA
Chris Griesemer, University of California, Davis, USA

**Strand 2: Science Learning: Contexts, Characteristics and Interactions
WIP Roundtable**

*Exploring Multimodal Meaning-
Making in Multilingual Science
Classrooms: The Case of Lebanon*
Salwa Ali*, Saint Joseph University, Lebanon

**Strand 2: Science Learning: Contexts,
Characteristics and Interactions
WIP Roundtable**

What Added Value Do

*Neurophysiological Measures of
Engagement Bring to Science
Learning Research?*

Yushuang Liu*, Boston College, USA

Xiaorui Xue*, Boston College, USA

Ido Davidesco*, Boston College, USA

Bruce McLaren, Carnegie Mellon
University, USA

J Elizabeth Richey, University of
Pittsburgh, USA

Hayden Stec, Carnegie Mellon University,
USA

Leah Teffera, Carnegie Mellon University,
USA

Jiayi Zhang, University of Pennsylvania,
USA

Elana Zion-Golumbic, Bar-Ilan University,
Israel

**Strand 3: Science Teaching — Primary
School (Grades preK-6): Characteristics
and Strategies
Roundtable**

*A Teacher's Philosophical Messages in
Science Classrooms to Support
Student Engagement in Knowledge
Generation*

Jale Ercan Dursun*, Baylor University, USA

JEE SUH, Baylor University, USA

**Strand 3: Science Teaching — Primary
School (Grades preK-6): Characteristics
and Strategies
Roundtable**

*Co-Creating Change: Building
Authentic Collaborations Between
Primary School Parents, Teachers, and
University Researchers*

Caitlyn Ishaq*, University of California,
Davis, USA

Becca VanArnam*, University of California,
Davis, USA

María Godoy, Independent Researcher,
USA

Margarita Jiménez-Silva, University of
California, Davis, USA

**Strand 3: Science Teaching — Primary
School (Grades preK-6): Characteristics
and Strategies
Roundtable**

*Elementary Preservice Teachers ' '
Investigation Planning using a Toolkit
to Support Responsive 3D
Sensemaking*

Anna Arias*, Kennesaw State University,
USA

Soon Lee*, Kennesaw State University, USA

Preethi Titu, Kennesaw State University,
USA

Rasheda Likely, Kennesaw State
University, USA

Jessica Stephenson Reaves, Kennesaw
State University, USA

**Strand 3: Science Teaching — Primary
School (Grades preK-6): Characteristics
and Strategies
WIP Roundtable**

*Empowering Students Through
Integrating Culturally Responsive
Pedagogy with Evidence-Based
Approaches to Teaching Science
Writing*

Yewon Lee*, University of Maryland at
College Park, USA

Jooyoung Lee, University of Maine, USA

Strand 4: Science Teaching — Middle and High School (Grades 5-12): Characteristics and Strategies

Roundtable

Problems and Possibilities:

Understanding an Early Career

Science Teacher's Identity

Development using the DSMRI

J. Elisabeth Kasner*, Florida State University, USA

Strand 4: Science Teaching — Middle and High School (Grades 5-12): Characteristics and Strategies

Stand-Alone Paper

A Framework for Understanding

Students' Experiences of Uncertainty during Scientific Sensemaking:

Agency x Uncertainty Matrix

Bukola Akinbadewa*, Arizona State University, USA

Michelle Jordan, Arizona State University, USA

Ying-Chih Chen, Arizona State University, USA

Andrea Weinberg, Arizona State University, USA

Strand 5: College Science Teaching and Learning (Grades 13-20)

WIP Roundtable

Linking Academia and Industry:

Exploring SSRL, 21st Century Skills, and

Knowledge Construction in

Collaborative Learning

Shirly Avargil*, Technion Israel Institute of Technology, Israel

Avida Shoham, Technion Israel Institute of Technology, Israel

Strand 5: College Science Teaching and Learning (Grades 13-20)

Roundtable

Exam Previews: Evidence for

Complexity and Related Learning

within Undergraduate Assessment

Kerri Wingert*, Good Question Research, USA

Gregory Crowther, Everett Community College, USA

Ben Wiggins, Shoreline Community College, USA

Strand 5: College Science Teaching and Learning (Grades 13-20)

WIP Roundtable

Civic Engagement among STEM

Majors: Exploring Self-Determination

and Identity through an Explanatory

Sequential Mixed-Methods Study

Blessing Soyebi, Illinois State University, USA

Rebekka Darner, Illinois State University, USA

Strand 5: College Science Teaching and Learning (Grades 13-20)

WIP Roundtable

Use of Video Role Models in

Undergraduate Biology: A Focus on

Career Pathways and Identities

Sierra Morandi*, Florida State University Schools, USA

Roxanne Hughes*, Florida State University, USA

Monica Paniagua Montoya, Florida State University, USA

David McNutt, Florida State University, USA

Strand 5: College Science Teaching and Learning (Grades 13-20)

WIP Roundtable

Computational modeling for all? A study of AI-generated computational models in physics education

David Perl-Nussbaum*, University of Colorado Boulder, USA

Strand 6: Science Learning in Informal Contexts

WIP Roundtable

Reimagining Contact with Science: A Freirian Perspective on Science Museums

Paula Silva Ribeiro Ferreira*, University of Nevada, Reno, USA

Strand 6: Science Learning in Informal Contexts

WIP Roundtable

Mapping Joy and Justice: Black Girl Cartography and Radical Imagination in Informal Science Spaces

Tajma Cameron*, Morgan State University, USA

Strand 6: Science Learning in Informal Contexts

WIP Roundtable

Reimagining Evaluation Through Relationality: Joyful Transgressions in Family STEM Learning

Diana Ballesteros, New York Hall of Science, USA

Franklin Aucapina*, New York Hall of Science, USA

Delia Meza*, New York Hall of Science, USA

Sarah Ketani, New York Hall of Science, USA

Alyssa Whu, New York Hall of Science, USA

Sylvia Perez, New York Hall of Science, USA

Susan Letourneau, New York Hall of Science, USA

Strand 6: Science Learning in Informal Contexts

Roundtable

From Compliance to Commitment: Science Identity and Persistence in Afterschool Robotics

Shikhar Kashyap*, Virginia Tech, USA

Brenda Brand, Virginia Tech, USA

Lezly Taylor, Virginia Tech, USA

Strand 6: Science Learning in Informal Contexts

WIP Roundtable

Exploring the Integration of Place-Based Education and Environmental Interpretation at an Informal Science Institution

Ryan Spencer*, Texas State University, USA

Meena Kharatmal, Texas State University, USA

Kristy Daniel, Texas State University, USA

Strand 6: Science Learning in Informal Contexts

Roundtable

Beyond the Classroom: Exploring Teachers' Roles in Extracurricular Stem Programs

HELEN SEMILARSKI*, University of Tartu, Estonia

HELIN SEMILARSKI, University of Tartu, Estonia

Strand 6: Science Learning in Informal Contexts

WIP Roundtable

Developing Wicked Learners for a World of Wicked Problems

Shawn Rowe*, Exploratorium, USA

Strand 7: Pre-service Science Teacher Education

Roundtable

Developing Elementary Teacher Candidates' AI Assessment Literacy through STEMLEAD Self-Assessment Tool

Athena Hui Jiang, Iowa State University, USA

E.J. Bahng*, Iowa State University, USA

Stephen Fieffer, Iowa State University, USA

Omar Abudagga, Iowa State University, USA

Stephen Gilbert, Iowa State University, USA

Silmi Zafira, Iowa State University, USA

Syeda Chowdhury, Iowa State University, USA

Clark Coffman, Iowa State University, USA

Mack Shelley, Iowa State University, USA

Strand 7: Pre-service Science Teacher Education

WIP Roundtable

Connecting Creativity with PCK: Creating a Framework for Science Teacher Education

William Veal*, The College of Charleston, USA

Vanessa Kind*, The University of Leeds, United Kingdom

Strand 7: Pre-service Science Teacher Education

Roundtable

Embedding Systems Thinking in Pre-Service Science Education to Promote Inquiry-Based Teaching

Azka Kiran*, Virginia Tech, USA

Monday Moju, Virginia Tech, USA

Lezly Taylor, Virginia Tech, USA

Strand 7: Pre-service Science Teacher Education

Roundtable

Empowering Pre-Service Teachers to Bridge Research and Secondary STEM Education

Katherine King*, Georgia Institute of Technology, USA

Heidi Turcotte*, Georgia Institute of Technology, USA

Meltem Alemdar, Georgia Institute of Technology, USA

Strand 7: Pre-service Science Teacher Education

Roundtable

Non-formal Education Pedagogy and Practices in K-12 Science Classrooms: A Phenomenological Study

Liz Carletta*, Rutgers University-Newark, USA

Strand 8: In-service Science Teacher Education

Roundtable

Science Teachers' Evolving Perceptions of Scientific Uncertainty Across Two Years of Practice-Based Professional Development

Yiwen Li*, Arizona State University, USA

Ying-Chih Chen, Arizona State University, USA

Michelle Jordan, Arizona State University, USA

Carlos Meza-Torres, Arizona State University, USA

Jongchan Park, University of Georgia, USA

Yu Ye, Arizona State University, USA

Strand 8: In-service Science Teacher Education Roundtable

Exploring In-Service Science Teachers' Understanding of Systems Thinking Approach and Pedagogical Strategies to Foster it

Monday Moju*, Virginia Tech, USA

Akza Kiran*, Virginia Tech, USA

Olusegun Fashakin, University of Lagos, Nigeria

Strand 8: In-service Science Teacher Education WIP Roundtable

Impacts of a Professional Development Program on Biology Teachers' Scientific Argumentation Competency and PCK

Shan LIN*, Beijing Normal University, China

Jian WANG, Beijing Normal University, China

Strand 11: Cultural, Social, and Gender Issues Roundtable

Broadening "Queering" in STEM: Advancing a Relational Paradigm Through Queer Cultural Praxis

K. Mendoza*, University of Nebraska at Omaha, USA

Khanh Tran*, Utah State University, USA

Strand 11: Cultural, Social, and Gender Issues Roundtable

School and racial climate in the context of Science and Mathematics Teaching in Puerto Rico

Maria Medina, University of Puerto Rico, USA

Isabel Delgado*, University of Puerto Rico, USA

Sara Ocasio, University of Puerto Rico, USA

Melitza Nieves*, University of Puerto Rico, USA

Strand 11: Cultural, Social, and Gender Issues Roundtable

Cultural and Linguistic Diversity in STEM Education: NARST and NSTA Perspectives

Narendra Deshmukh*, Ret. from Homi Bhabha Centre for Science Education, TIFR, India

Strand 11: Cultural, Social, and Gender Issues Roundtable

Negotiating Cultural Expectations and Career Agency: East Asian Americans' STEM Career Choices

Layla Zang*, Virginia Tech, USA

Brenda Brand*, Virginia Tech, USA

Lezly Taylor*, Virginia Tech, USA

Strand 15: Policy, Reform, and Program Evaluation WIP Roundtable

Identifying High-Quality Teachers and Their Job Satisfaction in TALIS 2018

Elif Ozulku*, University of Notre Dame, USA

Sebnem Atabas, University of St. Joseph,
USA

***Celebrating the Everyday in Science
Learning Across Contexts and
Lifespans***

**Strand 6: Science Learning in Informal
Contexts**

20-Apr-26, 14:45-16:15

Location: Virginia (L4)

Related Paper Set

*Science in the Strands: An
Ethnographic Study of the Natural
Hair Community*

Grace Tukurah*, Michigan State University,
USA

Related Paper Set

*A Right to Repair: The Navigation of a
Black Learner's STEM Identity*

Brandi Cannon-Force*, Stanford
University, USA

Related Paper Set

*Fractal Thinking with Poly-Epistemic
Families about Tortilla-Making*

Alejandra Frausto Aceves*, Northwestern
University, USA

***Building Preservice Teachers'
Computational Thinking and AI-
Integrated Modeling Practices***

**Strand 7: Pre-service Science Teacher
Education**

20-Apr-26, 14:45-16:15

Location: Columbia (L4)

Stand-Alone Paper

*Pre-service science teacher learning
about computational thinking
through computational modeling
practices*

Amanda Peel*, New Mexico State
University, USA

Stand-Alone Paper

*Pre-service Teachers' Learning and
Reflection Computational Thinking
and Transdisciplinarity in an Out-of-
School Project*

Camila Gasparin, Georgia State University,
USA

Sudha Awasthi, Georgia State University,
USA

Patrick Enderle*, Georgia State University,
USA

Stand-Alone Paper

*Pre-service Science Teachers' Use of AI
for NGSS Teaching and 3D Learning*

Emil Eidin*, University of Wyoming, USA

Peng He, Washington State University,
USA

Tingting Li, Washington State University,
USA

Stand-Alone Paper

*How Preservice Teachers Simplify
Computational Thinking Concepts*

*During Elementary Science Lessons:
Strategies and Challenges*

Drew Gossen*, University of South
Alabama, USA

Shenghua Zha, University of South
Alabama, USA

Na Gong, University of South Alabama,
USA

Sanju Chhetri G C, University of South
Alabama, USA

Kelly Byrd, University of South Alabama,
USA

Jennifer Simpson, University of South
Alabama, USA

***Exploring STEM educators'
professional learning pathways***
**Strand 8: In-service Science Teacher
Education**

20-Apr-26, 14:45-16:15

Location: Cedar AB (L2)

Stand-Alone Paper

*Discrepancies in Feedback
Perceptions of STEM Teachers and
their Students: Giving or Discussing
Feedback*

Josine Görtzen*, Eindhoven University of
Technology, Netherlands

Gonny Schellings, Eindhoven University of
Technology, Netherlands

Nienke Nieveen, Eindhoven University of
Technology, Netherlands

Stand-Alone Paper

*Evolving Educator Practices:
Integrating Professional Learning in
the STEM for All Project*

Melissa Livingston*, Oregon State
University, USA

Cory Buxton, Oregon State University, USA

Stand-Alone Paper

*Interaction among Pedagogical
Content Knowledge Components for
Teaching STEM In High School Science
Teachers*

Mustakeem Awae*, Kasetsart University,
Thailand

Chatree Faikhamta, Kasetsart University,
Thailand

Stand-Alone Paper

*Rural high school teachers' experience
with micro-credential-based
professional development: A collective
case study*

Madeline Stallard*, North Carolina State
University, USA

M. Gail Jones, North Carolina State
University, USA

Kathleen Bordewieck, North Carolina
State University, USA

Amber Meeks, North Carolina State
University, USA

***Elementary teacher development in
science and engineering***
**Strand 8: In-service Science Teacher
Education**

20-Apr-26, 14:45-16:15

Location: Juniper (L2)

Stand-Alone Paper

*"You can learn the science together":
Insights from bright spot elementary
teachers*

Ryan Nixon*, Brigham Young University,
USA

Stefan Sorge, IPN - Leibniz Institute for
Science and Mathematics Education,
Germany

Stand-Alone Paper

Teacher Identity Development in Elementary Science Education: A Longitudinal Study through an Identities-In-Practice Lens
Selin Akgün*, University of Minnesota, USA

Stand-Alone Paper

Impacts of Professional Learning on Elementary Teachers' Engineering Teaching Self-Efficacy to Support Multilingual Learners
Meghan Macias*, WestEd, USA
Ashley Iveland, WestEd, USA

Using content analysis to advance equity

Strand 11: Cultural, Social, and Gender Issues

20-Apr-26, 14:45-16:15

Location: Willow B (L2)

Stand-Alone Paper

Proposing Evidence-based STEM Curriculum for Latinx Students' Success: A Meta-Synthesis of Effective Intervention Elements
Noushin Nouri*, University of Texas Rio Grande Valley, USA
Maryam Saberi, Ministry of Education, Iran, Islamic Republic of
Amir Hossein Karimi Aghbolagh, University of Texas Rio Grande Valley, USA

Stand-Alone Paper

Feminist men of science: The better roles for men that feminist research suggests
Bjørn Johannsen*, University College Copenhagen, Denmark

Stand-Alone Paper

Science for Whom? Examining Teachers Pay Teachers Materials Using a Culturally Relevant Science Teaching Framework
Jennifer Simons*, George Mason University, USA

Stand-Alone Paper

Exploring Approaches to Equity: A Content Analysis of Two Scripted Curricula in Science Education
Adrianne Dizon*, University of Nevada, Las Vegas, USA
Dilara Kara-Zorluoglu*, University of Nevada, Las Vegas, USA
Debika Jana*, University of Nevada, Las Vegas, USA
Ambreen Islam, University of Nevada, Las Vegas, USA
Sameul Hoque Fahad, University of Nevada, Las Vegas, USA
Chike Elue, University of Nevada, Las Vegas, USA
Burak Sahin, University of Nevada, Las Vegas, USA
Katherine Wade-Jaimes*, University of Nevada, Las Vegas, USA

Stand-Alone Paper

Discourse of Power and Gender in STEM: A Feminist Discourse Analysis of General Chemistry Textbooks
Lauren Dudley*, Western Washington University, USA

AI, Identity, Representation, & Science Culture

Strand 12: Technology for Teaching, Learning, and Research

20-Apr-26, 14:45-16:15

Location: Ballard (L3)

Stand-Alone Paper

Artificial Intelligence Generates Stereotypical Images of Scientists But Can Also Detect Them: A Draw-A-Scientist Test

Gyeonggeon Lee*, National Institute of Education, Singapore

Stand-Alone Paper

From Collecting to Designing: Integrating AI into Digital Curation for Personalized Science Education

Gal Stern*, Technion - The Tech Institution, Israel

Dina Tsybulsky, Technion - The Tech Institution, Israel

Stand-Alone Paper

Prompt Engineering for Mathematics Disciplinary Literacy: A Qualitative Case Study of an Elementary Bilingual Teacher

Magdalena Pando, Southern Methodist University, USA

Maricela Leon*, The University of Texas at Arlington, USA

Science Education in the Age of Uncertainty: Epistemic and Pedagogical Perspectives

Strand 13: History, Philosophy, Sociology, and Nature of Science

20-Apr-26, 14:45-16:15

Location: Jefferson B (L4)

Symposium

Science Education in the Age of Uncertainty: Epistemic and Pedagogical Perspectives

Benedikt Heuckmann*, University of Münster, Germany

Kostas Kampourakis, University of Geneva, Switzerland

Marcus Kubsch, Freie Universität Berlin, Germany

Eve Manz, Boston University, USA

Genelle Diaz-Silveira, Boston University, USA

Ayelet Baram-Tsabari, Technion – Israel Institute of Technology, Israel

Yael Rozenblum, Technion – Israel Institute of Technology, Israel

Orli Wolfson, Technion – Israel Institute of Technology, Israel

Douglas Allchin, University of Minnesota, USA

Jonathan Osborne, Stanford University, USA

Climate Justice, Civic Action, and Imagining Just Futures

Strand 14: Environmental Education and Sustainability

20-Apr-26, 14:45-16:15

Location: Issaquah AB (L3)

Stand-Alone Paper

Youth Pursuing a Just, Sustaining and Thriving Future through Climate Civic Action

Hosun Kang*, University of California
Irvine, USA

Nelly Tsai*, Northwood High School, USA

Tesha Sengupta-Irving, University of
California Berkeley, USA

Stand-Alone Paper

*Seeing the System: Grade-6 Learners
Navigate Components, Mechanisms,
and Phenomena in Climate Change*

QINGNA JIN*, Cape Breton University,
Canada

Mijung Kim*, University of Alberta, Canada

Josh Markle*, University of Alberta, Canada

Stand-Alone Paper

*Feet in the Field, Joy in the Heart:
Designing Climate Change Education
Through Photovoice*

Imogen Herrick, University of Kansas, USA

Michael Lawson*, Kansas State University,
USA

Jaclyn Dudek, University of Kansas, USA

Stand-Alone Paper

*Urban Gardens as Educational &
Speculative Technologies for a more
Just and Joyful Futures*

Colin Hennessy Elliott*, Drexel University,
USA

Christopher Wright, Drexel University,
USA

Science in Relationship: A Radical Reset for Science Education

20-Apr-26, 14:45-16:15

Location: Seneca (L4)

Administrative Session

Organizers

Lucy Avraamidou, University of
Groningen, Groningen, Netherlands

Betzabe Torres Olave, University of
Groningen, Netherlands

Contributors

Alejandra Frausto Aceves, Northwestern
University, USA

Sara Tolbert, Monash University, Australia

Tatiane Russo Tait, University of Georgia,
USA

Mindy Chappell, University of Illinois
Urbana-Champaign, USA

Olayinka Mohorn-Mintah, University of
Memphis, USA

Jonathan (JD) McCausland, Iona
University, USA

Identifying Mechanisms and Networks for Senior Scholar Support of Early-Career NARST Researchers

20-Apr-26, 14:45-16:15

Location: Jefferson A (L4)

Administrative Session

Organizers

Sharon Nelson-Barber¹, WestEd, USA

Gail Richmond², Michigan State University,
USA

Troy Sadler, University of North Carolina
Chapel Hill, USA

Greg Kelly, University of Massachusetts
Amherst, USA

Stefanie Marshall, Michigan State
University, USA

Travis York, AAAS, USA

Patrick Enderle, Georgia State University,
USA

Contributors

Bhaskar Upadhyay, University of Minnesota, USA

Tali Tal, Technion - Israel Institute of Technology, Israel

Noemi Waight, University at Buffalo, USA

Jessica Thompson, University of Washington, USA

Graduate Student Forum

20-Apr-26, 14:45-16:15

Location: Cirrus Ballroom (35th fl)

Discussion Session

Organizers

Muhammad Guntur Purwanto, University of Minnesota, Minnesota, USA

Collins Moga, UMass Dartmouth, Massachusetts, USA

Souhaila Nassar, Boston University, Massachusetts, USA

Outdoor Science Teaching and the “Not-So-Hidden” Curriculum of Schools

Strand 2: Science Learning: Contexts, Characteristics and Interactions

20-Apr-26, 16:30-18:00

Location: Willow A (L2)

Symposium

Outdoor Science Teaching and the “Not-So-Hidden” Curriculum of Schools

Gail Richmond*, Michigan State University, USA

Kara Haas, Michigan State University, USA

Grace Tukurah, Michigan State University, USA

Cory Miller, Michigan State University, USA

Ly Duong, Michigan State University, USA

How Teachers’ Epistemological

Framing Shapes Science Learning

Strand 4: Science Teaching — Middle and High School (Grades 5-12): Characteristics and Strategies

20-Apr-26, 16:30-18:00

Location: Ravenna C (L3)

Stand-Alone Paper

A Case Study of Biomimicry-Focused Professional Development and Implementation of Teacher-Designed Integrated Units

Michael Cassidy*, TERC, USA

Kathryn Hobbs, TERC, USA

Debra Bernstein, TERC, USA

Kristen Wendell, Tufts University, USA

Bill Church, CRCS, USA

Xu Geling, Tufts University, USA

Tyrine Pangan, Tufts University, USA

Ethan Danahy, Tufts University, USA

Stand-Alone Paper

Authenticity and entomology knowledge in science classrooms

David Stroupe*, University of Utah, USA

Megan Walser*, Michigan State University, USA

Sarah Haavind, Independent, USA

Stand-Alone Paper

Teachers’ Strategies for Supporting Epistemic Practices in Small-Group Middle School STEM Design

Muhammad Purwanto*, University of Minnesota-Twin Cities, USA

Gillian Roehrig, University of Minnesota-Twin Cities, USA

Jeanna Wieselmann, Southern Methodist University, USA

Stand-Alone Paper

The Role of Affect in Science Teachers' Workplace Discourse

Dana Vedder-Weiss*, Ben Gurion University of the Negev, Israel

Tal Meltz, Ben Gurion University of the Negev, Israel

Stand-Alone Paper

Phenomenon- or Concept-Focused: Differences in Teachers' Epistemological Framing in an Integrated Computational Modeling Chemistry Unit

J. Elisabeth Kasner*, Florida State University, USA

Aditi Wagh, Massachusetts Institute of Technology, USA

Quantitative Problem-Solving and Reasoning Across STEM

Strand 5: College Science Teaching and Learning (Grades 13-20)

20-Apr-26, 16:30-18:00

Location: Aspen (L2)

Stand-Alone Paper

The role of metacognition and confidence in quantitative reasoning in college biology courses

Joseph Dauer*, University of Nebraska-Lincoln, USA

Brian Couch, University of Nebraska-Lincoln, USA

Anum Khushal, University of Nebraska-Lincoln, USA

Robert Mayes, Georgia Southern University, USA

Kent Rittschof, Georgia Southern University, USA

Stand-Alone Paper

Blending Science and Mathematics Sensemaking: Exploring Undergraduate Responses to Biological Quantitative Problem Solving Prompts

Amber Armstrong, University of Minnesota, USA

Kevin Haudek*, Michigan State University, USA

Michael Fleming, California State University, Stanislaus, USA

Anita Schuchardt*, University of Minnesota, USA

Stand-Alone Paper

A Study of Exploring Undergraduate Students' Interpretations of Biological Sense-Making with Equations Using Eye Movements

Mallika Saha*, Texas State University, USA

Kristy Daniel, Texas State University, USA

Anita Schuchardt, University of Minnesota, USA

Place-Based Environmental Learning Strand 6: Science Learning in Informal Contexts

20-Apr-26, 16:30-18:00

Location: Virginia (L4)

Stand-Alone Paper

Citizen/Crowd-sourced Science as a Gateway to Education, Outreach, & Research at a Nature Center

Syed Nauman Wazir*, University of Massachusetts, USA

Hamza Malik, Lloyd Center for the Environment, USA

Stephen Witzig, University of Massachusetts, USA

Stand-Alone Paper

Teeth in the Tide: Advancing Ocean Literacy Through After-School Programs in Underrepresented Coastal Communities

Cameron Shaw*, University of Miami, USA

Stand-Alone Paper

Mining in the Mountains: Problem-based Learning in Informal Education to Support Perspective and Argumentation

Katherine Sharp*, Missouri University of Science and Technology, USA

Carson Dudley, Missouri University of Science and Technology, USA

Carly Carron, Missouri University of Science and Technology, USA

Stand-Alone Paper

Expansive Perspectives on Children's Environmental Advocacy During a Critical, Place-Based Podcasting Unit

Lauren Connelly*, Vanderbilt University, USA

Heidi Carlone, Vanderbilt University, USA

Hannah Ziegler, Vanderbilt University, USA

Examining the Pedagogical Praxis of Science Teacher Educators and Professional Learning Facilitators **Strand 7: Pre-service Science Teacher Education**

20-Apr-26, 16:30-18:00

Location: Columbia (L4)

Related Paper Set

Exploring science teacher educators' language orientations and their

approaches for teaching science with multilingual learners

María González-Howard*, The University of Texas at Austin, USA

Leticia Garza*, The University of Texas at Austin, USA

Nazia Tasnim*, The University of Texas at Austin, USA

Related Paper Set

Attending to Complexity in Science Teacher Educator Self-Study

Kerri Wingert*, Good Question Research, USA

Shelley Stromholdt, Aspect Research and Evaluation, USA

Related Paper Set

Facilitators learning to cultivate interpretive power: The need for race-explicit facilitation

Bethany Daniel, Vanderbilt University, USA

D. Teo Keifert, University of North Texas, USA

Ashlyn Pierson, The Ohio State University, USA

Related Paper Set

Pedagogically strategic uses of generative AI in science methods courses

Christina Krist*, Stanford University, USA

Polly Diffenbaugh*, Stanford University, USA

Related Paper Set

Shifting Worldviews: How Science PL Facilitators Support Teachers to Adapt Science Curricular Materials for Equity.

Enrique Suárez*, University of
Massachusetts, Amherst, USA

Rachel Hale, University of Massachusetts,
Amherst, USA

Danielle Crabtree, University of
Massachusetts, Amherst, USA

***Innovative professional learning
networks and contexts***

**Strand 8: In-service Science Teacher
Education**

20-Apr-26, 16:30-18:00

Location: Cedar AB (L2)

Stand-Alone Paper

*Rural Science Teachers' Professional
Networks and Instructional Growth
During Multi-Year Hybrid PD: An Ego-
Network Analysis*

Syahrul Amin*, Texas A&M University, USA

Magda Villwock, Texas A&M University,
USA

Rebecca Sansom*, Texas A&M University,
USA

Stand-Alone Paper

*"Iron Sharpens Iron:" Making Sense of
Equity in a Teacher-driven
Professional Learning Community*

Karen Woodruff*, Kean University, USA

Stand-Alone Paper

*From Creekbeds to Confidence: How
Place-Based Professional
Learning Expands Teacher
Perspectives on Place and Data*

Amanda Garner*, University of Tennessee,
USA

Leah Rosenbaum, Columbia University,
USA

Joshua Rosenberg, University of
Tennessee, USA

Zhen Xhu, University of Tennessee, USA

Kimberly Jones, University of Tennessee,
USA

***Reexamining PCK and Its Roles in
Researching Science Teacher
Expertise Required for 21st-Century
Science Education***

**Strand 8: In-service Science Teacher
Education**

20-Apr-26, 16:30-18:00

Location: Juniper (L2)

Symposium

*Reexamining PCK and Its Roles in
Researching Science Teacher
Expertise Required for 21st-Century
Science Education*

Janet Carlson*, Stanford University, USA

Jan van Driel, The University of Melbourne,
Australia

Soonhye Park, North Carolina State
University, USA

Hanna Stammes, Radboud University,
Netherlands

Ineke Henze, Radboud University,
Netherlands

Pernilla Nilsson, Halmstad University,
Sweden

Amanda Berry, RMIT University, Australia

William Veal, College of Charleston, USA

Moritz Krell, IPN – Leibniz Institute for
Science and Mathematics Education,
Germany

Melanie Kinskey, Texas A & M University,
USA

Enhancing Science Learning Through Curriculum Design

Strand 10: Curriculum and Assessment

20-Apr-26, 16:30-18:00

Location: Greenwood (L3)

Stand-Alone Paper

Using multi-modal texts to improve middle school students'

argumentation related to vaping

William Romine*, Wright State University, USA

Amelia Whorton, Wright State University, USA

Delinda VanGarderen, University of Missouri, USA

Amy Lannin, University of Missouri, USA

William Folk, University of Missouri, USA

Stand-Alone Paper

A Case Study Comparing

Primary/Middle School Science

Teachers' Use of Scripted Science

Curriculum

Tina Vo*, University of Nevada, Las Vegas, USA

Chike Elue, University of Nevada, Las Vegas, USA

Mayra Marquez-Mendez, University of Nevada, Las Vegas, USA

Adjoa Mensah, University of Nevada, Las Vegas, USA

Stand-Alone Paper

Science Curriculum Standards and

Teacher Development: A Comparative

Study of Australia, Indonesia, and the US

Rika Mardiana*, The Ohio State University, USA

Lin Ding, The Ohio State University, USA

Stand-Alone Paper

The Performance and Cultivation

Strategies of Students' Collaborative

Problem Solving in Project-based

Learning

Yanan ZHAO*, Shandong Provincial Institute of Educational Sciences, China

Lei WANG, Beijing Normal University, China

Advancing activism, equity, and justice in science education

Strand 11: Cultural, Social, and Gender Issues

20-Apr-26, 16:30-18:00

Location: Willow B (L2)

Stand-Alone Paper

Embodying STEM teacher activism in

uncertain sociopolitical terrains: An

autoethnographic exploration of

queer radical allyship

Olivia Magnuson*, HL Harshman Middle School, USA

Khanh Tran, Utah State University, USA

Stand-Alone Paper

Science as White Property in a

Behavior-Focused Alternative School

Maizie Dyess*, University of Rhode Island, USA

Stand-Alone Paper

Establishing Radical Spaces for

Pluriversal Reimagining of Science

Education

Isis Howard*, University of Calgary, Canada

Sheliza Ladhani, University of Calgary, Canada

Kristal Turner, University of Calgary,
Canada

Kristen Schaffer, Mount Royal University,
Canada

Jennifer Adams, University of Calgary,
Canada

Stand-Alone Paper

*Extending Justice-Centered Science
Through Trauma-Informed Praxis*

Symone Cyles*, University of California,
Irvine, USA

Sharim Hannegan-Martinez, University of
Michigan, USA

Designing and Implementing AI- Generated Feedback to Support Science Learning

**Strand 12: Technology for Teaching,
Learning, and Research**

20-Apr-26, 16:30-18:00

Location: Ballard (L3)

Related Paper Set

*The Impact of Tailored Feedback on
Students' Movement along a Learning
Progression*

Wenxiu Tang*, South China Normal
University, China

Clare Franovic, Michigan State University,
USA

Leonora Kaldaras, Texas Tech University,
USA

Kevin Haudek, Michigan State University,
USA

Yangyi Qian, South China Normal
University, China

Joseph Krajcik, Michigan State University,
USA

Related Paper Set

*Training AI To Produce Guiding and
Meaningful Feedback To Support
Learning and Foster Knowledge-In-
Use*

Leonora Kaldaras*, University of Houston,
USA

Clare Franovic, Michigan State University,
USA

Yucheng Chu, Michigan State University,
USA

Jiliang Tang, Michigan State University,
USA

Joseph Krajcik, Michigan State University,
USA

Kevin Haudek, Michigan State University,
USA

Related Paper Set

*How Do Biology Undergraduates
Engage with AI Feedback On
Research Proposals?*

Michele Weston*, Michigan State
University, USA

Tammy Long, Michigan State University,
USA

Related Paper Set

*Designing and validating three-
dimensional, learning-progression-
aligned cognitive feedback for AI-
generation*

Clare Franovic, Michigan State University,
USA

Leonora Kaldaras, University of Houston,
USA

Wenxiu Tang, South China Normal
University, China

Selin Akgun, University of Minnesota Twin
Cities, USA

Joe Krajcik, Michigan State University, USA

Kevin Haudek*, Michigan State University,
USA

Teacher Technology Integration & EdTech Adoption

Strand 12: Technology for Teaching, Learning, and Research

20-Apr-26, 16:30-18:00

Location: Capitol Hill (L3)

Stand-Alone Paper

Understanding Pre-Service Teachers' Barriers and Decisions Around Educational Technology Use in Science Teaching

Emmanuel Atiatorme*, Indiana University, USA

Meredith Park Rogers, Indiana University, USA

Stand-Alone Paper

Toward Developing a Valid and Reliable Questionnaire to Assess Nature of Technology Views

Isaiah Kent-Schneider*, Purdue, USA

Jerrid Kruse, Drake, USA

Lucas Menke, Drake, USA

Stand-Alone Paper

Technology as a Gateway to Sensemaking in Science: Secondary Science Professional Development

Adam Bennion*, Brigham Young University, USA

Julio Escobedo, Oak Canyon Jr High, USA

Trust and social justice perspectives

Strand 13: History, Philosophy, Sociology, and Nature of Science

20-Apr-26, 16:30-18:00

Location: Jefferson B (L4)

Stand-Alone Paper

Functions of Epistemic Trust Within the Narratives of Scientists with Disabilities

Mila Rosa Carden*, University of North Texas, USA

Jonathan Hall*, California State University San Bernardino, USA

Stand-Alone Paper

Reframing Nature of Science as Methodology: Public-Health Scientific Literacy Through Stories and Curricular Mapping

Zachary Patterson*, University of Calgary, Canada

Stand-Alone Paper

What if cooking isn't chemistry? The harm in metaphorical connections between science and everyday activities

Noah Weeth Feinstein*, University of Wisconsin-Madison, USA

Ryan Stowe*, University of Wisconsin-Madison, USA

***How and Why Teach about
Indigenous Self-Determination
Through Science Education: Lessons
from the Fish Wars***

**Strand 14: Environmental Education and
Sustainability**

20-Apr-26, 16:30-18:00

Location: Redwood AB (L2)

Symposium

*How and Why Teach about
Indigenous Self-Determination
Through Science Education: Lessons
from the Fish Wars*

Kelsie Fowler*, University of Washington,
USA

Philip Bell*, University of Washington, USA

Willie Frank III*, Nilly Frank Jr Institute,
USA

Megan Bang*, Northwestern University,
USA

Pauline Chinn*, University of Hawaii, USA

Shana Brown*, University of Washington,
USA

Anastasia Sanchez, PSED, USA

Dawn Hardison-Stevens*, University of
Washington, USA

***Advancing Connections Between
Research and Practice***

20-Apr-26, 16:30-18:00

Location: Issaquah AB (L3)

Administrative Session

Organizers

Carla Zembal-Saul, Penn State University,
USA

Meredith Park Rogers, Indiana University -
Bloomington, USA

Colby Tofel-Grehl, Teachers College -
Columbia University

Poster Session

20-Apr-26, 18:00-19:30

Location: Metropolitan Ballroom A/B (L3)

Strand 1: Science Learning: Development of student understanding

Poster

Mapping Minds: A Comprehensive Review of Conceptual Modeling Methodologies, Methods, and Tools in Education

Roe Peretz*, Technion - Israel Institute of Technology, Israel

Strand 1: Science Learning: Development of student understanding

Poster

First Graders' Reasoning About Celestial Motion and Daylight: Strengths and Challenges Aligned to NGSS PEs

Arif Rachmatullah*, SRI International, USA
Marta Mielicki, SRI International, USA
Nonye Alozie, SRI International, USA
Hui Yang, SRI International, USA
Daisy Rutstein, edCount, LLC, USA
Anna Jennerjohn, SRI International, USA
Doug Gagnon, SRI International, USA

Strand 1: Science Learning: Development of student understanding

Poster

Conceptualizing Core Ideas in Science Education: A Systematic Literature Review

HELEN SEMILARSKI*, University of Tartu, Estonia

HELIN SEMILARSKI, University of Tartu, Estonia

Strand 1: Science Learning: Development of student understanding

Poster

Fourth Graders' Reflections on Engineering During a Rube Goldberg Machine Design Challenge

Lisa Borgerding*, Kent State University, USA

Gözde McLaughlin, Kent State University, USA

Sima Ahmadi, Kent State University, USA

DeNae Kizys, Kent State University, USA

Elena Novak, Kent State University, USA

Rui Liu, Kent State University, USA

Strand 1: Science Learning: Development of student understanding

Poster

Exploring Nutrition Through Multiple Experiential Activities: A 7th Grade Classroom Study

Valeria Vendries*, University of Miami, USA

Ji Shen, University of Miami, USA

Manav Sharma, University of Miami, USA

Wei Xiong, University of Miami, USA

Amylia Wiesner, University of Miami, USA

Arlette Perry, University of Miami, USA

Strand 2: Science Learning: Contexts, Characteristics and Interactions

Poster

Students' Learning Characteristics in a Polar Education Program Reducing Psychological Distance

Soyoung Mun*, Department of Science Education, Ewha Womans University, Korea, Republic of

Donghee Shin, Department of Science Education, Ewha Womans University, Korea, Republic of

**Strand 2: Science Learning: Contexts,
Characteristics and Interactions
Poster**

*Perspectives on Effective Science
Teaching: Case studies of Noyce
teachers and their students*

Dominick Fantacone*, SUNY Cortland,
USA

Elizabeth Edmondson*, Virginia
Commonwealth University, USA

Aimee Ellington, Virginia Commonwealth
University, USA

Sean Nolan, SUNY Cortland, USA

**Strand 2: Science Learning: Contexts,
Characteristics and Interactions
Poster**

*A Three-Dimensional Framework for
Visualizing Epistemic Agency Patterns
in Small-Group Scientific
Argumentation*

Hun Jeong*, Department of Science
Education, Seoul National University,
Korea, Republic of

Soo-Yean Shim, Department of Science
Education, Seoul National University,
Korea, Republic of

**Strand 2: Science Learning: Contexts,
Characteristics and Interactions
Poster**

*Fostering a Physicist's Mindset: The
Influence of Contextual Factors in an
Taiwanese Undergraduate Physics
Course*

Yueh-Chang Li*, National Sun Yat-sen
University (NSYSU) , Taiwan

Leo Crisologo*, National Sun Yat-sen
University, Taiwan

Yu-Hui Chang*, National Sun Yat-sen
University (NSYSU) , Taiwan

**Strand 2: Science Learning: Contexts,
Characteristics and Interactions
Poster**

*Elaborating How Different Types of
Coherence May Influence Science
Learning and Transfer: A
Theoretical Model*

Jeffrey Nordine*, University of Iowa, USA

Marcus Kubsch*, Freie Universität Berlin,
Germany

**Strand 2: Science Learning: Contexts,
Characteristics and Interactions
Poster**

*The Effects of Frequency and Duration
of Thinking Periods on Science
Learning*

Vishal Easwar*, Boston College, USA

Ido Davidesco, Boston College, USA

Dax Ovid, University of Georgia, USA

**Strand 2: Science Learning: Contexts,
Characteristics and Interactions
Poster**

*Highschool Students' Coding
Strengths and Challenges in a
Computational Thinking-Focused
Biology Unit*

Na'ama Av-Shalom*, Boston College, USA

Ido Davidesco, Boston College, USA

Bianca Montrosse-Moorhead, University
of Connecticut, USA

Dylan Boczar, University of Connecticut,
USA

Julia Oas, University of Connecticut, USA

Mary-Kate Coburn, University of
Connecticut, USA

David Weintrop, University of Maryland,
USA

Aaron Kyle, Duke University, USA

Leslie Bondaryk, Concord Consortium,
USA

Strand 2: Science Learning: Contexts, Characteristics and Interactions

Poster

Challenges and Affordances in Engaging K-12 Students in Authentic Data Investigations

Zhen Xu*, University of Tennessee
Knoxville, USA

Joshua Rosenberg*, University of Tennessee
Knoxville, USA

Cody Pritchard*, University of Tennessee
Knoxville, USA

David Krebs, West High School, USA

Jennifer Sauer, South Doyle Middle School,
USA

Audry Parker, South Doyle Middle School,
USA

Kathryn Hensley, West High School, USA

Strand 3: Science Teaching — Primary School (Grades preK-6): Characteristics and Strategies

Poster

Teacher Adaptations to Curriculum as a Window into Culturally Responsive Instruction: A Case Study

Sarah Voss*, Western Washington
University, USA

Josie Melton*, Western Washington
University, USA

Deborah Hanuscin*, Western Washington
University, USA

Strand 3: Science Teaching — Primary School (Grades preK-6): Characteristics and Strategies

Poster

Theory-Informed Design of an XR Wildfire Education Program Based on Hazard Literacy and PPRR

Jin Yun*, Ewha Womans University, Korea,
Republic of

Soyoung Mun, Ewha Womans University,
Korea, Republic of

Donghee Shin, Ewha Womans University,
Korea, Republic of

Strand 3: Science Teaching — Primary School (Grades preK-6): Characteristics and Strategies

Poster

Fostering young scientists: How educators and families communicate to support preschool science learning.

Tamara Turski*, University of Delaware,
USA

Strand 3: Science Teaching — Primary School (Grades preK-6): Characteristics and Strategies

Poster

Investigating the Development of Science Literacy Skills

Heba EL-Deghaidy*, American University
in Cairo, Egypt

Basant Hegazy, American University in
Cairo, Egypt

Strand 3: Science Teaching — Primary School (Grades preK-6): Characteristics and Strategies

Poster

Elementary teachers' and students' perceptions of quantum and its relevance in elementary school

Nancy Holincheck*, George Mason
University, USA

Jennifer Simons*, George Mason
University, USA

Julia Lipman, Purdue University, USA

Stephanie Dodman, George Mason
University, USA

Jessica Rosenberg, George Mason University, USA

Benjamin Dreyfus, George Mason University, USA

Laura Akesson, George Mason University, USA

Xiaolu Zhang, George Mason University, USA

Strand 3: Science Teaching — Primary School (Grades preK-6): Characteristics and Strategies

Poster

Iterative Growth and Persistent Barriers: Navigating the Realities of Elementary Science in NGSS-Aligned Classrooms

Amy Belcastro*, BSCS Science Learning, USA

Susan Gomez Zwiép*, BSCS Science Learning, USA

Strand 4: Science Teaching — Middle and High School (Grades 5-12): Characteristics and Strategies

Poster

How do learners solve an optical black box made up of combinations of polarization filters?

Hendrik Maas*, Leibniz University Hannover, Germany

Gunnar Friege, Leibniz University Hannover, Germany

Strand 5: College Science Teaching and Learning (Grades 13-20)

Poster

Designing and Evaluating a Digital Learning Unit for Undergraduate Chemistry: Impacts on Learning and Perception

Jasmin Kneuper*, TU Dortmund University, Germany

Sebastian Henke, TU Dortmund University, Germany

Insa Melle, TU Dortmund University, Germany

Strand 5: College Science Teaching and Learning (Grades 13-20)

Poster

Bridging Perception and Physiology in Undergraduate Physiology Courses: Investigating Cognitive Reengagement Following Interruptions

Richard Lamb*, University of Georgia, USA

Caitlin Volante, Vanderbilt University, USA

Viviane Ito, UNC Chapel Hill, USA

lindy Hernandez, Pennsylvania State University, USA

Ashley Anderson, Virginia Polytechnic Institute and State University, USA

Strand 5: College Science Teaching and Learning (Grades 13-20)

Poster

Undergraduate students' engagement in cross-disciplinary learning of energy concepts

Emily Borda*, Western Washington University, USA

Andrew Boudreaux, Western Washington University, USA

Strand 5: College Science Teaching and Learning (Grades 13-20)

Poster

Monitoring students' understanding and assignment design through formative assessment in a nutritional science course

Yonarki Garcia-Varela*, University of Arizona, USA

Olivia Anderson, University of Arizona, USA

Patricia Moreira*, University of Arizona, USA

Strand 5: College Science Teaching and Learning (Grades 13-20)

Poster

Building a Sustainable Community College Course-Based Undergraduate Research Experience Program

Melanie Harvey*, Johnson County Community College, USA

Heather Seitz*, Johnson County Community College, USA

Strand 6: Science Learning in Informal Contexts

Poster

Competencies and Confidence: Mapping Hiring Priorities and Self-Efficacy Among Informal Science Educators

K. Mendoza*, University of Nebraska at Omaha, USA

Megan Ennes*, University of Florida, USA

Strand 6: Science Learning in Informal Contexts

Poster

Addressing STEM Skill Obsolescence in a Technologically Advanced Economy

Beatrice Quiroz, University of South Carolina, USA

Devan Jones*, University of South Carolina, USA

Strand 6: Science Learning in Informal Contexts

Poster

Leading STEMM: An Ecological Systems Analysis of Science Education Leadership in Urban Schools

Taylor Mule*, The University of Memphis, USA

Robyn Pennella, St. Jude Children's Research Hospital, USA

Katherine Ayers, St. Jude Children's Research Hospital, USA

Strand 6: Science Learning in Informal Contexts

Poster

Coding with ChatGPT: High School Students' Experiences in a STEM Camp

Sheikh Ahmad Shah*, Boston College, USA

Wenfei Pei, Boston College, USA

Jaai Uday Phatak, Boston College, USA

Mobina Beheshti, Boston College, USA

Avneet Hira, Boston College, USA

Helen Zhang, Boston College, USA

Michael Barnett, Boston College, USA

Strand 7: Pre-service Science Teacher Education

Poster

Bridging Science and Engineering: Evaluating Engineering Design Lesson Quality in Preservice Teacher Preparation

John Ojeogwu*, Desert Research Institute, USA

Frackson Mumba, University of Virginia, USA

Strand 7: Pre-service Science Teacher Education

Poster

Testing Times: Agency and Identity in a Competitive Science Teacher Selection System

Wonyong Park*, University of Southampton, United Kingdom

Heesoo Ha, Pusan National University, Korea, Republic of

Strand 7: Pre-service Science Teacher Education

Poster

POSTER - "Empowering us to teach science": Future elementary teachers' perceived relevance of college science coursework

Ryan Nixon*, Brigham Young University, USA

Drew Gossen, University of South Alabama, USA

Jesse Wilcox, University of Northern Iowa, USA

Strand 7: Pre-service Science Teacher Education

Poster

Exploring the Link between Student Teachers' Decision-Making for SDG Lessons and their Executive Functions

Fang-Ying Yang*, National Taiwan Normal University, Taiwan

Chia-Hui Cheng, National Taiwan Normal University, Taiwan

Hush-Chih Chen, National Taiwan Normal University, Taiwan

Pei-Zhen Chen, National Taiwan Normal University, Taiwan

Strand 7: Pre-service Science Teacher Education

Poster

Examining Elementary Pre-Service Teacher Learning of Science Content through Learning Progression-based Models

Matthew Adams*, National Louis University, USA

Amanda Harwood, Alma College, USA

Julie Christensen, Michigan State University, USA

James Hancock, Alma College, USA

Strand 7: Pre-service Science Teacher Education

Poster

Clarifying our shared commitments across science education reform approaches to support pre-service teacher learning

Benjamin Lowell, University at Albany, USA

Daniel Pimentel*, The University of Alabama, USA

Daeun Jung, The University of Alabama, USA

Strand 7: Pre-service Science Teacher Education

Poster

Integrating Participatory Science into Secondary English Writing Methods

Richard Bex*, Illinois State University, USA

Shelby Boehm, Illinois State University, USA

Strand 7: Pre-service Science Teacher Education

Poster

Transformative Learning Through Place and Pedagogy: Preservice

*Teachers' Reflections on the
Deepwater Horizon Oil Spill*

Lauren Wagner*, University of North
Alabama, USA

**Strand 7: Pre-service Science Teacher
Education**

Poster

*Citizen Science: Learning Context for
Teaching and Learning the Nature of
Science*

Christopher Long*, University of North
Texas, USA

Mila-Rosa Carden*, University of North
Texas, USA

Karthigeyan Subramaniam*, University of
North Texas, USA

Nazia Khan, University of North Texas, USA

**Strand 7: Pre-service Science Teacher
Education**

Poster

*Pre-service Science Teachers'
Epistemic Beliefs about Biotechnology*

Selvet Ece Genek*, The Ohio State
University, USA

Lin Ding, The Ohio State University, USA

**Strand 7: Pre-service Science Teacher
Education**

Poster

*Orienting Towards Linguistic Justice:
An Exploration of Preservice Teachers'
Language Orientations for Scientific
Sensemaking*

Sage Andersen*, SUNY Cortland, USA

María González-Howard, The University of
Texas at Austin, USA

**Strand 7: Pre-service Science Teacher
Education**

Poster

*From Sage to Negotiator: Preservice
Teachers Reimagining Voice and
Authority in Science Classrooms*

Mandy Dunphy*, Baylor University, USA

Brian Hand, University of Iowa, USA

**Strand 7: Pre-service Science Teacher
Education**

Poster

*Conceptual Infrastructures for
Culturally Ambitious Science*

Development in Novice Teachers:

Supporting Learning and Resistance

Christopher Mangogna*, University of
Washington, USA

**Strand 8: In-service Science Teacher
Education**

Poster

*Spiraling Student Understanding and
Agency: Supporting Teacher
Instructional Design for SSI*

Lisa Marco-Bujosa*, Villanova University,
USA

Nicholas Kennedy, Villanova University,
USA

Kristina Perez, Villanova University, USA

**Strand 8: In-service Science Teacher
Education**

Poster

*Reconceptualizing Collaborative
Pedagogical Reasoning of Middle
School Science Teachers in a
Professional Learning Community*

Jisu Kim*, Ewha Womans University,
Korea, Republic of

Aeran Choi*, Ewha Womans University,
Korea, Republic of
Jiye Kim, Ewha Womans University, Korea,
Republic of

**Strand 8: In-service Science Teacher
Education
Poster**

*Navigating Contradictions in Teacher-
Scientist Collaboration: An Activity
Theory Analysis of Curriculum Co-
Development Across Grade Bands*

Rebecca Hite*, Texas Tech University, USA
Taylor Darwin, Texas Tech University, USA

**Strand 8: In-service Science Teacher
Education
Poster**

*Urban-Rural Disparities in Chinese
Primary Science Teachers'
Interdisciplinary Competence*

Mengqian Wang*, CRISP, China
Xiuju Li*, CRISP, China
Hongbin Gao, CRISP, China
Junping Hu, CRISP, China
Chaochao Jia, CRISP, China

**Strand 8: In-service Science Teacher
Education
Poster**

*A Longitudinal Study of Mentor
Teachers' Implementation of
Educative Mentoring to Support
Model-Based Science Teaching*

Soonhye Park*, North Carolina State
University, USA

Amanda Hall, Cullowhee Valley School,
USA

Georgia Alexander, North Carolina State
University, USA

Amelia Harris, North Carolina State
University, USA

Seung Elsun, Indiana State University, USA
Grace Carroll, North Carolina State
University, USA

Laura Chalfant, North Carolina State
University, USA

Katherine Glover, North Carolina State
University, USA

Khalid Alharbi, North Carolina State
University, USA

Lynn Huff, North Carolina State University,
USA

**Strand 8: In-service Science Teacher
Education
Poster**

*Customizing for Sustainability: How
Teacher Beliefs, Values, and
Challenges Influence K-12 Teachers'
Customization Work*

Julia Poel*, Stanford University, USA

Nicholas Leonardi*, University of Illinois
Urbana-Champaign, USA

Barbara Hug*, University of Illinois Urbana-
Champaign, USA

**Strand 8: In-service Science Teacher
Education
Poster**

*Early Career STEM Teachers' Access to
and Use of Resources Over Three
Years*

Robert Idsardi*, Eastern Washington
University, USA

Emily Hamada, Eastern Washington
University, USA

Ella Yonai, Auburn University, USA

Shannon Navy, Kent State University, USA

Julie Luft, University of Georgia, USA

Lisa Borgerding, Kent State University,
USA

Strand 8: In-service Science Teacher Education

Poster

Two Years of Online Professional Learning: Elementary Teachers' Professional Growth in Science and Engineering Teaching

Min Jung Lee*, University of North Dakota, USA

Martha Inouye, University of Wyoming, USA

Rebekah Hammack, Purdue University, USA

Jenna Gist, Purdue University, USA

Strand 8: In-service Science Teacher Education

Poster

Understanding Math and Science Teachers' STEM Epistemologies and Implementations of Integrated STEM

Daeun Jung*, The University of Alabama, USA

Daniel Pimentel, The University of Alabama, USA

Strand 8: In-service Science Teacher Education

Poster

Teacher Perceptions of Authority: Understanding how to Support Generative Learning Environments

Alison Warren*, Purdue University, USA

Brian Hand, University of Iowa, USA

Derek Rodgers, University of Iowa, USA

Strand 8: In-service Science Teacher Education

Poster

Supporting Elementary School Teachers' Computational Thinking

Integration in Science: Efforts, and Opportunities

Wanjoo Ahn*, Michigan State University, USA

Christina Schwarz*, Michigan State University, USA

Aman Yadav, Michigan State University, USA

Strand 8: In-service Science Teacher Education

Poster

Tracking Science Teacher Leader Ego Networks

Jennifer Bateman*, Georgia Southern University, USA

Julianne Wenner, Clemson University, USA

Brooke Whitworth, University of South Carolina, USA

Strand 8: In-service Science Teacher Education

Poster

Tracking Change: Evolving Support Practices of District Science Coordinators for Novice Secondary Science Teachers

Khushbu Singh*, University of Virginia, USA

Jennifer Bateman, University of Georgia, USA

Brooke Whitworth, University of South Carolina, USA

Julie Luft, University of Georgia, USA

Strand 8: In-service Science Teacher Education

Poster

Emotional Labor in Science Teaching: Connecting Resilience and Exhaustion Among Early Career Teachers

Ella Yonai*, Auburn University, USA
Lisa Borgerding, Kent State University, USA
Shannon Navy, Kent State University, USA

Strand 8: In-service Science Teacher Education
Poster

Impacts of collaborative science research on teacher learning in a cohort-based ecology RET program

Rebecca Van Tassell*, Cary Institute of Ecosystem Studies, USA
Alan Berkowitz, Cary Institute of Ecosystem Studies, USA
Jane Lucas, Cary Institute of Ecosystem Studies, USA
Kari O'Connell, Oregon State University, USA
Matthew Nyman, Oregon State University, USA

Strand 8: In-service Science Teacher Education
Poster

Exploring How Instructional Tools Mediate Student Participation and Sensemaking in Science Classrooms

Meenakshi Sharma*, Mercer University, USA
Chloe Chambers, Mercer University, USA
Kathy Jarzynka, Mercer University, USA

Strand 10: Curriculum and Assessment
Poster

Teachers' Approaches to Fostering Relevance in Localized Storyline Units on Climate Change: Three Examples
Monica Sircar*, Stanford University, USA

Strand 10: Curriculum and Assessment
Poster

Analytical Chemistry PBL in Action: Gender-Differentiated Gains in Integrated Quantitative and Analytical Experimentation Skills

Chunmei ZHANG*, The University of Hong Kong, Hong Kong
Logan CHEN, The University of Hong Kong, Hong Kong

Strand 10: Curriculum and Assessment
Poster

Science and Engineering Practices in Kuwait's 10th Grade Biology Curriculum: A Content Analysis

Fatma Alherz*, Pennsylvania State University, USA
Julia Plummer, Pennsylvania State University, USA
Amy Voss Farris, Pennsylvania State University, USA

Strand 10: Curriculum and Assessment
Poster

Promoting Critical AI Literacy in Informal STEM Education: Community-Centered Curriculum Design

Selin Akgün*, University of Minnesota, USA
Heerin Lee, Michigan State University, USA
Kahyun Choi, University of Illinois Urbana-Champaign, USA

Strand 10: Curriculum and Assessment
Poster

Document Analysis of SSI-Based Climate Change Educational Resources for Nature of Science Representation

Jeff Papa*, Kent State University, USA

Bridget Mulvey, Kent State University, USA

Strand 11: Cultural, Social, and Gender

Issues

Poster

Exploring Success Factors for Underserved Graduate Students in STEM

Karen Collier*, Augusta University, USA

Wayne Hickman, Augusta University, USA

Strand 11: Cultural, Social, and Gender

Issues

Poster

(Un)Becoming-Scientists-With: A Poststructuralist Approach to Understanding Science Identity Development

Katherine Ayers*, St. Jude Children's Research Hospital, USA

Strand 11: Cultural, Social, and Gender

Issues

Poster

Inclusive life science curriculum can shift student attitudes and reduce bioessentialism

Charlie Blake*, Southern Illinois University Edwardsville, USA

Onyebuchi Ewa, Southern Illinois University Edwardsville, USA

Emily Eckles, Southern Illinois University Edwardsville, USA

Strand 11: Cultural, Social, and Gender

Issues

Poster

First-Generation STEM College Students: Social Capital and Support in Higher Education

Lia Betancourt*, Pepperdine University, USA

Krista Lucas*, Pepperdine University, USA

Strand 11: Cultural, Social, and Gender

Issues

Poster

Teacher professional development: Heritage and science in engineering thinking

Bhaskar Upadhyay*, University of Minnesota, USA

Samantha Barragan, University of Minnesota, USA

Lindsey Samaka, University of Minnesota, USA

Cuc Vu, University of Minnesota, USA

Stephanie Erickson, University of Minnesota, USA

Strand 11: Cultural, Social, and Gender

Issues

Poster

Translanguaging as Equity Practice: Supporting Science Identity Development Among Multilingual Students in U.S Science Classrooms

Rei Taklal*, University of Florida, USA

Julie Brown*, University of Florida, USA

Strand 11: Cultural, Social, and Gender

Issues

Poster

Investigating School STEM Climate and Student Science Attitudes and Interests

Xin Xia*, University of Virginia, USA

Strand 11: Cultural, Social, and Gender Issues

Poster

Heart of the matter: Epistemic love as pedagogical guidance for culturally relevant STEM pedagogies

Khanh Tran*, Utah State University, USA

Takeshia Pierre*, Tufts University, USA

Strand 11: Cultural, Social, and Gender Issues

Poster

Containment Listening: Theorizing the Interactional Choreography of Care That Neutralizes Critique in Trust-Based Academic Relationships

Shahnaz Masani*, Michigan State

University, USA

Strand 12: Technology for Teaching, Learning, and Research

Poster

How authentic is an AI-based student chatbot? Investigations into the perception of authenticity

Nina Minkley*, Biology Education, Ruhr-University Bochum, Germany

Alma Bektesi, Biology Education, Ruhr-University Bochum, Germany

Sascha Bernholt, IPN – Leibniz Institute for Science and Mathematics Education, Germany

Strand 12: Technology for Teaching, Learning, and Research

Poster

Identifying the Applications of Artificial Intelligence in Educational Entrepreneurship Development: Implications for Science Education

Mahnaz Zolfaghari*, Indiana University
Bloomington, USA

Omid Afsharpour, Iowa State University,
USA

Strand 12: Technology for Teaching, Learning, and Research

Stand-Alone Paper

ISACC II Meets ChatGPT: Enhancing Interdisciplinary Science Learning Through AI-Driven Personalized Feedback

Hyesun You*, University of Iowa, USA

Zhenhan Fang, University of Iowa, USA

Li Zhu, University of Iowa, USA

Lauren Kauffman, University of Iowa, USA

Strand 12: Technology for Teaching, Learning, and Research

Poster

Scaffolding Teenagers' AI Career Aspirations in a Microelectronics and Edge Intelligence Museum Summer Program

Yessy Ambarwati*, University of Florida,
USA

Andrea Ramirez-Salgado*, University of
Florida, USA

Woorin Hwang, University of Florida, USA

Talar Terzian, University of Florida, USA

Lauren Eutsler, University of North Texas,
USA

Megan Barnes, University of North Texas,
USA

Anany Sharma, University of Florida, USA

Dillon Donihue, Cade Museum, USA

Nicole Dominguez, Cade Museum, USA

Pavlo Antonenko, University of Florida,
USA

**Strand 12: Technology for Teaching,
Learning, and Research**

Poster

*Science Academic Self-Efficacy,
Learning Engagement, and STEM
Aspirations: Urban–Rural Comparisons
in Technology-Enhanced Science
Education*

Chin-Shu Yeh*, Department of Education,
Taipei City Government, Taiwan

Pin-Chi Huang, National Taiwan Normal
University, Taiwan

Min-Hsien Lee, National Taiwan Normal
University, Taiwan

Tzung-Jin Lin, National Taiwan Normal
University, Taiwan

Chia-Ching Lin, National Kaohsiung
Normal University, Taiwan

Hung-Che Lin, National Defense Medical
University, Taiwan

Jiun-Yu Wu, Southern Methodist
University, USA

Guo-Li Chiou, National Taiwan Normal
University, Taiwan

Chin-Chung Tsai, National Taiwan Normal
University, Taiwan

Jyh-Chong Liang, National Taiwan Normal
University, Taiwan

**Strand 12: Technology for Teaching,
Learning, and Research**

Poster

*Beyond the Optical Bench:
Implementing a VR Interferometer in
Physics Education*

Gunnar Friege*, Leibniz University
Hannover, Germany

Dirk Brockmann-Behnsen, Leibniz
University Hannover, Germany

André Meyer, Leibniz University Hannover,
Germany

Matthias Klassen, Leibniz University
Hannover, Germany

**Strand 12: Technology for Teaching,
Learning, and Research**

Poster

*Mapping Readiness: Developing a
Quadrant Analysis Tool to Integrate
Advanced Technologies in STEM
Lesson Planning*

Adam Devitt*, California State University,
Stanislaus, USA

Liz Whitewolf, edufab, USA

**Strand 12: Technology for Teaching,
Learning, and Research**

Poster

*Assessing Technology's Role in
Correcting Misconceptions of High
School Students*

Narendra Deshmukh*, Ret from Homi
Bhabha Centre for Science Education,
TIFR, India

**Strand 12: Technology for Teaching,
Learning, and Research**

Poster

*Pilot Testing the Automated Discourse
Analysis System (ADAS) for Science
Classroom Discourse Feedback*

Soon Lee*, Kennesaw State University, USA

**Strand 12: Technology for Teaching,
Learning, and Research**

Poster

*Teachers, Tasks, and Usability:
Interpreting User Experience in
Molecular Science Education*

Minji Yun*, University of Florida, USA

Kent Crippen*, University of Florida, USA

Charles Xie, Institute for Future
Intelligence, USA

Dylan Bulseco, Institute for Future
Intelligence, USA

**Strand 13: History, Philosophy, Sociology,
and Nature of Science**

Poster

*Investigation of the Inclusion of NOS in
the Recent Turkish Science Curriculum*

Sevde YERİŞENOĞLU*, Bogazici
University, Turkey

Ebru KAYA, Bogazici University, Turkey

**Strand 14: Environmental Education and
Sustainability**

Poster

*Assessing students' knowledge
regarding green chemistry thinking:
test development and evaluation*

Laura Freude*, University of Duisburg-
Essen, Germany

Mathias Ropohl, University of Duisburg-
Essen, Germany

**Strand 14: Environmental Education and
Sustainability**

Poster

*A Systematic Literature Review of
Ocean Literacy in Non-formal
Education*

Lisa Coe*, University of Florida, USA

Hada Herring, University of Florida, USA

Julie Brown, University of Florida, USA

Bryndan Durham, University of Florida,
USA

**Strand 14: Environmental Education and
Sustainability**

Poster

*Framework Development of Disaster
Justice Education - Disaster Education
Integrating Social Justice -*

Minkyong Mun*, EWha Womans
University, Korea, Republic of

Donghee Shin, EWha Womans University,
Korea, Republic of

**Strand 14: Environmental Education and
Sustainability**

Poster

*Critical Thinking Mobilization to Assess
Information Regarding Climate
Change Denial*

João Pedro Coutinho*, Programa de Pós-
Graduação Interunidades em Ensino de
Ciências da USP, Brazil

Lúcia Sasseron, Faculdade de Educação
da USP, Brazil

**Strand 14: Environmental Education and
Sustainability**

Poster

*Preservice Childhood Teachers,
Children's Literature, and
Environmental/Climate Justice
Education*

Leah Master*, NYU, USA

**Strand 14: Environmental Education and
Sustainability**

Poster

*Students' Beliefs, Perceived Barriers,
and the Educational Role in Climate
Change Mitigation and Adaptation*

Helin Semilarski*, University of Tartu,
Estonia

Katrin Vaino, University of Tartu, Estonia

Helen Semilarski, University of Tartu,
Estonia

Ana Valdmann, University of Tartu, Estonia

Strand 14: Environmental Education and Sustainability

Poster

Testing Cross-National Measurement Invariance of TIMSS 2023 EAB Framework and Implications in Environmental Education Research

Amdad Ahmed Awsaf*, Florida

International University, USA

Christopher Irwin*, Florida International University, USA

Ali Raza*, Grand Valley State University, USA

Stefanie Marshall*, Michigan State University, USA

Ain Grooms, University of Wisconsin-Madison, USA

Strand 14: Environmental Education and Sustainability

Poster

Empowering Young Changemakers: Children Model Ocean Currents and Design Robots to Address Litter Issues

QINGNA JIN*, Cape Breton University, Canada

Enrique Hernandez*, Cape Breton University, Canada

Strand 15: Policy, Reform, and Program Evaluation

Poster

Fidelity of Implementation to Three-Dimensional Critical Components: A Systematic Review

Lauren Browning*, George Washington University, USA

Haley Lowe, George Washington University, USA

Jonathon Grooms, George Washington University, USA

Strand 15: Policy, Reform, and Program Evaluation

Poster

State Politics and Ethical Classroom Tensions: GenAI Initiatives in a Midwestern State

JRST Dinner (by invitation only)

20-Apr-26, 18:30-20:00

Location: Diamond A (L1)

Milagritos of the Heart: A Reflective Craft Session for Building Community and Scholarship in Science Education

20-Apr-26, 19:30-21:00

Location: Willow A (L2)

Social Event

Organizers

María González-Howar¹, The University of Texas at Austin, USA

Enrique Suarez, University of Massachusetts-Amherst, USA

Uma Ganesan, The University of Texas Rio Grande Valley, USA

Angela Chapman, The University of Texas Rio Grande Valley, USA

Miriam Ortiz, The University of Texas Rio Grande Valley, USA

Alejandro Gallard, Georgia Southern University, USA

Alexander Eden, Salem State University, USA

Contributors

Uma Ganesan, The University of Texas Rio Grande Valley, USA

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Alexander Eden, Salem State University, USA

Angela Chapman, The University of Texas Rio Grande Valley, USA

Alejandro Gallard, Georgia Southern University

María González-Howard, The University of Texas at Austin, USA

Enrique Suarez, University of Massachusetts-Amherst, USA

Artificial Intelligence for STEM Education Research: Advanced Methods and Applications

20-Apr-26, 19:30-21:00

Location: Juniper (L2)

Administrative Session

Organizers

Xiaoming Zhai, University of Georgia, Athens, GA, USA

Kent Crippen, University of Florida, USA

Gyeonggeon Lee, Nanyang Technological University, Singapore

Contributors

Shuchen Guo, Nanjing Normal University

Yizhu Gao, University of Georgia, USA

Ehsan Latif, University of Georgia, USA

Lehong Shi, University of Georgia, USA

Matthew Nyaab, University of Georgia, USA

Fireside Chat: Networking, Socializing, and Connecting Among the ISK RIG Membership

20-Apr-26, 19:30-21:00

Location: Ravenna AB (L3)

Administrative Session

Organizers

Stacy Potes, University of Hawai'i at Mānoa, USA

Dimitri Smirnoff, University of Minnesota, USA

Julie Robinson, University of North Dakota, USA

Paichi Pat Shein, National Sun Yat-sen
University, Taiwan

Contributors

Sharon Nelson-Barber, WestEd, USA

Bhaskar Upadhyay, University of
Minnesota, USA

Pauline Chinn, University of Hawai'i at
Mānoa, USA



Conference Day 3 21 April 2026

Committee Meetings 21-Apr-26, 7:00-8:00

Elections Committee Meeting
Location: Willow B (L2)

Awards Committee Meeting
Location: Aspen (L2)

Equity and Ethics Committee (EEC) Meeting
Location: Cedar AB (L2)

Graduate Student Committee Meeting
Location: Juniper (L2)

International Committee Meeting
Location: Ravenna AB (L3)

Membership Committee Meeting
Location: Ravenna C (L3)

Research Committee Meeting
Location: Issaquah AB (L3)

Scholarships Committee Meeting
Location: Greenwood (L3)

Professional Learning and Institutes Committee (PLIC) Meeting
Location: Capitol Hill (L3)

Social Media, Website, and Communications Committee (SMWCC) Meeting
Location: Ballard (L3)

Protect Science Education Research Committee (PSERC) Meeting
Location: Virginia (L4)

Program Committee Meeting
Location: Seneca (L4)

Empowering Science Teachers : PCK, Curiosity, and Speculative Approaches

Strand 2: Science Learning: Contexts, Characteristics and Interactions

21-Apr-26, 8:15-9:45

Location: Columbia (L4)

Stand-Alone Paper

Towards a New Vision of PCK for the 21st Century: Knowing How to Teach Science

Vanessa Kind*, University of Leeds, United Kingdom

Jonathan Osborne, Stanford University, USA

Stand-Alone Paper

Speculative Designs: Reimagining Teaching and Learning Climate Change in a Middle School Classroom

Kaylee Laub*, University of California, Santa Barbara, USA

Jeanice Trat, University of California, Santa Barbara, USA

Stand-Alone Paper

Student Epistemic Curiosity and Curiosity-Focused Teacher Training: Enhancing Engagement and Achievement in Middle School Science

Yu Ye*, arizona state University, USA

Carlos Meza-Torres, arizona state University, USA

jongchan park, arizona state University, USA

ying-chih chen, arizona state University, USA

michelle Jordan, arizona state University, USA

Supporting Effective STEM and Engineering Instruction in Elementary Classrooms

Strand 3: Science Teaching — Primary School (Grades preK-6): Characteristics and Strategies

21-Apr-26, 8:15-9:45

Location: Juniper (L2)

Stand-Alone Paper

Impacts of Professional Learning on Rural Elementary School Teachers' Enactment of Student Agency

Rasha Elsayed, WestEd, USA

Meghan Macias*, WestEd, USA

Min Lee, University of North Dakota, USA

Ashley Iveland, WestEd, USA

Ryan Summers, University of North Dakota, USA

Stand-Alone Paper

Examining rural elementary teachers' planning and implementation of science and engineering practices within engineering lessons

Jenna Gist*, Purdue University, USA

Rebekah Hammack*, Purdue University, USA

Min Lee*, University of North Dakota, USA

Lauren Cabrera, Purdue University, USA

Stand-Alone Paper

Storybooks as Bridges: Teaching Nature of Engineering Concepts in Primary Grades

Emine Sahin-Topalcengiz*, Mus Alparslan University, Turkey

Cemile Yalc'n, Ministry of Education, Turkey

Engaging Students in Socioscientific Reasoning and Science Practices

Strand 4: Science Teaching — Middle and High School (Grades 5-12): Characteristics and Strategies

21-Apr-26, 8:15-9:45

Location: Cedar AB (L2)

Stand-Alone Paper

Convergence Between Responsive Instruction and Science Practices: Insights from Biology Classrooms with Multilingual Learners

Niki Koukoulidis, University of Florida, USA

Rei Taklal*, University of Florida, USA

Julie Brown, University of Florida, USA

Stand-Alone Paper

Integrating scientific and socio-scientific models in addressing socio-scientific issues: A new pedagogical framework

Zeyu Han*, The University of Hong Kong, China

Chen Chen, The University of Hong Kong, China

Kejian Qiu, University of Warwick, United Kingdom

Qinger Song, Hangzhou Yinhu Experimental School, China

Stand-Alone Paper

Anal"ing Grade 6–8 students' socioscientific reasoning and its links to epistemic beliefs

Chengji Luo, Beijing Normal University, China

Hongyan Zhao, Beijing Normal University, China

Jing Lin, Beijing Normal University, China

Mei-Hung Chiu, Taiwan Normal University, Taiwan

Representations, Resources, and Participation in STEM Learning

Strand 5: College Science Teaching and Learning (Grades 13-20)

21-Apr-26, 8:15-9:45

Location: Willow B (L2)

Stand-Alone Paper

Linking Visual Transition to Mental Model Quality: Coordinating Triple Representations in Chemistry Learning

Sylvia Faustine*, National Taiwan University of Science and Technology, Taiwan

Chia-Yu Wang, National Taiwan University of Science and Technology, Taiwan

Sufen Chen, National Taiwan University of Science and Technology, Taiwan

Stand-Alone Paper

The Four I's of Resistance: Tracing Resistance Capital Across Physics and Astronomy Classrooms

Reina Howell, San Francisco State University, USA

Khanh Tran*, Utah State University, USA

Kim Coble, San Francisco State University, USA

Alegra Eroy-Reveles, University of California, Santa Cruz, USA

Stand-Alone Paper

The Utility of Students' Intuitive Resources: Addressing the Tension of Framing Student Ideas as "Unproductive"

Ryan Bowen*, Michigan State University, USA

Nicole Becker, Michigan State University, USA

Stand-Alone Paper

Department Cultural Supports and Barriers for Biology Graduate Student Teaching Professional Development: A Delphi Study

Grant Gardner*, Middle Tennessee State U, USA

Eric Akuoko, St. John's U, USA

Gili Marbach-Ad, U of Maryland, USA

Kristen Miller, U of Georgia, USA

Elisabeth Schussler, U Tennessee Knoxville, USA

Family Learning & Science at Home Strand 6: Science Learning in Informal Contexts

21-Apr-26, 8:15-9:45

Location: Seneca (L4)

Stand-Alone Paper

Family STEM conversations as community sustaining pedagogy

Cory Buxton*, Oregon State University, USA

Diana Crespo Camacho*, Oregon State University, USA

Stand-Alone Paper

The Family Science Wealth Survey: Development of a Survey to Learn About Families and Science

Julianne Wenner, Clemson University, USA

Christy Brown*, Clemson University, USA

Stand-Alone Paper

A Study on the Design Mobile Learning to Promote Family Learning in Botanical Gardens

Xianqing Bao*, Shanghai Normal University, China

Yue Qian, Shanghai Songjiang District She Shan Foreign Language Experimental School, China

Innovations in Developing Science Teachers' Competencies

Strand 7: Pre-service Science Teacher Education

21-Apr-26, 8:15-9:45

Location: Boren (L4)

Stand-Alone Paper

A novel mind map to reveal what concepts pre-service science teachers associate with "system"

Nazmiye Ertugrul, Bogazici University, Turkey

Beril Genc, Bogazici University, Turkey
Burak Aricioglu, Balikesir University, Turkey

Emre Goktepe, Systems Thinking Association, Turkey

Burcu Gungor Cabbar*, Balikesir University, Turkey

Gaye Ceyhan, Bogazici University, Turkey

Stand-Alone Paper

Advancing Modeling Competence: A Systematic Review of Interventions for Pre-Service and In-Service Science Teachers

Adam Tricomo*, University of Georgia, USA

Daniel Capps, University of Georgia, USA

Jonathan Shemwell, University of Alabama, USA

Stand-Alone Paper

From Sprint to Success: Implementing Scrum in Higher Education

Dirk Brockmann-Behnsen*, Leibniz University Hannover, Germany

Stand-Alone Paper

Pre-Service Teachers' Understanding of Systems Thinking Characteristics

Ihsan Ghazal*, Boston University, USA
Hayat Hokayem, Texas Christian University, USA

Understanding the richness of student languages and cultures
Strand 11: Cultural, Social, and Gender Issues

21-Apr-26, 8:15-9:45

Location: Ballard (L3)

Stand-Alone Paper

What Do We Mean by Culture? An Analysis of Teacher Talk

Minjung Ryu*, University of Illinois Chicago, USA
Roshni Bano, University of Illinois Chicago, USA
Mee Na Feng, University of Illinois Chicago, USA
Fatemeh Alipour, University of Illinois Chicago, USA

Stand-Alone Paper

Multilingual Learners' Multimodal Negotiation in College Science Discourse

Adeesha Jayathilaka*, University of Illinois Chicago, USA
Margaret Jeong, University of Illinois Chicago, USA

Minjung Ryu, University of Illinois Chicago, USA

Stand-Alone Paper

Reimagining Refugee Youth and Parents' STEM Aspirations and College Readiness Through an Enrichment Program.

Mohammed Ibrahim*, Arizona State University, USA
Eugene Judson*, Arizona State University, USA

Disrupting Essentialism and Advancing Equity in a Time of Rising Authoritarianism

Strand 11: Cultural, Social, and Gender Issues

21-Apr-26, 8:15-9:45

Location: Ravenna C (L3)

Symposium

Disrupting Essentialism and Advancing Equity in a Time of Rising Authoritarianism

Quentin Sedlacek, Southern Methodist University, USA
KT Doerr*, Malmö University, Sweden
Sarah Eddy, University of Minnesota, USA
Gareth Gingell, University of Northern Colorado, USA
Tatiane Russo-Tait, University of Georgia, USA
Daniel Soodjinda, California State University Stanislaus, USA
Brie Tripp, University of California Davis, USA
Taylor Pierce, Gender-Inclusive Biology, USA

Teacher AI Use, AI Literacy, & Teacher Reasoning

Strand 12: Technology for Teaching, Learning, and Research

21-Apr-26, 8:15-9:45

Location: Jefferson B (L4)

Stand-Alone Paper

Nueroadaptive AI using Brain Computer Interfaces for Science Text Accessibility

Richard Lamb*, University of Georgia, USA

Danielle Malone, Purdue University, USA

Tosha Owens, East Carolina University, USA

Ikseon Choi, Emory University, USA

Shruti Kundu, University of Georgia, USA

Stand-Alone Paper

Applying the PCK Framework to Educators' Analysis of AI-Generated STEM Problems

Stephen Trembath-Reichert*, North Carolina State University, USA

Cesar Delgado, North Carolina State University, USA

Brayan Diaz, Utah State University, USA

Stand-Alone Paper

K-12 Science Teachers' GenAI Use as Situated in their School Contexts and Pedagogical Orientations

Drew Nucci*, WestEd, USA

Joshua Rosenberg*, University of Tennessee - Knoxville, USA

Sarah Nielsen, WestEd, USA

Stand-Alone Paper

How Science Teachers Use AI: A Descriptive Portrait from a National Survey

Joshua Rosenberg*, University of Tennessee, Knoxville, USA

Shawon Sarkar, University of Washington, USA

Lief Esbenshade, University of Washington, USA

Drew Nucci, WestEd, USA

Sarah Nielson, WestEd, USA

Ann Edwards, WestEd, USA

Alex Liu, University of Washington, USA

Zewei (Victor) Tian, University of Washington, USA

Zachory Zhang, Colleague.AI, USA

Min Sun, University of Washington, USA

Epistemic practices and socioscientific issues

Strand 13: History, Philosophy, Sociology, and Nature of Science

21-Apr-26, 8:15-9:45

Location: Virginia (L4)

Stand-Alone Paper

The way from science education to informed decision-making is paved by epistemic humility

Ayelet Baram-Tsabari*, Technion - Israel Institute of Technology, Israel

Yael Rozenblum, Technion - Israel Institute of Technology, Israel

Stand-Alone Paper

Beyond Building: Teacher Discourse and the Development of Elementary Students' Epistemic Engineering Practices

Zoubeida Dagher*, University of Delaware, USA

Maisha Mouli, University of Delaware, USA

Jennifer Gallo-Fox, University of Delaware, USA

Faezeh Vahdat Nia, University of Delaware, USA

Tyler Van Buren, University of Delaware, USA

Melike Hanedar, University of Maryland, USA

Janelle Bailey*, Temple University, USA

Stand-Alone Paper

Students' identities as a precursor to accuracy reasoning orientations and evidence evaluation in socioscientific contexts

Jenny Dauer*, University of Nebraska-Lincoln, USA

Rachel Waring-Sparks, Illinois State University, USA

William Romine, Wright State University, USA

Gale Sinatra, University of Southern California, USA

Stand-Alone Paper

Inquiry-based climate change education: Kindergarten teachers' enactments of scientific, personal and social inquiry

Jingwen Song*, University of Southampton, United Kingdom

Andri Christodoulou, University of Southampton, United Kingdom

Wonyong Park, University of Southampton, United Kingdom

Reasoning, Agency, and Inquiry in Socioscientific and Climate Issues

Strand 14: Environmental Education and Sustainability

21-Apr-26, 8:15-9:45

Location: Jefferson A (L4)

Sandra K. Abell Institute for Doctoral Students Poster Symposium

21-Apr-26, 8:15-9:45

Location: Redwood AB (L2)

Administrative Session

Stand-Alone Paper

Integrating Artificial Intelligence into Gene Editing: A Controversy Mapping Approach to Students' Socio-Scientific Reasoning

Yi-Ning Huang*, Graduate Institute of Science Education, National Taiwan Normal University, Taiwan

Shiang-Yao Liu, Graduate Institute of Science Education, National Taiwan Normal University, Taiwan

Organizers

Christa Haverly, Chicago Public Schools, Chicago, IL, USA

Jason Buell, Northwestern University, Evanston, IL, USA

Brian Reiser, Northwestern University, Evanston, IL, USA

Yang Zhang, Northwestern University, Evanston, IL, USA

Contributors

Bolaji Bamidele, Utah State University

Jessica Bautista, University of Michigan

Linsey Brennan, Michigan State University

Brandi Cannon-Force, Stanford University

Bradley Davey, Northwestern University

Genelle Diaz-Silveira, Boston University

Ruth Edri, Technion Israel Institute of Technology

Stand-Alone Paper

Knowledge, Reasoning, and Confidence: Developing an Instrument to Assess Understanding of Socioscientific Issues

Spencer Eusden, University of Nevada
Sarah Fogelman, Boston College
Alejandra Frausto Aceves, Northwestern University
Leticia Garza, University of Texas at Austin
Loraine Glidewell, University of Colorado Boulder
Daisy Haas, University of Michigan
Nicholas Leonardi, University of Illinois Urbana-Champaign
Josh Modeste, Teachers College, Columbia University
Joshua Mogyoros, University of Toronto
Eva Nelson, University of Minnesota Twin Cities
Kyle Nolting, University of Denver
Adepeju Prince, Kent State University
Muhammad Guntur Purwanto, University of Minnesota Twin Cities
Ester Shinana, Rhodes University
Clara Smith, Brigham Young University
Jamie Steiner, University of North Carolina at Chapel Hill
Matt Stewart, University of Washington
Stephanie Tracey, Clemson University
Grace Tukurah, Michigan State
Jasmyne Yeldell, University of North Carolina at Chapel Hill
Hannah Ziegler, Vanderbilt University
Jill Zipperer, Texas State University
Faith Zondi, Witwatersrand University

Quality Peer Review: Training with the Journal of Ethnographic and Qualitative Research

21-Apr-26, 8:15-9:45

Location: Willow A (L2)

Administrative Session

Organizers

Brock Couch, Baltimore County Public Schools, USA

Sabrina Stanley, University of Northern Alabama, USA

Contributors

Amy Barry, University of Nebraska-Lincoln, USA

Justin Andersson, University of Nebraska at Omaha, USA

Le Kang, Gardner-Webb University, USA

Paige Hespe, University of Nebraska-Lincoln, USA

Advancing AI in Science Education (AASE): Envisioning Responsible and Ethical Practice

21-Apr-26, 8:15-9:45

Location: Aspen (L2)

Administrative Session

Organizers

Xiaoming Zhai, University of Georgia, USA

Joe Krajcik, Michigan State University

Kent Crippen, University of Florida, USA

Contributors

Lei Liu, ETS, USA

Ross Nehm, Stony Brook University, USA

Gyeong-Geon Lee, Nanyang Technological University

Jamie Mikeska, ETS, USA

Xiufeng Liu, University of Macao, China

Marcus Kubsch, Free University Berlin, Germany

Kevin Haudek, Michigan State University, USA

Knut Nuemann, Leibniz Institute for Science and Mathematics Education

Okhee Lee, New York University, USA

Yizhu Gao, University of Georgia, USA

What is in a Name? Problematizing Terminology in Educational Research and Praxis

21-Apr-26, 8:15-9:45

Location: Issaquah AB (L3)

Administrative Session

Organizers

Miriam Ortiz, The University of Texas Rio Grande Valley, USA

Alejandro Gallard, Georgia Southern University, USA

Enrique Suarez, University of Massachusetts, Amherst, USA

Alexander Eden, Salem State University, USA

Uma Ganesan, The University of Texas Rio Grande Valley, USA

María González-Howard, The University of Texas at Austin, USA

Angela Chapman, The University of Texas Rio Grande Valley, USA

Contributors

Uma Ganesan, The University of Texas Rio Grande Valley, USA

Angela Chapman, The University of Texas Rio Grande Valley, USA

María González-Howard, The University of Texas at Austin, USA

Enrique Suarez, University of Massachusetts, Amherst, USA

Alejandro Gallard, Georgia Southern University, USA

Miriam Ortiz, The University of Texas Rio Grande Valley, USA

Alexander Eden, Salem State University, USA

Interdisciplinary Thinking and the Development of STEM Identity

Strand 2: Science Learning: Contexts, Characteristics and Interactions

21-Apr-26, 10:00-11:30

Location: Columbia (L4)

Stand-Alone Paper

Students' Interest in Physics - An Exploratory Quantitative Study

Hermann Lidberg*, Institute for Physics Didactics - Goethe University Frankfurt am Main, Germany

Roger Erb, Institute for Physics Didactics - Goethe University Frankfurt am Main, Germany

Stand-Alone Paper

STEM identity and STEM career intention: A meta-analysis

Zhimeng Jiang*, University of Macau, Macao

Xiaowei Tang, University of Macau, Macao

Lihua Tan, University of Macau, Macao

Bing Wei, University of Macau, Macao

Stand-Alone Paper

A Study on Cultivating Students' Interdisciplinary Thinking in Chemistry Teaching

Shaoke ZHANG, Shandong Normal University, China

Shanshan LU*, Shandong Normal University, China

Stand-Alone Paper

Influence of Disposition toward Scientific Uncertainty Navigation and Epistemic Curiosity on Students' Learning Engagement

Bukola Akinbadewa*, Arizona State University, USA

Ying-Chih Chen, Arizona State University, USA

Michelle Jordan, Arizona State University, USA

Jongchan Park, University of Georgia, USA

Carlos Meza-Torres, Arizona State University, USA

***Young Learners, Big Questions:
Multiple Lenses for Understanding
Early Science Education within a
Single Program***

**Strand 3: Science Teaching — Primary
School (Grades preK-6): Characteristics
and Strategies**

21-Apr-26, 10:00-11:30

Location: Juniper (L2)

Related Paper Set

*From Nature Walks to Bloomz Posts:
How Preschool Educators
Communicate about Science with
Families*

Tamara Turski*, University of Delaware, USA

Related Paper Set

*Engaging Two- and Three-year-olds in
Science and Engineering: A Case-
Study*

Subrina Niranjana*, University of Delaware, USA

Jennifer Gallo-Fox, University of Delaware, USA

Maisha Mouli, University of Delaware, USA

Ariadni Kouzeli, University of Delaware, USA

Related Paper Set

*Splish, splash, squish, crack: Young
children explore water concepts
through play-based learning*

Maisha Farzana Mouli*, University of Delaware, USA

Subrina Niranjana, University of Delaware, USA

Jennifer Gallo-Fox, University of Delaware, USA

Ariadni Kouzeli, University of Delaware, USA

Related Paper Set

*Interdisciplinary science and creative
arts instruction in a nature-based
preschool classroom*

Ariadni Kouzeli*, University of Delaware, USA

Jennifer Gallo-Fox, University of Delaware, USA

***AI and Computational Tools
Transforming Science Learning***
**Strand 4: Science Teaching — Middle and
High School (Grades 5-12): Characteristics
and Strategies**

21-Apr-26, 10:00-11:30

Location: Cedar AB (L2)

Stand-Alone Paper

*ChatGPT-Generated Socioscientific
Issues in the Context of Systems
Thinking: Affordances and Limitations*

Wardell Powell*, Framingham State University, USA

Steven Courchesne*, Framingham State University, USA

Dana Zeidler*, University of South Florida, USA

Stand-Alone Paper

Potential of ChatGPT to promote health and assessment literacy among students with regard to e-cigarettes

Helena Aptyka*, Institute for Biology Education, Faculty of Mathematics and Natural Sciences, University of Cologne, Germany

Alessio Ciaccia, Institute for Biology Education, Faculty of Mathematics and Natural Sciences, University of Cologne, Germany

Kirsten Schlüter, Institute for Biology Education, Faculty of Mathematics and Natural Sciences, University of Cologne, Germany

Jörg Großschedl, Institute for Biology Education, Faculty of Mathematics and Natural Sciences, University of Cologne, Germany

Culturally Informed STEM Instruction

Strand 5: College Science Teaching and Learning (Grades 13-20)

21-Apr-26, 10:00-11:30

Location: Willow B (L2)

Stand-Alone Paper

When Stories Belong, Students Belong: A Quantitative Study of Culturally Responsive Teaching in Introductory Biology

Hannah Gill*, California State University, Fresno, USA

Emily Walter, California State University, Fresno, USA

Stand-Alone Paper

A Meta-Analysis of Culturally Relevant, Responsive, and Sustaining

Pedagogies in Higher Education Classrooms

Vivian Nguyen*, California State University, Fresno, USA

Alexa Valdez*, California State University, Fresno, USA

Allison Vang*, California State University, Fresno, USA

Danielle Vu*, California State University, Fresno, USA

Anna Lee, California State University, Fresno, USA

Emily Walter, California State University, Fresno, USA

Stand-Alone Paper

The Conceptualizations and Enactments of Culturally-Informed Pedagogies among Higher Education Biology Instructors

Angelita Rivera*, Stanford University, USA
Shima Salehi, Stanford University, USA

Learning Through Play, Games & Immersive Experiences

Strand 6: Science Learning in Informal Contexts

21-Apr-26, 10:00-11:30

Location: Seneca (L4)

Stand-Alone Paper

Adult gamers' problem-solving, science, and mathematics experiences when playing Baldur's Gate 3 – a recreational game

Gina Childers*, Texas Tech University, USA

Stand-Alone Paper

Students' development of understanding of SEPs and STEM-

related behaviors: An exploratory study

Su Gao*, University of Central Florida, USA
Shiva Jahani, University of Central Florida, USA

Stand-Alone Paper

Reasoning in Levels: Facilitating Systems Thinking Skills in Science through Embodiment

Yetunde Mabadeje*, University of Iowa, USA
Kay Ramey, University of Iowa, USA

Noticing, Talk, and Discourse in Preservice Preparation

Strand 7: Pre-service Science Teacher Education

21-Apr-26, 10:00-11:30

Location: Boren (L4)

Stand-Alone Paper

Becoming a Caring Mentor: An Evolution of One Pre-Service Teacher's Perceptions of Science Classroom Discourse

Emelia Pelliccio*, Teachers College, Columbia University, USA
Felicia Mensah, Teachers College, Columbia University, USA

Stand-Alone Paper

A Digital Video Ethnography Exploring Teacher Candidates' Radical Listening to Understand and Value Learners' Standpoints

Adam Devitt*, California State university, Stanislaus, USA

Stand-Alone Paper

Putting Noticing Into Practice - Pre-Service Teachers' Efforts to Enact Instruction Centered Around Students

Heather Johnson*, Vanderbilt University, USA

Tara Barnhart*, Chapman University, USA
Miray Tekkumru-Kisa*, University of Illinois, USA

Stand-Alone Paper

Teacher Candidate Noticing during a Video Analysis Task within Science Methods Courses Across Four Universities

Anna Arias*, Kennesaw State University, USA

Emilia Pelliccio*, Teachers' College, USA

Heather Johnson, Vanderbilt University, USA

Jessica Riccio, Teachers' College, USA

Lawrence Escalada, University of Northern Iowa, USA

Brett Criswell, West Chester University, USA

Michelle Forsythe, Texas State University, USA

Joshua Ellis, Louisiana State University, USA

Exploring science teacher change across multiple dimensions

Strand 8: In-service Science Teacher Education

21-Apr-26, 10:00-11:30

Location: Issaquah AB (L3)

Stand-Alone Paper

Exploring Science Teachers' Attribution for Student Performance, Self-Evaluation, and Sources and

Justification of Pedagogical Decision-Making

Grace Wan-Yue Zhan, National Taiwan Normal University, Taiwan

Fang-Ying Yang*, National Taiwan Normal University, Taiwan

Stand-Alone Paper

Noticing Inclusion in Argumentation: New Science Teachers' Perspectives on Classroom Discourse

Althea Roy*, Clemson University, USA

Meredith Schwendemann*, Binghamton University, USA

Xinyu He, University of Georgia, USA

Ella Yonai, Auburn University, USA

Julie Luft, University of Georgia, USA

Brooke Whitworth, University of South Carolina, USA

Stand-Alone Paper

Leveraging Scientific Resources to Empower Teacher Professional Development in China

Fangfang Zhao*, East China Normal University, China

Stand-Alone Paper

Comparative Case Study of Resource Use by Newly Hired Science Teachers Across Linguistic Classroom Settings

Paulo Augusto Carneiro Loureiro*, University of Georgia, USA

Emily Adah Miller, University of Georgia, USA

Ella Yonai, Auburn University, USA

Julie A. Luft, University of Georgia, USA

Shannon L. Navy, Kent State University, USA

Transgressing Boundaries Between Engineering Education, Multilingual Learners, and Community: Lessons from a Project's Creative Solutions
Strand 8: In-service Science Teacher Education

21-Apr-26, 10:00-11:30

Location: Willow A (L2)

Symposium

Transgressing Boundaries Between Engineering Education, Multilingual Learners, and Community: Lessons from a Project's Creative Solutions

Jerome Shaw, University of California, Santa Cruz, USA

Kirsten Daehler, WestEd, USA

Okhee Lee*, New York University, USA

Ashley Iveland, WestEd, USA

Nico Janik, WestEd, USA

Meghan Macias, WestEd, USA

Tanya Warren, WestEd, USA

Diana Aquilizan, San Diego Unified School District, USA

Paola Paz Soldan, Capistrano Unified School District, USA

Design Approaches for the Crossroads of STEM and the NGSS
Strand 10: Curriculum and Assessment

21-Apr-26, 10:00-11:30

Location: Capitol Hill (L3)

Related Paper Set

"Thinking Like a Kid" in STEM

Curriculum Design: A Framework for Student Hat for Design

Daniel Voss*, Northwestern University, USA

Related Paper Set

Using Student Voice to Develop an Integrated STEM End-of-Unit Activity
Nicole Vick*, Northwestern University, USA
Michael Novak, Northwestern University, USA

Related Paper Set

Designing for Meaningful Integration of Computer Science in Storyline-Based Science Units
Tiffany Neill*, University of Central Oklahoma, USA
Brian Reiser*, Northwestern University, USA

Related Paper Set

What is a model in an integrated STEM and NGSS space?
Michael Novak*, Northwestern University, USA
Daniel Voss, Northwestern University, USA

Exploring science teaching through language ideological lenses

Strand 11: Cultural, Social, and Gender Issues

21-Apr-26, 10:00-11:30

Location: Ballard (L3)

Stand-Alone Paper

Toward a culturally sustaining Third Space for Chinese international students
Ying Yeung (preferred name: Yeung) Tang*, Vanderbilt University, USA
Jessica Watkins, Vanderbilt University, USA

Stand-Alone Paper

Science Teachers' Language Ideologies: Initiating Spaces for Linguistically Responsive Teaching and Teacher Education
Sara Salloum*, Ohio University, USA
Saouma BouJaoude*, American University of Beirut, Lebanon
Rana Baddour*, American University of Beirut, Lebanon
Danielle Dani, Ohio University, USA

Stand-Alone Paper

Exploring notions of language and language-in-use in science teacher noticing
Nazia Tasnim*, University of Texas at Austin, USA
María González-Howard*, University of Texas at Austin, USA
Leticia Garza*, University of Texas at Austin, USA

Stand-Alone Paper

From Monoglossic to Heteroglossic: A Teacher-Specialist Ideological Shifts with Translanguaging in a Dual-Language Science Classroom
Yernat Mnuar*, University of Houston, USA
Jie Zhang*, University of Houston, USA

AI in support of developing, using and scoring 3D assessments

Strand 12: Technology for Teaching, Learning, and Research
21-Apr-26, 10:00-11:30
Location: Jefferson B (L4)

Related Paper Set

Leveraging Generative AI to Detect Uncertainty

Namssoo Shin*, Michigan State University, USA

Xunlei Qian, Michigan State University, USA

Cory Miller, Michigan State University, USA

Joseph Krajcik, Michigan State University, USA

Yue Xing, Michigan State University, USA

Knut Neumann*, IPN-Leibniz-Institute for Science and Mathematics Education, Germany

Weiwei He, Michigan State University, USA

Yucheng Chu, Michigan State University, USA

Jiliang Tang, Michigan State University, USA

Related Paper Set

Exploring Object Recognition

Approaches to Analyze Students' Draw Models

Mao-Ren Zeng*, Michigan State University, CREATE for STEM Institute, USA

Kevin Haudek, Michigan State University, CREATE for STEM Institute, USA

Leonora Kaldaras, University of Houston College of Education, USA

Joseph Krajcik, Michigan State University, CREATE for STEM Institute, USA

Related Paper Set

Optimizing AI Scoring of Scientific

Explanations: Exploring

Augmentation Strategies with Fine-Tuned Transformers

Prudence Djabga*, Michigan State University, USA

Kevin Haudek, Michigan State University, USA

Clare G.-C. Franovic, Michigan State University, USA

Leonora Kaldaras, Texas Tech University College of Education, USA

Related Paper Set

Using generative AI to score students' quantitative knowledge-in-use about energy

Understanding Science in the Age of AI: Interfaces Between Epistemology, Ethics, and NOS Education

Strand 13: History, Philosophy, Sociology, and Nature of Science

21-Apr-26, 10:00-11:30

Location: Virginia (L4)

Symposium

Understanding Science in the Age of AI: Interfaces Between Epistemology, Ethics, and NOS Education

Kerstin Kremer, Justus Liebig University, Germany

Wonyong Park, University of Southampton, United Kingdom

Douglas Allchin, University of Minnesota, USA

Marcus Kubsch*, Freie Universität Berlin, Germany

Tingting Li*, Washington State University, USA

Peng He, Washington State University, USA

Elvira Schmidt, Justus Liebig University, Germany

Sara Satanassi, University of Bologna, Italy

Olivia Levrini, University of Bologna, Italy

Sibel Erduran, University of Oxford, United Kingdom

Martina Caramaschi, University of Bologna, Italy

Emily Reigh, University of California, USA

Xinyu He, University of Georgia, USA

Holly Amerman, University of Georgia, USA
Emily Adah Miller, University of Georgia, USA

***Youth and Teacher Agency in
Designing Just and Sustainable
Futures***

Strand 14: Environmental Education and Sustainability

21-Apr-26, 10:00-11:30

Location: Jefferson A (L4)

Stand-Alone Paper

*Exploring Science Teachers' Agency in
SSI instruction: Focusing on Tensions
and Praxis*

Jiwon Kong*, Ewha Womans University, Korea, Republic of

Sohyun Jeon, Ewha Womans University, Korea, Republic of

Hyunju Lee, Ewha Womans University, Korea, Republic of

Stand-Alone Paper

*Examining Youth Authority
Throughout Community Interview in
the Co-Design of an Environmental
Engineering Curriculum*

Yuxi Huang*, University of California, Irvine, USA

Aakriti Bisht, University of California, Irvine, USA

Rossella Santagata, University of California, Irvine, USA

Symone Gyles, University of California, Irvine, USA

Taryn Williams, University of California, Irvine, USA

Teresa Hackey, University of California, Irvine, USA

Hosun Kang, University of California, Irvine, USA

Jennifer Long, University of California, Irvine, USA

Sara Ludovise, Orange County Department of Education, USA

Erick Valdez, Orange County Department of Education, USA

***Climate Justice Education Designed
and Sustained Through Large-Scale
Networked Transformation
Communities***

Strand 15: Policy, Reform, and Program Evaluation

21-Apr-26, 10:00-11:30

Location: Greenwood (L3)

Related Paper Set

*Teacher Preparation for What
Worlds? A Review of Climate Change
Education in Pre-service Teacher
Learning*

Kelsie Fowler*, University of Washington, USA

Ximena Gallegos*, University of Washington, USA

Bud Bong*, University of Washington, USA

Philip Bell, University of Washington, USA

Related Paper Set

*Understanding the Critical and
Political Frames in a Co-Designed
State-level Climate Justice Teacher
Educator Network*

Philip Bell*, University of Washington, USA

Kelsie Fowler, University of Washington, USA

Deb Morrison*, University of Washington, USA

Related Paper Set

Mapping Climate Change Education: Reflections from an Education Design-Based Research Project from Northern British Columbia, Canada

Hartley Banack*, University of Northern British Columbia, Canada

Related Paper Set

Re Envisioning Climate and Environmental Education in California for Thriving Futures

Asli Sezen-Barrie*, University of California, USA

Bailey McCraner*, University of California, USA

Related Paper Set

Co-Designing Communities for Place-Responsive Science and Collective Changemaking: Reflections from a Multi-Year Professional Learning Model

Jordan Sherry-Wagner*, University of Washington Bothell, USA

Jhumki Basu Scholars Poster Symposium

21-Apr-26, 10:00-11:30

Location: Redwood AB (L2)

Administrative Session

Organizers

Khanh Tran, Utah State University, Logan, UT, USA

Iliana De La Cruz, Texas Higher Education Coordinating Board, Texas

Regina McCurdy, University of North Carolina Charlotte, NC, USA

Basu Scholars

Aakriti Bisht, University of California, Irvine.

Aidyn Intykbekov, University of Massachusetts Dartmouth.

Chelsea Mateu, Florida International University

Cheyenne Woods, California State University, Fresno

Dana Haine, NC State University

Dimitri Smirnoff, University of Minnesota Twin Cities

Elizabeth Andrew Thiel, Purdue University

Emmanuel Dwamena, University of Connecticut

Glory Saidu, University of Minnesota Hun Jeong, Seoul National University

João Pedro Santos Coutinho, University of São Paulo

Khadija Zogheib, Florida State University
Lisa Archuleta, Stanford University

London Williams, UCLA

Lorena Caballero, Northern Arizona University

Maria A. Moreno Vera, Boston College

Myeongji Kim, The Ohio State University

Natália Machado Carvalho, University of São Paulo

Paige Prescott, New Mexico State University

Peter Oyewole, Kent State University

Sarah Hajama, Macquarie University

Sarah Lu, University of Toronto

Savvy Demers, University of Massachusetts Boston

Seth Cudjoe, Old Dominion University
Sevde Nur Yeerisenoglu, Bogazici University

Shuochian Joe Shiu, National Sun Yat-sen University

Téa Pusey, UC Davis

Yaa Dankwa, Ohio State University

Yaxin Luo, Beijing Normal University

Yong Xie, Beijing Normal University

NARST Connects

21-Apr-26, 10:00-11:30

Location: Kirkland (L3)

Discussion Session

Developing Modeling and Computational Thinking

Strand 1: Science Learning: Development of student understanding

21-Apr-26, 12:45-14:15

Location: Ravenna C (L3)

Stand-Alone Paper

Developing and evaluating meta-modeling knowledge in 7th graders: A Mixed Methods study

Manav Sharma*, University of Miami, USA

Ji Shen, University of Miami, USA

Valeria Quintero, University of Miami, USA

Arlette Perry, University of Miami, USA

David Xiong, University of Miami, USA

Amylia Wiesner, University of Miami, USA

Stand-Alone Paper

T/E Design Based Biotechnical Learning: Inherent and Imposed Cognitive Demands

John Wells*, Virginia Tech, USA

Stand-Alone Paper

From Code to Chloroplasts: Speaking About Photosynthesis through Computational Modeling

Tamar Fuhrmann, Teachers College Columbia University, USA

Brendan Henrique*, University of California, Berkeley, USA

Adelmo Eloy, Teachers College, Columbia University, USA

Leah Rosenbaum, Teachers College, Columbia University, USA

Aditi Wagh, Massachusetts Institute of Technology, USA

Paulo Blikstein, Teachers College, Columbia University, USA

Michelle Wilkerson, University of California, Berkeley, USA

Stand-Alone Paper

LLM-based Agents in Virtual Scientific Inquiry: Effects on Concepts, Motivation and Learning Strategies, and Thinking

Yaning Zhao*, School of Educational Technology, Beijing Normal University, China

Yafeng Zheng, Center for Educational Technology, Beijing Normal University, China

Transforming Teaching and Learning through Pedagogical Interventions

Strand 5: College Science Teaching and Learning (Grades 13-20)

21-Apr-26, 12:45-14:15

Location: Willow B (L2)

Stand-Alone Paper

Faculty-Learning Assistant Partnerships as a Catalyst for Pedagogical Change

Monsour Zakariyah*, Middle Tennessee State University, USA

Tomi Mafe, Middle Tennessee State University, USA

Kathryn Hosbein, Middle Tennessee State University, USA

Stand-Alone Paper

Intentional Teaching Gestures

Increase Student Outcomes in

Anatomy and Physiology

Stephanie Wallace*, Texas Christian

University, USA

Hayat Hokayem, Texas Christian

University, USA

Stand-Alone Paper

Incorporation of Real-World

Experiences in Faculty's Instructional

Planning in Context of a Professional

Development Institute

S. M. Mushfiqur Rahman Ashique*,

University of Massachusetts Dartmouth,
USA

Stephen Witzig*, University of

Massachusetts Dartmouth, USA

Stand-Alone Paper

Labor-Based Grading in Physics:

Perceptions of Control, Value, and

Engagement

Thanh Le*, Western Washington

University, USA

J. Speirs, University of North Florida, USA

Vicki Retzer, Western Washington

University, USA

Gracie Deerwester, Western Washington

University, USA

Youth Identity Development in STEM

**Strand 6: Science Learning in Informal
Contexts**

21-Apr-26, 12:45-14:15

Location: Seneca (L4)

Stand-Alone Paper

Exploring STEM Identity through

Informal STEM Activities and

Culturally Relevant Literature

Karen Collier*, Augusta University, USA

Wayne Hickman, Augusta University, USA

Elizabeth VanDeusen, Augusta University,
USA

Katherine Barker, Augusta University, USA

Stand-Alone Paper

Reimagining CT and STEM Learning

with Neurodivergent Youth Through

Rightful Presence and Pedagogies of

Play

K. Mendoza*, University of Nebraska at
Omaha, USA

Yupei Duan*, University of Missouri, USA

Tanya Churaman*, University of Missouri,
USA

David Ogundairo*, University of Georgia,
USA

Noah Glaser*, University of Missouri, USA

Lucas Jensen*, Georgia Southern
University, USA

Amanda Olsen, University of Missouri, USA

Matthew Schmidt*, University of Georgia,
USA

Erica Carlson-Moudry, University of
Nebraska at Omaha, USA

Stand-Alone Paper

Let-Me-See, Can-I-Be, and This-is-Me:

Identity Play Versus Identity Work in

Informal Science Learning Settings

Heidi Carlone*, Vanderbilt University, USA

Hannah Ziegler, Vanderbilt University, USA

Lauren Connelly, Vanderbilt University, USA

Gabriel Carlone, Vanderbilt University, USA

Alison Mercier, University of Wyoming, USA

Stand-Alone Paper

Youth Translating the STEM Bikes and Biking Ecosystem Through Friendship, Ownership, History, and Joyful Play

Noemi Waight*, University at Buffalo, USA

Ryan Rish, University at Buffalo, USA

Jennifer Tripp, SUNY Geneseo, USA

Stacy Scheunemann, University at Buffalo, USA

Fatemeh Mozaffari, University at Buffalo, USA

Finn Goehrig, University at Buffalo, USA

David Jackson, School, USA

Darryl Rodam Marks, East Side Bike Club, USA

Understanding How Instructional Vision, Attitudes, and Beliefs Shift Through Preservice Science Teacher Preparation

Strand 7: Pre-service Science Teacher Education

21-Apr-26, 12:45-14:15

Location: Boren (L4)

Stand-Alone Paper

Drawing Science Teaching: Tracing Shifts in Preservice Teachers' Instructional Visions

Kristin Chisholm*, University of Delaware, USA

Stand-Alone Paper

Changes in Pre-service Science Teachers' Attitudes toward Science Teaching through a Laboratory Microteaching Experience

Betul Ekiz Kiran*, Tokat Gaziosmanpasa University, Turkey

Dekant Kiran, Tokat Gaziosmanpasa University, Turkey

Stand-Alone Paper

Re-designed Science Methods Courses' Impacts on Elementary Pre-service Teachers' Beliefs and Attitudes for Multilingual Learners

HIEN THI Tran*, University of Houston, USA

Sissy Wong*, University of Houston, USA

Zhenjie Hou*, University of Houston, USA

Jie Zhang*, University of Houston, USA

Samuel Katende, University of Houston, USA

Maria Alexandra Walsh, University of Houston, USA

Laveria Hutchison, University of Houston, USA

Stand-Alone Paper

Preservice Science Teachers' Self-Efficacy Beliefs Regarding NGSS-Aligned Instructional Practices

Saed Sabah*, The Hashemite University, Jordan

Leveraging a Research-Practice Partnership to Support Systemic Change in a Large School District

Strand 8: In-service Science Teacher Education

21-Apr-26, 12:45-14:15

Location: Greenwood (L3)

Related Paper Set

Perspectives on Teachers' Changing Views for Earth Science Integration Into Biology, Chemistry, and Physics

Lauren Browning*, George Washington University, USA

Annie Caires, University of Montana, USA

Beth Covitt, University of Montana, USA

Jonathon Grooms*, George Washington University, USA

Alan Berkowitz, Cary Institute of Ecosystem Studies, USA

Angie Hood, Cary Institute of Ecosystem Studies, USA

Kevin Garner, Baltimore City Public Schools, USA

Ed Mitzel, Baltimore City Public Schools, USA

Related Paper Set

Evolution of Teacher Leadership within a Research-Practice Partnership

Edmund Mitzel, Jr.*, Baltimore City Public Schools, USA

Angela Hood, Cary Institute of Ecosystem Studies, USA

Alan Berkowitz, Cary Institute of Ecosystem Studies, USA

Lauren Browning, George Washington University, USA

Beth Covitt, University of Montana, USA

Kevin Garner, Baltimore City Public Schools, USA

Jonathon Grooms, George Washington University, USA

Carolyn Parker, American University, USA

Related Paper Set

Aligning District assessment resources with teachers' assessment practices and priorities to support responsive teaching

Alan Berkowitz*, Cary Institute of Ecosystem Studies, USA

Beth Covitt, University of Montana, USA

Kevin Garner, Baltimore City Public Schools, USA

Edmund Mitzel, Baltimore City Public Schools, USA

Angela Hood, Cary Institute of Ecosystem Studies, USA

Jonathon Grooms, George Washington University, USA

Lauren Browning, George Washington University, USA

Annie Caires, University of Montana, USA

David Fischer, Cary Institute of Ecosystem Studies, USA

Karen Draney, University of California at Berkeley, USA

Related Paper Set

Using the Interconnected Model of Teacher Professional Growth to Understand Changes in Classroom Practice

Jonathon Grooms*, George Washington University, USA

Lauren Browning, George Washington University, USA

Beth Covitt, University of Montana, USA

Annie Caires, University of Montana, USA

Angela Hood, Cary Institute of Ecosystem Studies, USA

Edmund Mitzel, Baltimore City Public Schools, USA

Kevin Garner, Baltimore City Public Schools, USA

Alan Berkowitz, Cary Institute of
Ecosystem Studies, USA

***Science identity, discourse, and
ambitious teaching practices***

**Strand 8: In-service Science Teacher
Education**

21-Apr-26, 12:45-14:15

Location: Issaquah AB (L3)

Stand-Alone Paper

*Strengthening Students' Science
Identity: The Impact of Teacher
Immersion in Defensible Learning
Theories and Practices*

Samantha Nevado*, Wayne State
University, USA

Jazlin Ebenezer, Wayne State University,
USA

Stand-Alone Paper

*Network Science for Sensemaking:
Exploration of Discourse Analysis in a
Middle Grades Science Classroom*

Sierra Morandi*, Florida State University
Schools, USA

Alexander Cairns*, Florida State University,
USA

Stand-Alone Paper

*Culturally Ambitious Science Teaching
as Joyful Transgression: Conceptual
Change Across Novice and
Experienced Elementary Educators*

Christopher Mangogna*, University of
Washington, USA

**Strand 8: In-service Science Teacher
Education**

21-Apr-26, 12:45-14:15

Location: Issaquah AB (L3)

Stand-Alone Paper

*Novice teachers' in-field and out-of-
field noticing: examining the influence
of professional knowledge and
teaching experiences*

Lu Wang*, Indiana University Kokomo,
USA

***Transgressing Decontextualized
Science: Asset-Based Approaches to
Cultural Responsiveness in Diverse
Learning Environments***

**Strand 11: Cultural, Social, and Gender
Issues**

21-Apr-26, 12:45-14:15

Location: Ballard (L3)

Symposium

*Transgressing Decontextualized
Science: Asset-Based Approaches to
Cultural Responsiveness in Diverse
Learning Environments*

Clausell Mathis*, Michigan State
University, USA

Ehud Aviran*, Michigan State University,
USA

William Van Luven, Michigan State
University, USA

Ozlem Akcil Okan*, Michigan State
University, USA

Lucky Nonyelum*, Michigan State
University, USA

John Kelly, Tennessee State University,
USA

Ian Neuhart, Michigan State University,
USA

Hiba Assi, University of Detroit Mercy, USA

Collette Periard, Michigan State University, USA

Joseph Krajcik, Michigan State University, USA

Barbara Schneider, Michigan State University, USA

Illuminating intersectional experiences in STEM

Strand 11: Cultural, Social, and Gender Issues

21-Apr-26, 12:45-14:15

Location: Ravenna AB (L3)

Stand-Alone Paper

Intersectionality and Positioning Theory Analyses in Essays on Race
Felicia Mensah*, Teachers College, Columbia University, USA

Stand-Alone Paper

"We listen and don't judge": How Sustained Support Fostered STEM Persistence in One Participant's Journey

Jasmyne Yeldell*, University of North Carolina, Chapel Hill, USA

Anina Mahmud*, University of North Carolina, Chapel Hill, USA

Simone Wilson, University of North Carolina, Chapel Hill, USA

Dionne Cross Francis, University of North Carolina, Chapel Hill, USA

Stand-Alone Paper

"When things get hard, I'm not going to back down": Women of Color navigating STEM

Anina Mahmud*, University of North Carolina at Chapel Hill, USA

Jasmyne Yeldell*, University of North Carolina at Chapel Hill, USA

Dionne Cross Francis*, University of North Carolina at Chapel Hill, USA

AI for PBL, Teacher Support, & Classroom Simulation

Strand 12: Technology for Teaching, Learning, and Research

21-Apr-26, 12:45-14:15

Location: Jefferson B (L4)

Stand-Alone Paper

Building Teacher Confidence With AI: Scaffolding Affordable, Hands-On Experimentation

Travis Ray*, University of Nebraska-Lincoln, USA

Elizabeth Hasseler*, University of Nebraska-Lincoln, USA

Stand-Alone Paper

Development of a Generative AI Agent for Supporting Project-Based Learning Curriculum Design— Integrating Procedural Methodology

jin shen*, beijing normal university, China

xingshu ji, beijing normal university, China

shuwen yu, beijing normal university, China

rui wei, beijing normal university, China

Stand-Alone Paper

Using Multi-Student, Generative AI Teaching Simulations as Practice Spaces for Facilitating Science Discussions

Jamie Mikeska*, ETS, USA

Catherine Flynn, ETS, USA

Devon Fetrow, ETS, USA

Shreyashi Halder, ETS, USA

Tricia Maxwell, ETS, USA
Rutuja Ubale, ETS, USA
Beata Beigman Klebanov, ETS, USA
Abhilash Sarnad, ETS, USA
Sanat Singh, ETS, USA
Mengxuan Zhao, ETS, Canada

Nikolaos Tsourakis, University of Geneva,
Switzerland
Nuno Galheto, University of Geneva,
Switzerland
Kostas Kampourakis, University of Geneva,
Switzerland

Stand-Alone Paper

*Classroom Text Analytics for Math
Anxiety: K-12 Evidence from Expressive
Writing*

Yiru Wang*, Mount Holyoke College, USA
Ruobing Zhou*, Mount Holyoke College,
USA
Yiyuan Li, Reed College, USA
La Li, Mount Holyoke College, USA
Xingcen Liu, Mount Holyoke College, USA
Qinglang Liao, Mount Holyoke College,
USA
Ainsley Gruener, Mount Holyoke College,
USA
Katherine Binder, Mount Holyoke College,
USA

***How is “ancestry” conceptualized?
An exploratory study***
**Strand 13: History, Philosophy, Sociology,
and Nature of Science**
21-Apr-26, 12:45-14:15
Location: Virginia (L4)

Related Paper Set

What is “ancestry”?
Kostas Kampourakis*, University of
Geneva, Switzerland

Related Paper Set

*How is ancestry conceptualized in the
journal PLoS Genetics?*
Lucie Tournayre*, University of Geneva,
Switzerland

Related Paper Set

*“How is “ancestry” conceptualized by
pre-service biology teachers?”*
Florian Stern*, University of Geneva,
Switzerland
Kostas Kampourakis, University of Geneva,
Switzerland

***Rethinking Science Teacher
Education for Climate and Ecological
Responsibility***
**Strand 14: Environmental Education and
Sustainability**
21-Apr-26, 12:45-14:15
Location: Jefferson A (L4)

Stand-Alone Paper

*Climate Change Educator Identity: A
Multidimensional Framework for
Transformative Teacher Development*
Amal Ibourk*, Florida State University, USA
Sukanya Chakraborty*, Florida State
University, USA
Patrick Sonde*, Florida State University,
USA

Stand-Alone Paper

*Navigating Epistemological Plurality:
A Theoretical Framework for
Interweaving Indigenous and Western
Scientific Pedagogies in Climate
Change Education*
Amal Ibourk*, Florida State University, USA
Lore Nix, E.O. Wilson Biophilia Center, USA

Patrick Sonde, Florida State University,
USA

Deb Morrison, University of Washington,
USA

Stand-Alone Paper

*The Role of Conceptual Learning in
Biology Education for Sustainability*

Ilona Södervik*, University of Helsinki,
Finland

Antti Laherto*, University of Helsinki,
Finland

Dilemmas in Queering STEM education research

21-Apr-26, 12:45-14:15

Location: Redwood AB (L2)

Administrative Session

Organizers

Sara Porter, UNCG, Greensboro, NC, USA

Contributors

Khanh Tran, Utah State University, Logan,
UT, USA

Charlie Blake, Southern Illinois University
Edwardsville, Edwardsville, IL

Aramati Casper, Colorado State University,
USA

Colby Tofel-Grehl, Columbia University,
New York City, NY, USA

Ronan Rock, University of Illinois Chicago,
Chicago, IL, USA

Mario Suarez, Utah State University,
Logan, UT, USA

Alexander Paulchell, University of Arizona,
Tucson, AZ, USA

Getting Into Good Trouble: Equity and Ethics Considerations When Centering Joyful Transgression and Radical Imagination

21-Apr-26, 12:45-14:15

Location: Willow A (L2)

Administrative Session

Organizers

Scott Cohen, Lamar University, Beaumont,
TX, USA

Maria Rivera Maulucci, Barnard College,
New York, NY, USA

Laura Peña-Telfer, Purpose Built Schools
Atlanta, Atlanta, GA, USA

Alexandria Muller, Rowan University,
Glassboro, NJ, USA

Contributors

Deana Scipio, IslandWood, Bainbridge
Island, WA, USA

Okhee Lee, New York University, USA

Natalie King, Georgia State University, USA

Sam Lee, California State University Long
Beach, USA

Shawn Rowe, Exploratorium, USA

Jessica Hernandez, G3I Enterprises, USA

Integrating Skills, Epistemologies, and Inquiry for Critical Thinking

**Strand 2: Science Learning: Contexts,
Characteristics and Interactions**

21-Apr-26, 14:30-16:00

Location: Columbia (L4)

Stand-Alone Paper

*Analyzing Core Idea-Practice
Integration in Chinese High School
Chemistry Classrooms Through
Chemical Thinking Perspectives*

Honglu Liu*, Beijing Normal University,
China

Jiuhua Hu, Beijing Normal University,
China

Peng He, Washington State University,
USA

Lei Wang, Beijing Normal University,
China

Stand-Alone Paper

*Exploring Structural Relationships
among High School Students' Critical
Thinking, Epistemological Beliefs, and
Science Process Skills*

Feral Ogan-Bekiroglu*, Marmara
University, Turkey

Erol Suzuk, Marmara University, Turkey

Cansu Sivgin, Marmara University, Turkey

Stand-Alone Paper

*Reflective Refinement Through
Iterative Model Building*

Idris Solola*, Utah State University, USA

Hillary Swanson, Utah State University,
USA

Sarah Schwartz, Utah State University,
USA

Rida Munir, Utah State University, USA

Jared Arnell, Utah State University, USA

Ravi Sinha, Utah State University, USA

Stand-Alone Paper

*Ontoepistemologies in College-Level
Socioscientific Issue Learning: A
Systematic Review of Contexts and
Interactions*

Eric Nolan*, California State University,
East Bay, USA

Syahrul Amin, Texas A&M University, USA

Jennifer Marisi, NESST, USA

Caitlyn Dixon, NESST, USA

Brandi Stroecker, NESST, USA

Kathryn Strom, California State University,
East Bay, USA

Interdisciplinary Approaches to STEM and Nature-Based Learning

**Strand 3: Science Teaching — Primary
School (Grades preK-6): Characteristics
and Strategies**

21-Apr-26, 14:30-16:00

Location: Juniper (L2)

Stand-Alone Paper

*Designing and Implementing Play-
Based Methods in Science: In-Service
Teachers' Profiles and Views on
Conceptual Playworlds*

Argyris Nipyrakis*, University of Crete,
Greece

Eleni Stavropoulou, Aristotle University,
Greece

Iro Zachariadi, Aristotle University, Greece

Glykeria Fragkiadaki, Aristotle University,
Greece

Stand-Alone Paper

*Teacher & Environmental Educator
Perspectives: Environmentally-themed
Elementary School Partnership
programs*

Rachel Stronach*, University of
Massachusetts Dartmouth, USA

Hamza Malik, Lloyd Center for the
Environment, USA

Stephen Witzig, University of
Massachusetts Dartmouth, USA

Stand-Alone Paper

*STEM and Successful Play-based
Programs*

Michael Kamen*, Southwestern University,
USA

Sydney Jackson*, Southwestern
University, USA

Stand-Alone Paper

*Teacher Professional Learning for
Productive Interdisciplinary
Engagement in Nature-based
Learning*

Kay Ramey*, University of Iowa, USA

Bianca Schamberger, University of Iowa,
USA

***Equity Inclusion and Critical
Perspectives in STEM Education***

**Strand 4: Science Teaching — Middle and
High School (Grades 5-12): Characteristics
and Strategies**

21-Apr-26, 14:30-16:00

Location: Willow B (L2)

Stand-Alone Paper

*Bridging High School and College with
STEM Experiences and Community: A
Longitudinal Mixed Methods Study*

Dustin Van Orman*, Western Washington
University, USA

Domenico Galati*, Western Washington
University, USA

Kadalyna Franck-Tolentino, Western
Washington University, USA

Stand-Alone Paper

*Academic capitalism meets feminist
socialism: The gender of science
teaching in the neoliberal university*

Katherine Doerr*, Malmö University,
Sweden

Stand-Alone Paper

*Undergraduate Learning Assistants'
Conceptions of Racial Equity:
Reproducing and Resisting Color-
Evasiveness in Postsecondary STEM
Classrooms*

Regan Levy*, Michigan State University,
USA

Shahnaz Masani, Michigan State
University, USA

Stand-Alone Paper

*Adaptive Equity-Oriented Pedagogy
Predicts STEM Student Achievement
in Higher Education: Evidence from a
Multi-Site Study*

Andrew Phuong, UC San Diego, USA

Fan Huang, UC San Diego, USA

Judy Nguyen, UC San Diego, USA

Carolyn Hofstetter, UC San Diego, USA

Fabrizio Mejia, UC Berkeley, USA

Stanley Lo*, UC San Diego, USA

***Educator Identity, Development &
Community***

**Strand 6: Science Learning in Informal
Contexts**

21-Apr-26, 14:30-16:00

Location: Seneca (L4)

Stand-Alone Paper

*Science Museum Educators' Sense of
Community, Self-Worth, and
Organizational Commitment*

Megan Ennes*, University of Florida, USA

Elizabeth Riotto, University of Florida, USA

Stand-Alone Paper

*Facilitating for Ownership: Supporting
Out-of-School Time Educators in*

Cultivating Youth-Directed STEM Learning

Heidi Cian*, Maine Mathematics and Science Alliance, USA

Stand-Alone Paper

From Classroom to Content Creator: Leadership Practices and Identities of Female Science Teachers on TikTok

Rachel Benzoni*, University of Nebraska-Lincoln, USA

Stand-Alone Paper

Creating a Sense of Belonging: Exploring Informal Science Educator Pedagogies, Storied Identities, & Critical Positional Praxis

Shaghig Chaparian*, NYU, USA

Olivia Ortiz, NYU, USA

Wendy Barrales, John Jay College - City University of New York (CUNY), USA

Luz Velasco Vela, Fordham University, USA

Jasmine Ma, NYU, USA

Latasha Wright, BioBus, USA

Cultivating Preservice Teachers Through Authentic Experience and Mentorship

Strand 7: Pre-service Science Teacher Education

21-Apr-26, 14:30-16:00

Location: Boren (L4)

Stand-Alone Paper

Structured Project-Based Learning to Build Science Teaching Expertise in a Didactics Module

Angela Stott*, University of the Free State, South Africa

Stand-Alone Paper

Impact of Preservice Science Teachers' Authentic Science Experiences on Agency and Future Classroom Practices

Kim McComas*, University of Arkansas, USA

William McComas*, University of Arkansas, USA

Stephen Burgin*, University of Arkansas, USA

Stand-Alone Paper

From Curiosity to Investigation: How the H4SI Toolkit Improves Preservice Elementary Teachers' Scientific Question Formulation

Soon Lee*, Kennesaw State University, USA

Anna Arias*, Kennesaw State University, USA

Preethi Titu, Kennesaw State University, USA

Jessica Reaves, Kennesaw State University, USA

Rasheda Likely, Kennesaw State University, USA

Stand-Alone Paper

Developing Elementary Pre-Service Teachers' Science Teaching Self-Efficacy Through A Near-Peer Mentorship Program

Taiwo Ogundapo*, Indiana University Bloomington, USA

Meredith Park Rogers, Indiana University, USA

Reimagining Curriculum-focused Professional Learning: Building Teachers' Practical Ideologies for Curricular Sensemaking, Adaptation and Enactment

Strand 8: In-service Science Teacher Education

21-Apr-26, 14:30-16:00

Location: Greenwood (L3)

Related Paper Set

What About Student Resources?: A Teacher's Pedagogical Design Capacity for Planning and Enacting Equitable Discussions

Kevin Hall*, Stanford University, USA

Nicholas Leonardi, University of Illinois Urbana-Champaign, USA

Christina Krist, Stanford University, USA

Barbara Hug, University of Illinois Urbana-Champaign, USA

Related Paper Set

Building reciprocal classroom-community partnerships as a catalyst for supporting students' critical science agency

Julia Poel*, Stanford University, USA

Christina Krist*, Stanford University, USA

Liz Harris*, Stanford University, USA

Kevin Hall, Stanford University, USA

Michelle Zhang, Stanford University, USA

Related Paper Set

From Practical Ideology to Implementation: How Curriculum Shape Teacher Change

Nga Hoang, University of Colorado Boulder, USA

Mon-Lin Monica Ko, University of Colorado Boulder, USA

Related Paper Set

Recognizing Community Cultural Wealth: Challenges to and Opportunities For Building Classroom-Community Partnerships

Mon-Lin Monica Ko*, University of Colorado Boulder, USA

Melissa Campanella, University of Colorado Boulder, USA

What's in a Frame?: Challenges and Opportunities in Learning to Teach for Equity

Strand 8: In-service Science Teacher Education

21-Apr-26, 14:30-16:00

Location: Issaquah AB (L3)

Related Paper Set

A Teacher's Use of Equity Frames in Their Noticing and Decision-Making

Linsey Brennan*, Michigan State University, USA

Related Paper Set

"Seeing Where We Stand": Building Ideological Attunement Through Pedagogical Judgement

Matt Stewart*, University of Washington, USA

Related Paper Set

Ethical Decision-Making in Action: Teachers' Learning Opportunities Through Case-Based Discussions in Professional Learning

Nicholas Leonardi*, University of Illinois Urbana-Champaign, USA

Related Paper Set

Staying, Moving, or Leaving?: The Career Trajectories of Early Career Science Teachers in High-Needs Schools

Adepeju Prince*, Kent State University, USA

Culturally Sustaining Approaches to Classroom Assessment in Science and Engineering: Findings, Tensions, and Open Questions

Strand 10: Curriculum and Assessment

21-Apr-26, 14:30-16:00

Location: Capitol Hill (L3)

Symposium

Culturally Sustaining Approaches to Classroom Assessment in Science and Engineering: Findings, Tensions, and Open Questions

Erin Furtak*, University of Colorado Boulder, USA

Hosun Kang*, University of California Irvine, USA

Christopher Wright*, Drexel University, USA

Clarissa Deverel-Rico*, BSCS Science Learning, USA

Shakhnoza Kayumova*, University of Massachusetts Dartmouth, USA

Veronica McGowan*, University of Washington Bothell, USA

Lauren Stoll, WestEd, USA

Nelly Tsai, Northwood High School, USA

Django Paris, University of Washington Seattle, USA

Dionne Champion, University of Florida, USA

Operationalizing culturally responsive, relevant, and sustaining pedagogies

Strand 11: Cultural, Social, and Gender Issues

21-Apr-26, 14:30-16:00

Location: Ballard (L3)

Stand-Alone Paper

Finding Moments of Joy: Reimagining Relationships with Science through Culturally Responsive Science Teaching

Jamie Wallace*, American Museum of Natural History, USA

Elaine Howes, American Museum of Natural History, USA

Melanie Hopkins, American Museum of Natural History, USA

Aline Gjelog, American Museum of Natural History, USA

Steven Riccio, American Museum of Natural History, USA

Stand-Alone Paper

Re-imagining pre-service science teacher preparation: A microethnographic exploration on equity-minded pedagogy development through Foucauldian perspectives

Gina Zaccagnini*, Purdue University, USA

Stand-Alone Paper

Humanizing Science Instruction through Culturally and Historically Responsive Teaching and Learning

Vanessa Louis*, University of Michigan, USA

Stand-Alone Paper

Affirming Undergraduates' Science Identity through Community-Based and Culturally Relevant Science Teaching

Perla Ramos Carranza*, Cal Poly, San Luis Obispo, USA

Jasmine Nation, Cal Poly, San Luis Obispo, USA

Alejandra Yep, Cal Poly, San Luis Obispo, USA

Xavier Aguilar, Cal Poly, San Luis Obispo, USA

Thais Malfavon, Cal Poly, San Luis Obispo, USA

Jessica Garcia-Tapia, Cal Poly, San Luis Obispo, USA

Isaiah Rivera, Cal Poly, San Luis Obispo, USA

Terrell Morton*, University of Illinois Chicago, USA

Jenn Adams*, University of Calgary, Canada

Tia Madkins*, University of Texas Austin, USA

Ashley Woodson*, Wayne State University, USA

Nickolaus Ortiz, Georgia State University, USA

Joanna Ali, North Carolina A&T State University, USA

Paula Groves Price, North Carolina A&T State University, USA

Yasmiyn Irizarry, University of Texas Austin, USA

Brian McGowan, American University, USA

Andrea Tyler, Tennessee State University, USA

Stand-Alone Paper

What Do You Mean Community? Contextualizing Community Through STEM

D'Angelo Peters*, Purdue University, USA

Lynn Bryan, Purdue University, USA

Elizabeth Thiel, Purdue University, USA

Expansive Science Learning for Heterogeneity, Justice, and Towards More Sustainable Futures.

Strand 11: Cultural, Social, and Gender Issues

21-Apr-26, 14:30-16:00

Location: Ravenna AB (L3)

Affirmative Transgressions: Exploring the Relationship Between Black STEM Students and Place Identity

Strand 11: Cultural, Social, and Gender Issues

21-Apr-26, 14:30-16:00

Location: Cedar AB (L2)

Symposium

Expansive Science Learning for Heterogeneity, Justice, and Towards More Sustainable Futures.

Veronica Cassone McGowan*, University of Washington Bothell, USA

Carrie Tzou*, Northwestern, USA

Symone Gyles*, University of California Irvine, USA

Elizabeth Starks*, University of Washington, USA

Bryan White, University of Washington Bothell, USA

Megan Bang, Northwestern University, USA

Symposium

Affirmative Transgressions: Exploring the Relationship Between Black STEM Students and Place Identity

Shari Watkins*, American University, USA

***Navigating the Transformative
Potential of AI in Science Education:
Adaptive Learning Architectures and
Ethical Considerations***

**Strand 12: Technology for Teaching,
Learning, and Research**
21-Apr-26, 14:30-16:00
Location: Jefferson B (L4)

Stand-Alone Paper

*Navigating the Transformative
Potential of AI in Science Education:
Adaptive Learning Architectures and
Ethical Considerations*

Marcus Kubsch*, Freie Universität Berlin,
Germany
Knut Neumann, IPN – Leibniz Institute for
Science and Mathematics Education,
Germany
Paul Martin, JLU Gießen, Germany
Brandon Yik, University of Georgia, USA
Benjamin Burlingham, Indiana University,
USA
Nicole Graulich, JLU Gießen, Germany
Peter Wulff, PH Ludwigsburg, Germany
Paul Wulff, TU Berlin, Germany

***Learning about Viral Epidemics
through Engagement with Different
Types of Models***

**Strand 13: History, Philosophy, Sociology,
and Nature of Science**
21-Apr-26, 14:30-16:00
Location: Virginia (L4)

Related Paper Set

*Students' Epistemic Considerations of
Modeling in the Context of COVID-19*
Shumin Zhao, University of Nevada, Reno,
USA
Li Ke*, University of Washington, USA
Laura Zangori, University of Missouri, USA

Troy Sadler, University of North Carolina at
Chapel Hill, USA

Related Paper Set

*Socio-scientific Issue Based Learning
with Multiple Models*

Troy Sadler*, University of North Carolina
at Chapel Hill, USA
Laura Zangori, University of Missouri, USA
Eric Kirk, Utah State University, USA

Related Paper Set

*"What Works for MLLs Works for
Everyone": Unpacking Science
Teachers' Understanding of Language
in Modeling*

Ayça Fackler*, The University of Missouri,
USA
Madeline Good, Truman State University,
USA
Laura Zangori, The University of Missouri,
USA

Related Paper Set

*Design Reasoning During SSI
Solution-finding*

Jamie Steiner*, University of North
Carolina at Chapel Hill, USA
Troy Sadler, University of North Carolina at
Chapel Hill, USA

Climate Change and Global Competence: Youth Voices and Transformative Experiences

Strand 14: Environmental Education and Sustainability

21-Apr-26, 14:30-16:00

Location: Jefferson A (L4)

Stand-Alone Paper

Empowering urban high school students in geoscience through an environmental geochemistry intervention

Lisa Marco-Bujosa*, Villanova University, USA

Hannah Feldman, Villanova University, USA

Steven Goldsmith, Villanova University, USA

Kabindra Shakya, Villanova University, USA

Vanessa Boschi, Villanova University, USA

Evelyn Sperry, Villanova University, USA

Jacob Turko, School District of Philadelphia, USA

Najwa Smith, School District of Philadelphia, USA

Stand-Alone Paper

Undergraduate Attitudes and Beliefs About Climate Change Following a Study-Abroad Experience in Fiji

Krista Lucas*, Pepperdine University, USA

Abigail Baker*, Pepperdine University, USA

Catherine Nguyen*, Pepperdine University, USA

Elizabeth Stansberry*, Pepperdine University, USA

Timothy Lucas, Pepperdine University, USA

Donna Nofziger, Pepperdine University, USA

Strand 14: Environmental Education and Sustainability

21-Apr-26, 14:30-16:00

Location: Jefferson A (L4)

Stand-Alone Paper

Student-Centered STEM Education: Highlighting Youth Voices Through Policymaking

Hamza Malik, Lloyd Center for the Environment, USA

Muhammad Usman Ijaz*, UMassD, USA

Syed Nauman Wazir*, UMassD, USA

Rachel Stronach, UMassD, USA

Chad McGuire, UMassD, USA

Stephen Witzig, UMassD, USA

Stand-Alone Paper

Nurturing Global Competence in Science Classrooms through a Unit on Climate Change

Arya Karumanthra*, Indiana University, USA

Gayle Buck, Indiana University, USA

Bridging Cultures and Knowledge: Fostering Cross-Cultural Connections in Indigenized STEM Education and Research

21-Apr-26, 14:30-16:00

Location: Willow A (L2)

Administrative Session

Organizers

Julie Robinson, University of North Dakota, Grand Forks, ND, USA

Contributors

Julie Robinson, University of North Dakota, Grand Forks, ND, USA

Joshua Hunter, University of North Dakota, Grand Forks, ND, USA

Ari Krakowski, University of California-Berkeley, USA

Peresang Sukinarhimi, National Sun Yat-sen University, Taiwan

Pauline Chinn, University of Hawai'i at Mānoa, Honolulu, Hawai'i, USA

Stacy Potes, University of Hawai'i at Mānoa, Honolulu, Hawai'i, USA

Jhu Chun Yang, National Cheng Kung University, Taiwan

Paichi Pat Shein, National Sun Yat-sen University, Taiwan

Stephanie Erickson, University of Minnesota, USA

Bhaskar Upadhyay, University of Minnesota, USA

Planning Together the NARST Centennial Celebration and 2027 Conference

21-Apr-26, 14:30-16:00

Location: Grand Ballroom (L2)

Administrative Session

Organizers

Maria Varelas, University of Illinois Chicago, USA

Fostering Creativity and Critical Thinking in Science

Strand 1: Science Learning: Development of student understanding

21-Apr-26, 16:15-17:45

Location: Ravenna C (L3)

Stand-Alone Paper

A Meta-Analysis on Scientific Creativity Development through Problem-Solving and STEM Contexts

Fredyrose Ivan Pinar*, De La Salle University, Philippines

Albert Andry Panergayo, Laguna State Polytechnic University, Philippines

Lydia Roleda, De La Salle University, Philippines

Maricar Prudente, De La Salle University, Philippines

Dhareel Acut, Cebu Technological University, Philippines

Richard Sagcal, De La Salle University, Philippines

Stand-Alone Paper

A Systematic Literature Review of Data Literacy in K-12 Science Education

Hui Jin*, Georgia Southern University, USA

Bailey Nafziger, Georgia Southern University, USA

Stand-Alone Paper

Fostering Criticality and Agency in AI-Mediated Science Learning: Extending the CT-S Framework

Eric Greenwald*, University of California Berkeley, Lawrence Hall of Science, USA

Timothy Hurt, University of California Berkeley, Lawrence Hall of Science, USA

Ari Krakowski, University of California Berkeley, Lawrence Hall of Science, USA

Vanessa Lujan, University of California Berkeley, Lawrence Hall of Science, USA

Supporting Teachers: Professional Growth, Knowledge, and Retention
Strand 4: Science Teaching — Middle and High School (Grades 5-12): Characteristics and Strategies

21-Apr-26, 16:15-17:45

Location: Cedar AB (L2)

Stand-Alone Paper

Characterizing Course-based Research Experiences in Secondary Schools: A Systematic Review

Daniel Shay*, Washington State University, USA

Andy Cavagnetto, Washington State University, USA

Stand-Alone Paper

Should I Stay or Should I Go: Results From a Survey on Science Teacher Retention

Lauren Harper*, Horizon Research, Inc., USA

Patrick Smith*, Horizon Research, Inc., USA

Jamie Wallace*, American Museum of Natural History, USA

Stand-Alone Paper

Sustaining Science Teacher Leadership: Applying the Community of Practice Model Across Urban and Rural Contexts

Natasha Johnson*, University of Toledo, USA

Stand-Alone Paper

Teachers' Conceptual Knowledge of Wildfire and Human Interaction

Debika Jana*, University of Nevada Las Vegas, USA

Merryn Cole*, University of Nevada Las Vegas, USA

Stand-Alone Paper

Teaching Science Using Knowledge-in-Pieces during Nature-Based Learning

Phillip Dixon, University of Iowa, USA

Matthew Lira, University of Iowa, USA

Kay Ramey, University of Iowa, USA

Roundtables Session 2

21-Apr-26, 16:15-17:45

Location: Grand Ballroom (L2)

Strand 4: Science Teaching — Middle and High School (Grades 5-12): Characteristics and Strategies

Roundtable

“Be Better Than You Need to Be”: A-Level Physics Students’ Peer Pedagogy on TikTok

Wonyong Park*, University of Southampton, United Kingdom

Strand 5: College Science Teaching and Learning (Grades 13-20)

WIP Roundtable

Undergraduates’ Perceptions and Beliefs of Generative AI in Introductory Physics Learning

Carina Rebello*, Purdue University, USA
Qurat-ul-Ann Mirza, Purdue University, USA

Mina Megally, Toronto Metropolitan University, Canada

N. Sanjay Rebello, Purdue University, USA

Strand 7: Pre-service Science Teacher Education

Roundtable

How and why young people position science teaching as a back-up career

Emily MacLeod*, McGill University, Canada

Strand 7: Pre-service Science Teacher Education

Roundtable

Using Q-Methodology to Understand Shifts in Orientation towards

Equitable Teaching among Pre-service Elementary Science Teachers

Lynne Zummo*, University of Utah, USA

Tracy Dobie, University of Utah, USA

Lauren Barth-Cohen, University of Utah, USA

Connor Warner, University of Utah, USA

Strand 7: Pre-service Science Teacher Education

Roundtable

Preservice Elementary Teachers’ Views on Scripted Science Curriculum in Linguistically and Culturally Diverse Classrooms

Sissy Wong*, University of Houston, USA

Samuel Katende, University of Houston, USA

Hien Tran, University of Houston, USA

Jie Zhang, University of Houston, USA

Raju Ahmmed, University of Houston, USA

Maria Walsh, University of Houston, USA

Strand 7: Pre-service Science Teacher Education

WIP Roundtable

Bridging Local Knowledge and Global Citizenship through Place-Based Exchange Program between Taiwan and Hawaii

Yu-Chieh Wu*, University of Hawaii, USA

Jhu Chun Yang*, Sun Yat Sen University, Taiwan

Pauline Chinn*, University of Hawaii, USA

Strand 8: In-service Science Teacher Education Roundtable

Coaching Coaches: An

Autoethnographic Reflection

Melissa Mendenhall*, Utah Valley University, USA

Strand 8: In-service Science Teacher Education WIP Roundtable

Reimagining a practitioner-researcher collaboration model. Leveraging trust; Nurturing relationships; Responding to science classroom needs.

Tej Dalvi*, University of Massachusetts, USA

Pat Paugh, University of Massachusetts, USA

Jihan Mehideen, Boston Public Schools, USA

Strand 8: In-service Science Teacher Education Roundtable

"I should have ensured its accessibility" – Science Teachers' Epistemic Empathy for Blind and Low-Vision Students

Mutiara Syifa*, Illinois State University, USA

Natalie Shaheen, Illinois State University, USA

Strand 8: In-service Science Teacher Education Roundtable

Developing and Implementing an Integrated STEM Curriculum Grounded in an Up-to-Date, Authentic University-Based Research

Maram Alaqla, Sharjah Education Academy, UAE

Bugrahan Yalvac*, Texas A&M university, USA

Strand 8: In-service Science Teacher Education Roundtable

Affirming Learning Walks: providing promise for teachers' self-efficacy, emotions, and retention.

Donna Ross*, San Diego State University, USA

Matt Graham*, University of Oregon, USA

Bryan Rebar*, University of Oregon, USA

Jenefer Husman, University of Oregon, USA

Strand 10: Curriculum and Assessment Roundtable

Three Teachers Experience Implementing a Paleontology and Computer Vision Curriculum: Barriers and Opportunities

Christine Wusylko*, Kennesaw State University, USA

Gabriella Haire, University of Florida, USA

Breuna Wilson, University of Florida, USA

Pasha Antonenko*, University of Florida, USA

Jeremy Waisome, University of Florida, USA

Brian Abramowitz, Northern Essex Community College, USA

Victor Perez, St. Mary's College of Maryland, USA

Stephanie Killingsworth, University of Florida, USA

**Strand 10: Curriculum and Assessment
Roundtable**

*From Structure to Fairness: Validating
the Interdisciplinary Science*

Assessment of Carbon Cycling II

Hyesun You*, University of Iowa, USA

Sunyoung Park, California Lutheran
University, USA

**Strand 10: Curriculum and Assessment
WIP Roundtable**

*Culturally Relevant or More of The
Same? Unpacking Standards-Aligned
Elementary Science Curriculum
Materials*

TERRANCE Burgess*, Michigan State
University, USA

**Strand 10: Curriculum and Assessment
Roundtable**

Developing Secondary

Interdisciplinary STEM Curricula in

*Two Countries: Design Approaches
and Challenges*

Erin Furtak*, University of Colorado
Boulder, USA

Lukáš Rokos, University of South Bohemia,
Czech Republic

Lien Amin*, University of Colorado
Boulder, USA

**Strand 10: Curriculum and Assessment
Stand-Alone Paper**

*Bridging Disciplinary Boundaries:
Development and Validation of the
Interdisciplinary Science Assessment
of Carbon Cycling II*

Hyesun You*, University of Iowa, USA

Minju Hong, Chung-Ang University, Korea,
Republic of

Won-Chan Lee, University of Iowa, USA

**Strand 11: Cultural, Social, and Gender
Issues**

Roundtable

*“Silent Suffering” and “Crippling Fear”:
Understanding how science learners
describe impostor experiences using
conceptual metaphors*

Devasmita Chakraverty*, Indian Institute
of Management Ahmedabad, India

**Strand 11: Cultural, Social, and Gender
Issues**

21-Apr-26, 16:15-17:45

Location: Grand Ballroom (L2)

Roundtable

*Reflections on Positioning of a
Summer Science Teaching Intern:
Mai’s Story*

Maria Rivera Maulucci*, Barnard College,
Columbia University, USA

**Strand 11: Cultural, Social, and Gender
Issues**

WIP Roundtable

*Play, Power, and Pedagogy:
Reimagining Science Education in
Times of Rising Authoritarianism*

Erica Carlson-Moudry*, University of
Nebraska at Omaha, USA

K. Mendoza*, University of Nebraska at
Omaha, USA

**Strand 11: Cultural, Social, and Gender
Issues**

WIP Roundtable

*(Re)Defining Scientific Wealth:
Exploring Economic and Sociocultural
Currencies Within STEM Education*

Ava Breitbeck*, Syracuse University, USA

Strand 11: Cultural, Social, and Gender Issues

WIP Roundtable

Advancing Theory with Doctoral Students at an International Ph.D. Summer School

Kevin Nguyen*, Sonoma State University, USA

Bjørn Johannsen, University College Copenhagen, Denmark

Katherine Doerr, Malmö University, Sweden

Katerina Günter, Umeå University, Sweden

Tatiane Russo-Tait, University of Georgia, USA

Strand 11: Cultural, Social, and Gender Issues

Roundtable

Curiosity Killed the Cat: How a Smart Kid is Being Disabled in Science Classroom

Haoxuan Yang*, East China Normal University, China

Sihan Xiao, East China Normal University, China

Jiaying Fan*, Southwest University, China

Strand 11: Cultural, Social, and Gender Issues

WIP Roundtable

Goals and impacts of West African women academics engaging in academic communication on social media.

Shallom Lumor*, Technion Israel Institute of Technology, Israel

Tzipora Rakedzon, Technion, Israel Institute of Technology, Israel

Strand 11: Cultural, Social, and Gender Issues

Roundtable

Issues of Equity and Engineering: How Professionals Conceptualize Equity as Integral to Good Engineering Practice

Joy Anogwih, University of Alabama, USA

Shannon Davidson*, University of Alabama, USA

Abiodun Babalola, University of Alabama, USA

Strand 11: Cultural, Social, and Gender Issues

Roundtable

Science Teachers for Social Justice: Creating a transformative community of practice

Katherine Wade-Jaimes*, University of Nevada, USA

Strand 11: Cultural, Social, and Gender Issues

WIP Roundtable

"They are scientists, not women scientists": A Qualitative Case Study of Female Scientists on Xiaohongshu

Shumin Zhao*, University of Nevada, Reno, USA

Strand 12: Technology for Teaching, Learning, and Research

Roundtable

The impact of Augmented Reality to enhance students' cognitive outcomes : a systematic review

Erick Soan*, University of Florida, USA

**Strand 12: Technology for Teaching,
Learning, and Research**

WIP Roundtable

*Climate Change x Geoinformatics - a
Combination to Overcome
Educational Segregation?*

MARIE JOHANNA UNIVER*, University of
Tartu, Estonia

Birgit Viru, University of Tartu, Estonia

Regina Soobard, University of Tartu,
Estonia

**Strand 12: Technology for Teaching,
Learning, and Research**

Roundtable

*What Happens When AI Enters the
Science Classroom? Lessons from
Korea and the U.S.*

Benjamin Oh*, Lynbrook high school, USA

Jonghyun Park, Daejeon Science high
school for the gifted, Korea, Republic of

Cheol-Hong Jeon, Korea National
University of Education, Korea, Republic of

Suna Ryu*, Korea National University of
Education, Korea, Republic of

**Strand 12: Technology for Teaching,
Learning, and Research**

Roundtable

*Preservice Teachers' Evaluation
Process and Criteria for AI Suggestions
in Science Lesson Planning*

Soo Won Shim*, Illinois State University,
USA

**Strand 13: History, Philosophy, Sociology,
and Nature of Science**

Roundtable

*Considering the Future of Nature of
Science in Science Instruction: What's
Next?*

William McComas*, University of Arkansas,
USA

Douglas Allchin*, University of Minnesota,
USA

Christine McDonald, Griffith University,
Australia

Kostas Kampourakis*, University of
Geneva, Switzerland

Erin Peters-Burton*, George Mason
University, USA

**Strand 13: History, Philosophy, Sociology,
and Nature of Science
Roundtable**

*Artificial Intelligence and the Nature
of Science: Rethinking School Science
for a New Era*

Zoubeida Dagher*, University of Delaware,
USA

Sibel Erduran, University of Oxford, United
Kingdom

**Strand 13: History, Philosophy, Sociology,
and Nature of Science
Roundtable**

*Why Does Dealing with Data Really
Matter? Benefits and the Conditions
That Support Them*

Gregor Benz, Technical University of
Munich, Germany

Joshua Rosenberg*, University of
Tennessee, Knoxville, USA

Victor Lee, Stanford University, USA

**Strand 14: Environmental Education and
Sustainability
Roundtable**

*Building Resilient and Inclusive
Education Systems: Insights from
International Literature*

Narendra Deshmukh*, Ret. from Homi Bhabha Centre for Science Education, TIFR, India

Shondricka Burrell PhD*, Morgan State University, USA

Keshiyena Pieters*, Morgan State University, USA

Strand 14: Environmental Education and Sustainability Roundtable

Examining Adult Climate Change Educator Identity and Agency Shifts Across Professional Contexts

Emma Schectman*, UC Davis, USA

Strand 14: Environmental Education and Sustainability Roundtable

Climate change curriculum as a communication tool for supporting teachers' epistemic practices

Shweta Lahiri*, University of Georgia, USA

Emily Adah Miller, University of Georgia, USA

Hong Tran, Purdue University, USA

Yuxi Huans, University of California, Irvine, California, USA

Joe DeLuca, University of Georgia, USA

Strand 14: Environmental Education and Sustainability WIP Roundtable

Context as Curriculum: Learning from the Land on which We are Settlers

Angela D'Souza*, University of Massachusetts, USA

Jeanne Brunner, University of Massachusetts, USA

Strand 14: Environmental Education and Sustainability Roundtable

Teachers' Approaches to Instructional Design for Environmental Science Agency

Won Jung Kim*, Santa Clara University, USA

Strand 14: Environmental Education and Sustainability Roundtable

We Are Scientists: Science Identity, Language, and Cultural Relevance in Environmental Education

Becca VanArnam*, University of California Davis, USA

Peggy Harte, UC Davis Center for Community and Citizen Science, USA

Heidi Ballard, University of California Davis, USA

Strand 15: Policy, Reform, and Program Evaluation Roundtable

Expanding Climate Education Using a Networked Improvement Community: A Case Study

Eric Nolan*, California State University, East Bay, USA

Michele Korb, California State University, East Bay, USA

Itzel Parada, California State University, East Bay, USA

Kathryn Hayes, California State University, East Bay, USA

Strand 14: Environmental Education and Sustainability Roundtable

Science learning at sea: STEMSEAS as a model of experiential and transformative science learning

Emily Harris, BSCS, USA
Karina Garbesi, California State University,
East Bay, USA

***Pathways to Persistence: Belonging,
Motivation, and Engagement***

**Strand 5: College Science Teaching and
Learning (Grades 13-20)**

21-Apr-26, 16:15-17:45

Location: Willow B (L2)

Stand-Alone Paper

*Strengthening STEM Pathways
Through Cohort-Based Learning and
Career Engagement in Community
College*

Ti'Era Worsley*, Northern Virginia
Community College, USA

Justin Owen, Northern Virginia
Community College, USA

Jack Bidlack, Northern Virginia
Community College, USA

Christopher Russell, Northern Virginia
Community College, USA

Joshua Labrie, Northern Virginia
Community College, USA

Stand-Alone Paper

*Science Identity and College
Transitions at an HBCU*

Elizabeth Deimeke*, Clark Atlanta
University, USA

Reneé Schwartz, Georgia State University,
USA

Stand-Alone Paper

*Belonging in Biology Education:
Intersectional Experiences and
Recommendations from
Undergraduate Muslim Students in
the US*

Rahmi Aini*, Middle Tennessee State
University, USA

M. Elizabeth Barnes, Middle Tennessee
State University, USA

***Cultivating Teacher Identity and
Agency in Preservice Education***
**Strand 7: Pre-service Science Teacher
Education**

21-Apr-26, 16:15-17:45

Location: Boren (L4)

Stand-Alone Paper

*"I feel like you're trying to science
teacher me": Challenging epistemic
hierarchies in teacher education*

Elizabeth Harris*, Stanford University, USA

Stand-Alone Paper

*Why Stay? Exploring Preservice
Elementary Teachers' Intent to
Remain in the Profession*

Jeanna Wieselmann*, Southern Methodist
University, USA

Grace Morison, Southern Methodist
University, USA

Deepika Menon, University of Nebraska -
Lincoln, USA

Sarah Haines, Towson University, USA

Sumreen Asim, Indiana University
Southeast, USA

***The impact of professional learning
and research-practice partnerships***

**Strand 8: In-service Science Teacher
Education**

21-Apr-26, 16:15-17:45

Location: Greenwood (L3)

Stand-Alone Paper

*Changes in Fifth-Grade Teachers
Socioscientific Issues Instruction:
Assessing the impact of professional
development*

Jerrid Kruse*, Drake University, USA

Sarah Borzo*, Drake University, USA

Ava Dembowski, Drake University, USA

Macy Gardner, Drake University, USA

Lucas Menke, Drake University, USA

Isaiah Kent-Schneider, Purdue, USA

Maddie Kampf, Drake University, USA

Stand-Alone Paper

*Fifth-grade Teachers' Critical Science
Literacy: Investigating the impact of
professional development*

Lucas Menke*, Drake University, USA

Jerrid Kruse*, Drake University, USA

Sarah Hunt, Drake University, USA

Sarah Borzo, Drake University, USA

Mitch Klocke, Drake University, USA

Ava Dembowski, Drake University, USA

Megan Huberty, Drake University, USA

Grace Hegard, Drake University, USA

Stand-Alone Paper

*Why Well-Designed Professional
Learning Programs Can Fail: Evidence
from a PL Program on Scientific
Reasoning*

Richard Sannert*, IPN - Leibniz Institute
for Science and Mathematics Education,
Germany

Verena Petermann, Justus Liebig
University Giessen, Germany

Janet Carlson, Stanford University, USA

Jan van Driel, University of Melbourne,
Australia

Moritz Krell, IPN - Leibniz Institute for
Science and Mathematics Education,
Germany

Stand-Alone Paper

*Building and Sustaining Research-
Practice Partnerships in Geospatial
Education: Lessons from a Four-Year
Collaboration*

Danielle Malone*, Purdue University, USA

Kate Popejoy*, Popejoy STEM LLC, USA

Judith Morrison, Washington State
University, USA

Jonah Firestone, Washington State
University, USA

Thomas Hammond, Lehigh University,
USA

Molly Weinburgh, Texas Christian
University, USA

Kristen Brown, Texas Christian University,
USA

Lindsay Lightner, Washington State
University, USA

Alec Bodzin, Lehigh University, USA

***Science teachers' epistemic beliefs
and modeling practices***

**Strand 8: In-service Science Teacher
Education**

21-Apr-26, 16:15-17:45

Location: Issaquah AB (L3)

Stand-Alone Paper

*Making Sense with Models: Modeling
as a Gateway to the NGSS Science
and Engineering Practices*

Katherine Glover*, North Carolina State
University, USA

Laura Chalfant, North Carolina State University, USA

Grace Carroll, North Carolina State University, USA

Khalid Alharbi, North Carolina State University, USA

Lynn Huff, North Carolina State University, USA

Soonhye Park, North Carolina State University, USA

Matt Reynolds, North Carolina State University, USA

Stand-Alone Paper

Investigating the Interplay of Teachers' PCK, Epistemic Beliefs, and Their Implementation of Modeling Instruction

Laura Chalfant*, North Carolina State University, USA

Grace Carroll, North Carolina State University, USA

Matt Reynolds, North Carolina State University, USA

Soonhye Park, North Carolina State University, USA

Katherine Glover, North Carolina State University, USA

Khalid Alharbi, North Carolina State University, USA

Lynn Huff, North Carolina State University, USA

Scott Ragan, North Carolina State University, USA

Jason Painter, North Carolina State University, USA

Stand-Alone Paper

Exploring Patterns of Assessment Literacy in Model-Based Science Instruction

Alexis Gonzalez-Donoso*, The University of British Columbia, Canada

Samia Khan, University of British Columbia, Canada

Curriculum Co-Design and Customization: Understanding Teacher Choices and Challenges
Strand 10: Curriculum and Assessment
21-Apr-26, 16:15-17:45
Location: Capitol Hill (L3)

Stand-Alone Paper

Supporting Teacher Customization for Equitable Discussion through Cycles of Enactment and Reflection

Brianna Balke*, Boston College, USA

Maria Moreno Vera, Boston College, USA

Austin Moore, Boston College, USA

Katherine McNeill, Boston College, USA

Stand-Alone Paper

Design Dilemmas as Productive Spaces for Teacher Learning: Insights from a Curriculum Co-Design Case Study

Katarzyna Pomian Bogdanov*, Florida State University, USA

Stand-Alone Paper

Co-designing a CS Infused Gardening Curriculum with Community Partners in a Rural Research Practice Partnership

Quentin Biddy*, University of Colorado, USA

Jennifer Jacobs, University of Colorado, USA

Srinjita Bhaduri, University of Colorado, USA

Lalita Suwattee, University of Colorado, USA

Stand-Alone Paper

*Navigating through Pedagogical
Dilemmas in Curriculum
Customization for Equity*

Yang Zhang*, Northwestern University,
USA

Jason Buell, Northwestern University, USA

Etta Pope, Northwestern University, USA

Brian Reiser, Northwestern University, USA

***Envisioning Equitable Futures
Through Science Education:
Challenging Dominant Norms and
Centering Marginalized Voices***

**Strand 11: Cultural, Social, and Gender
Issues**

21-Apr-26, 16:15-17:45

Location: Ballard (L3)

Related Paper Set

*Preservice Elementary Teachers' Work
to Expand What Counts as Science*

Jessica Bautista*, University of Michigan,
USA

Elizabeth Davis, University of Michigan,
USA

Related Paper Set

*Building Queer Belonging in STEM
Education Curriculum*

Kyle Nolting*, University of Denver, USA

Related Paper Set

*Middle School Students' Sensemaking
as Experts on Their Community in a
Justice-Oriented Wildfire Science Unit*

Spencer Eusden*, University of Nevada,
Reno, USA

Li Ke, University of Washington, USA

***Community, Transparency, and
Tinkering for Just Futures: Lessons
Learned from the Critical AI Literacy
Institute***

**Strand 12: Technology for Teaching,
Learning, and Research**

21-Apr-26, 16:15-17:45

Location: Jefferson B (L4)

Related Paper Set

*Tinkering as Critical AI Literacy:
Teaching Infrastructure through
Breakdown & (Re)Configuration*

Zachary Muhlbauer*, CUNY Graduate
Center, USA

Related Paper Set

*The Critical AI Literacy Institute:
Asserting and Preserving Scholarly
Agency in the Age of AI*

Luke Waltzer*, CUNY Graduate Center,
USA

Related Paper Set

*Fostering Critical AI Literacy as
Collective World-Building: Curricular
Models for Teaching With/About
Generative AI*

Laurie Hurson*, The CUNY Graduate Center,
The City University of New York, USA

Related Paper Set

*Beyond the Black Box: Resisting AI
Inevitability Rhetoric and Implications
for Science Education*

Sule Aksoy*, SUNY Brockport, USA

Nature of science in disciplinary contexts

Strand 13: History, Philosophy, Sociology, and Nature of Science

21-Apr-26, 16:15-17:45

Location: Virginia (L4)

Stand-Alone Paper

The Structure of Biological Explanation: Extending the Nature of Scientific Explanation Framework Beyond Physical Sciences

Sahar Alameh*, University of Kentucky, USA

Fouad Abd-El-Khalick, University of Massachusetts Amherst, USA

Stand-Alone Paper

Promoting Undergraduate Non-Science Majors' Evolution Learning Perspectives through NOS, Mis/disinformation, and Bias Regulation Teaching

Benjamin Herman*, Texas A&M University, USA

Tamara Powers, Texas A&M University, USA

Magda Villwock, Texas A&M University, USA

Daniel De Jesús, Texas A&M University, USA

Michael Clough, Texas A&M University, USA

Ben Janney, Utah Tech University, USA

Aaron Kidd, University of Science and Arts of Oklahoma, USA

Stand-Alone Paper

The influence of NOS understandings on the science identities of two undergraduate science majors

Robert Bennett*, Georgia State University, USA

Renee Schwartz, Georgia State University, USA

Stand-Alone Paper

Systematic review on critics about Galton's eugenics

Natália Carvalho*, Programa de Pós-Graduação Interunidades em Ensino de Ciências da USP, Brazil

Rena Orofino*, School of Education, University of São Paulo, Brazil

Kátia Ribeiro, Federal Institute of Maranhão (IFMA), Brazil

Indigenous STEM Knowledge and Storytelling: Using Stories to Develop STEM Understandings for All Students

Strand 14: Environmental Education and Sustainability

21-Apr-26, 16:15-17:45

Location: Willow A (L2)

Symposium

Indigenous STEM Knowledge and Storytelling: Using Stories to Develop STEM Understandings for All Students

Stacy Potes*, University of Hawaii at Manoa, USA

Piata Allen*, University of Auckland, New Zealand

Nicole Chlebek*, Florida International University, USA

Kat Gardner-Vandy*, Oklahoma State University, USA

Lenora Crabtree*, University of North Carolina at Charlotte, USA

Rebekah Hammack*, Purdue University, USA

Kristal Turner, University of Calgary, Canada

David Owens*, University of Montana Missoula, USA

***Research in Artificial Intelligence-
Involved Science Education: RAISE
RIG Poster Session***

21-Apr-26, 16:15-17:45

Location: Redwood AB (L2)

Administrative Session

Organizers

Kent Crippen, University of Florida, FL, USA

Xiaoming Zhai, University of Georgia, Athens, GA, USA

Contributors

André Meyer, Leibniz Universität Hannover, Germany

Arne Bewersdorff, Technical University of Munich, Germany

Noel Kuriakos, University of Maryland, USA
Manav Sharma, University of Miami, USA.

Shreyashi Halder, ETS, USA

Fatma CANER, Özyeğin Üniversitesi, Turkey

Elad Yacobson, Technion – Israel Institute of Technology, Israel

Gyeonggeon Lee, Nanyang Technological University, Singapore

Hasan Deniz, University of Nevada Las Vegas, USA

Xin Xia, University of Georgia, USA

Organizers

Melissa Mendenhall, Utah Valley University, Orem, Utah, USA

Karen Woodruff, Kean University, Union, NJ, USA

Kelli Paul, Indiana University, IN, USA

Contributors

Grace Tukurah, Michigan State University, USA

Carla Zembal-Saul, Penn State, USA

Lilian Rudge Bentley, Georgia State University, USA

Alexander Bohn, Northern Virginia Community College, USA

Yurdagül Boğar, Hakkari University, Turkey

Equity and Ethics Dinner

21-Apr-26, 18:00-21:00

Location: Offsite

Social Event

***Research Social Hour -- Join NARST
Colleagues for Cookies and
Collaboration!***

21-Apr-26, 18:00-19:00

Location: Willow A (L2)

Administrative Session

Conference Day 4 22 April 2026

NARST Fellows Breakfast and Meeting

22-Apr-26, 7:00-8:00

Location: Willow A (L2)

Social Event

Meet the NARST Board of Directors - Breakfast

22-Apr-26, 7:00-8:00

Location: Grand Ballroom Foyer (L2)

Social Event

Membership and Business Meeting

22-Apr-26, 8:00-8:45

Location: Grand Ballroom (L2)

Strengthening Crosscutting Concepts and Knowledge-in-Use

Strand 1: Science Learning: Development of student understanding

22-Apr-26, 9:00-10:30

Location: Ravenna C (L3)

Stand-Alone Paper

Using Explicit Scaffolding Strategies to Foster Knowledge-in-use of Crosscutting Concepts

Qian Wu*, East China Normal University, China

Joseph Krajcik, Michigan State University, USA

Xinning Pei, East China Normal University, China

Stand-Alone Paper

Support in Developing Decision-Making Skills - Results from an Intervention Study in Chemistry Education

Jana-Sabrin Blome-Rohrbach*, TU Dortmund University, Germany

Insa Melle, TU Dortmund University, Germany

Stand-Alone Paper

Investigating Science and Technology Competition Experience's Impact on Crosscutting Concepts Proficiency Level

YUJING GUO*, capital normal university, China

YUPENG WANG, capital normal university, China

KUANG HE, People's Education Press, China

XIN BAI, capital normal university, China

Stand-Alone Paper

Reasoning About Life Cycles Across Elementary Grade Levels

Christelle Fayad*, Texas Christian University, USA

Hayat Hokayem*, Texas Christian University, USA

Engineering Design and Co-Design to Transform STEM Classrooms

Strand 4: Science Teaching — Middle and High School (Grades 5-12): Characteristics and Strategies

22-Apr-26, 9:00-10:30

Location: Ballard (L3)

Stand-Alone Paper

Engineering Education in Middle School STEM towards a Rightful Presence for Minoritized Students

Virginia Swindell*, University of North Carolina at Greensboro, USA

Edna Tan, University of North Carolina at Greensboro, USA

Stand-Alone Paper

Cycles of Co-Design: Linking Instructional Materials Revisions to Shifts in Engineering Teaching Practices

Katy Nilsen*, WestEd, USA

Aaron Soo Ping Chow, WestEd, USA

Sara Salisbury, WestEd, USA

Ashley Iveland*, WestEd, USA

Undergraduate Research Experiences: Student Experiences and Instructor Roles

Strand 5: College Science Teaching and Learning (Grades 13-20)

22-Apr-26, 9:00-10:30

Location: Juniper (L2)

Stand-Alone Paper

From knowledge to action: Instructor decision-making when teaching science practices in Course-based Undergraduate Research Experiences

Alexandra Cooper*, University of Georgia, USA

Danielle Philo, University of Georgia, USA

Tessa Andrews, University of Georgia, USA

Erin Dolan, University of Georgia, USA

Stand-Alone Paper

Increasing Wildlife Career

Preparedness: Comparing an Inquiry-based and a Course-based

Undergraduate Research Experience Wildlife Course

Danielle Gay*, Texas State University, USA

Carrie Bucklin, Texas State University, USA

Kristy Daniel, Texas State University, USA

Stand-Alone Paper

Conceptual model for analyzing instructor decision-making during development and implementation of course-based undergraduate research experiences

Laura Rios*, California Polytechnic State University, USA

Carolina Alvarado, California State University, Chico, USA

Stand-Alone Paper

Redefining success during a summer undergraduate research experience at an ecological field station

Anna Grinath*, Idaho State University, USA

Communities as Sites of Resistance, Imagination, and Transformation in Science Education

Strand 6: Science Learning in Informal Contexts

22-Apr-26, 9:00-10:30

Location: Columbia (L4)

Related Paper Set

"Don't take away the good things people love": Ideological Tensions in Youths' Community Designs

Hannah Ziegler*, Vanderbilt University, USA

Heidi Carlone, Vanderbilt University, USA

Lauren Connelly, Vanderbilt University, USA

Related Paper Set

Cultivating Reciprocity in an Informal K-12 Science Education Partnership
georgie schaffer*, Drexel University, USA

Related Paper Set

Fostering Latina Youth Science Identity Through Community-Based Experiences

Jaquelina Schmittlen-Garbocci*, University of Tennessee-Knoxville, USA

Related Paper Set

Inviting Possibilities: Youth Coding for Joy, Learning, and Imaginative Futures

Jennifer Tripp*, SUNY Geneseo, USA

Xiufeng Liu, University of Macau, Macao

Related Paper Set

Science Education Toward Socio-Ecological Well-Being: The Potential of Contextualization, Connection, and Agency

Genelle Diaz-Silveira*, Boston University, USA

AI-Enhanced Science Teacher Learning: From Beliefs to Instructional Design and Classroom Simulation

Strand 7: Pre-service Science Teacher Education

22-Apr-26, 9:00-10:30

Location: Ravenna AB (L3)

Stand-Alone Paper

Epistemic Beliefs and Generative AI Acceptance in Science Teacher Education: Exploring Relationships and Demographic Moderators

Öznur Avci*, Marmara University, Turkey

Feral Bekiroğlu, Marmara University, Turkey

Stand-Alone Paper

GAI-Integrated Pedagogy: Case Study in Pre-Service Science Teacher Development

Xinjia Ma, Shanghai Jiao Tong University, China

Xiaomei Yan*, Shanghai Jiao Tong University, China

Stand-Alone Paper

Authentic or Artificial? Examining the Use of Generative AI Roleplay in Pre-Service Science Teacher Education

Carrie-Anne Sherwood*, Southern Connecticut State University, USA
Mark Wursthorn, Southern Connecticut State University, USA

Building communities of culturally responsive and empowered STEM educators

Strand 8: In-service Science Teacher Education

22-Apr-26, 9:00-10:30

Location: Issaquah AB (L3)

Stand-Alone Paper

Black Women Science Teachers Strive Toward Self-Definition Through a Draw a Science Teacher Activity
Alexis Riley*, New York University, USA

Stand-Alone Paper

Centering Community in K-12 STEM Teaching and Learning: A Framework on Culturally Sustaining Integrated STEM

Khanh Tran*, Utah State University, USA
Lynn Bryan*, Purdue University, USA

Stand-Alone Paper

Supporting Teachers' Contemporary Perspectives on Culture and Community in Science Using Socioscientific Issues

Felisha Dake*, Colorado State University-Pueblo, USA
Cory Buxton, Oregon State University, USA
Melissa Livingston, Oregon State University, USA

Stand-Alone Paper

Empowering STEMM Educators: A Hybrid Model of Intensive PD and Longitudinal Community Building

Matthew Blank*, Baylor College of Medicine, USA

Alana Newell*, Baylor College of Medicine, USA

Nancy Moreno, Baylor College of Medicine, USA

Racialized Joy and Play in STEM Learning

Strand 11: Cultural, Social, and Gender Issues

22-Apr-26, 9:00-10:30

Location: Willow A (L2)

Symposium

Racialized Joy and Play in STEM Learning

Terrell Morton, University of Illinois Chicago, USA

Harrison Pinckney IV*, Pennsylvania State University, USA

Jochebed Gayles*, Pennsylvania State University, USA

Nicole Webster*, Pennsylvania State University, USA

Brittany Hunt*, Virginia Polytechnic Institute and State University, USA

Jessica Leeker*, Cornell University, USA

Sandy Cerda-Lezama, Portland State Univ, USA

Viviana Vélez Negrón*, University of Michigan, USA

Channing Mathews, University of Virginia, USA

Teresa Satterfield Linares, University of Michigan, USA

Shaping Engagement and Problem Solving in Science Learning through AI and Gameplay Analytics

Strand 12: Technology for Teaching, Learning, and Research

22-Apr-26, 9:00-10:30

Location: Greenwood (L3)

Stand-Alone Paper

Adaptive Training of Physics Problem-Solving Skills

André Meyer*, Leibniz University

Hannover, Germany

Gunnar Friege, Leibniz University

Hannover, Germany

Stand-Alone Paper

Assessing Student's Engagement within a Science Serious Educational Game

Kayla Flanagan, University of Georgia, USA

Georgia Hodges*, University of Georgia, USA

Jing Li, University of Georgia, USA

Stand-Alone Paper

Examining Students' Systems Thinking Through Serious Educational Gameplay

Jongchan Park*, University of Georgia, USA

Georgia Hodges, University of Georgia, USA

Xiaoming Zhai, University of Georgia, USA

AI-Enhanced Inquiry, Learning Progression, & Engineering Design

Strand 12: Technology for Teaching, Learning, and Research

22-Apr-26, 9:00-10:30

Location: Jefferson A (L4)

Stand-Alone Paper

Enhancing Scientific Inquiry Self-Efficacy in Junior High Students: The Role of a Heuristic-Questioning AI Chatbot

Jiaojiao Hui*, The University of Hong Kong, China

Chen Chen, The University of Hong Kong, China

Zhiping Qiu, Hangzhou Yinhu Experimental Middle School, China

Guojun Xu, Hangzhou Yinhu Experimental Middle School, China

Jiaxin Chen*, The University of Hong Kong, China

Stand-Alone Paper

Impact of an AI Enhanced Inquiry Sequence on Students Integration of Ideas about Energy Transfer

Allison Bradford*, University of California, Berkeley, USA

Libby Gerard, University of California, Berkeley, USA

Marcia Linn*, University of California, Berkeley, USA

Articulating Ecological and Political Crises and a Crisis of Ethics in Science Education

Strand 13: History, Philosophy, Sociology, and Nature of Science

22-Apr-26, 9:00-10:30

Location: Seneca (L4)

Symposium

Articulating Ecological and Political Crises and a Crisis of Ethics in Science Education

Matthew Weinstein*, University of Washington-Tacoma, USA

Jesse Bazzul*, University of Regina, Canada

David Blades*, University of Victoria, Canada

Shakhnoza Kayumova*, University of Massachusetts Dartmouth, USA

Sophia Jeong*, The Ohio State University, USA

Andrea Henrie*, Vanderbilt University, USA

Heather Johnson, Vanderbilt University, USA

Teo Keifert, University of North Texas, USA

Ashlyn Pierson, The Ohio State University, USA

Bart Schutte*, Eindhoven University of Technology, Netherlands

Duru Bayram, Eindhoven University of Technology, Netherlands

Johanna Vennix, Eindhoven University of Technology, Netherlands

Jan van der Veen, Eindhoven University of Technology, Netherlands

Stand-Alone Paper

Science Teachers' Beliefs and Contributions to Children's Access to Biodiversity Within the School Day

Allison Antink-Meyer*, University of Missouri-St. Louis, USA

Soo Won Shim, Illinois State University, USA

Ryan Brown, Illinois State University, USA

Stand-Alone Paper

Opportunities for Student Agentic Action in K-12 Sustainability Education: A Systematic Review

Michelle Jordan*, Arizona, USA

Emmanuel Adeloju*, Arizona State University, USA

Andrea Weinberg, Arizona State University, USA

Sustainability Education and Student Agency in K-12 Contexts

Strand 14: Environmental Education and Sustainability

22-Apr-26, 9:00-10:30

Location: Jefferson B (L4)

Stand-Alone Paper

Bringing Sustainability Issues into the Classroom: Interdisciplinary Challenge-Based Learning in Secondary Education

***Inspiring Science Participation
Among All Ages and Backgrounds:
Evaluations From NASA's Science
Activation Program***

**Strand 15: Policy, Reform, and Program
Evaluation**

22-Apr-26, 9:00-10:30

Location: Capitol Hill (L3)

Related Paper Set

*Aviation Weather Mission: Evaluating
Data Collection Efficacy in a Youth
Citizen Science Project*

Matt Nyman*, Oregon State University,
USA

Heather Fischer*, Oregon State University,
USA

Theresa Schwerin, Institute for Global
Environmental Strategies, USA

Marilé Colón Robles, NASA Langley
Research Center, USA

Shannon Babb, Civil Air Patrol, USA

Related Paper Set

*Reflecting on a Stratospheric
Ballooning Education Project's
Implementation With Participatory
and Empowerment Evaluation
Approaches*

Beth Covitt*, University of Montana, USA

Angela Des Jardins, Montana State
University, USA

Related Paper Set

*From Professional Learning to
Practice: Educator Implementation of
Place-Based, Data-Rich Earth Science
Instruction Through PLACES*

Stephanie Wilkerson*, Magnolia
Consulting, USA

Holland Banse*, Magnolia Consulting, USA

Related Paper Set

*Research and Evaluation Practices to
Engage with Neurodivergent Teens in
STEM Programs*

Andrew Grillo-Hill*, WestEd, USA

Rasha Elsayed, WestEd, USA

Kimberly Nguyen, WestEd, USA

Karen Melchior, WestEd, USA

Joshua Valcarcel, WestEd, USA

***Interactive Communities in Science
Education: Educators and
Communities Shaping STEM
Learning***

**Strand 2: Science Learning: Contexts,
Characteristics and Interactions**

22-Apr-26, 10:45-12:15

Location: Jefferson A (L4)

Stand-Alone Paper

*Balancing Compassion and
Accountability: Insights from COVID-19*

Melissa Demetrikopoulos, Institute for
Biomedical Philosophy, USA

Molly Weinburgh*, Texas Christian
University, USA

Andreas Thompson, Institute for
Biomedical Philosophy, USA

Zhan Shi, Texas Christian University, USA

John Pecore*, University of West Florida,
USA

Dean Williams, Texas Christian University,
USA

Stand-Alone Paper

*Synchrony, Community, and
Personhood as Becoming-Together:
Understanding Interactive Context in
Science Education through Activity
Processes*

Katherine Bruna*, Iowa State University,
USA

Lyric Bartholomay*, University of
Wisconsin, Madison, USA

Stand-Alone Paper

*Counselors, Classrooms, and
Community: Exploring Rural
Educators' Roles in Supporting
Project-Based STEM Learning*

Devan Jones*, University of South Carolina,
USA

Bryndle Bottoms, Institute for Rural
Education and Development, USA

Teacher Development at the Intersection of Place, Climate, and Justice

**Strand 3: Science Teaching — Primary
School (Grades preK-6): Characteristics
and Strategies**

22-Apr-26, 10:45-12:15

Location: Willow A (L2)

Symposium

*Teacher Development at the
Intersection of Place, Climate, and
Justice*

Priya Pugh*, IslandWood, USA

Déana Scipio, IslandWood, USA

Kelsie Fowler, University of Washington,
USA

Anastasia Sanchez, Puget Sound
Educational School District, USA

Charlene Nolan, Western Washington
University, USA

Jordan Sherry-Wagner, University of
Washington Bothell, USA

Megan Bang, Northwestern University,
USA

Carrie Tzou, University of Washington
Bothell, USA

Graduate Student Teaching and Professional Development

**Strand 5: College Science Teaching and
Learning (Grades 13-20)**

22-Apr-26, 10:45-12:15

Location: Juniper (L2)

Stand-Alone Paper

*Graduate STEM mentoring through
mentor and mentee perspectives: a
qualitative study*

Ana-Maria Topliceanu*, Augusta
University, USA

Meg Blanchard*, North Carolina State
University, USA

Stand-Alone Paper

*Research Experience for Teachers
(RET) as a site for graduate students'
professional development*

Kyle Tomczak*, University of Illinois
Chicago, USA

Minjung Ryu, University of Illinois Chicago,
USA

Stand-Alone Paper

*Departmental Supports or Barriers to
Graduate Student Teaching
Professional Development (GS TPD):
An Interview Study*

Heather Green*, Middle Tennessee State
University, USA

Eric Akuoko, St. John's University, USA

Alyssa Cotrell, Middle Tennessee State
University, USA

Gili Marbach-Ad, University of Maryland,
USA

Kristen Miller, University of Georgia, USA

Elisabeth Schussler, University of
Tennessee, USA

Grant Gardner, Middle Tennessee State University, USA

Networks, Co-Design & System-Level Change

Strand 6: Science Learning in Informal Contexts

22-Apr-26, 10:45-12:15

Location: Columbia (L4)

Stand-Alone Paper

XXX [Removed for Blind Review]

Program Improvement: Connected Science Learning for Local Socioecological Engagement

Todd Campbell*, University of Connecticut, USA

Rebecca Van Tassell*, University of Connecticut, USA

Laura Cisneros, University of Connecticut, USA

Nicole Freidenfelds, University of Connecticut, USA

Laurel Pehmoeller, University of Connecticut, USA

Jonathan Simmons, Salem State University, USA

Anna Lindemann, University of Connecticut, USA

Heather Elliot-Famularo, University of Connecticut, USA

Cary Chadwick, University of Connecticut, USA

David Dickson, University of Connecticut, USA

Stand-Alone Paper

Transforming Informal Science Networks: Using Social Network Analysis to Advance Equity and Collaboration

Anica Miller-Rushing*, Associated Universities Inc., USA

Scott Byrd, Medomak Consulting, USA

Stand-Alone Paper

Design Thinking Approach to Co-creating Science Curriculum in Museum-School Partnerships Using the Double Diamond Framework

Wei-Ting Li*, National Sun Yat-sen University, Taiwan

Jen-Yuan Yeh, National Museum of Natural Science, Taiwan

Ying-Ying Liu, National Museum of Natural Science, Taiwan

Design Thinking, Phenomena, and Evidence-Based Reasoning: Shaping Future Science Teachers' Instructional Practices

Strand 7: Pre-service Science Teacher Education

22-Apr-26, 10:45-12:15

Location: Ravenna AB (L3)

Stand-Alone Paper

Implementation of Design Thinking on the Subject of Earthquakes: Experiences of Pre-service Science Teachers

Semanur Aras*, Kahramanmaraş Sütçü İmam University, Turkey

Ahmet TEKBIYIK, Kahramanmaraş Sütçü İmam University, Turkey

Stand-Alone Paper

Building on Strengths: How a Phenomenon-Based Science Course Shapes Prospective Elementary Teachers' Visions of Teaching

Martha Canipe*, Northern Arizona University, USA

Ron Gray, Northern Arizona University,
USA

Stand-Alone Paper

*Trends and Gaps in Elementary
Science Pedagogical Content
Knowledge Research*

David Santibáñez*, Finis Terrae University,
Chile

Alejandro Vega-Muñoz, Central University
of Chile, Chile

Claudia Vergara, Alberto Hurtado
University, Chile

**Advancing Equity and Justice in
Science Teaching: From Coursework
to Career-Long Development**

**Strand 7: Pre-service Science Teacher
Education**

22-Apr-26, 10:45-12:15

Location: Ravenna C (L3)

Stand-Alone Paper

*Context-Dependent Equity Framings
Across Coursework in Elementary
Science Teacher Preparation*

Wanjoo Ahn*, Michigan State University,
USA

Christina Schwarz, Michigan State
University, USA

Stand-Alone Paper

*Supporting Equity- and Justice-
Seeking Science Teaching Through a
Career-Spanning Professional
Learning Community*

William Lindsay, University of Colorado
Boulder, USA

Catalina Arboleda Hernandez*, University
of Colorado Boulder, USA

Taylor Marino Fallik, University of Colorado
Boulder, USA

Ian Her Many Horses, University of
Colorado Boulder, USA

Valerie Otero, University of Colorado
Boulder, USA

Stand-Alone Paper

*Reframing Science and Disability in
Teacher Preparation: Insights from an
Asynchronous Elementary Science
Methods Course*

Suzanne Patzelt*, Touro University, USA

Danielle Rhemer, Touro University, USA

Ashley Pollitt, The College of New Jersey,
USA

Karen Woodruff, Kean University, USA

Stand-Alone Paper

*Building Science Teacher Agency
Through Equity, Sensemaking, and
Three-Dimensional Learning and
Intentional Course Design*

Alison Mercier*, University of Wyoming,
USA

Meenakshi Sharma, Mercer University,
USA

Anica Miller-Rushing, Associated
Universities Inc., USA

Learning from a Local Longitudinal Network: Building Elementary Multilingual Classroom Cultures of Interdependence and Care

Strand 8: In-service Science Teacher Education

22-Apr-26, 10:45-12:15

Location: Greenwood (L3)

Symposium

Learning from a Local Longitudinal Network: Building Elementary Multilingual Classroom Cultures of Interdependence and Care

Jessica Thompson*, University of Washington, USA

Janaki Nagarajan, University of Washington, USA

Camille Ungco-Santos, University of Washington, USA

Hsin-Jung Li, University of Washington, USA

Ruby Geballe, University of Washington, USA

Grace Cornel Gonzales, University of Washington, USA

Nancy Hernández-Zamarripa, University of Washington, USA

Matt Stewart, University of Washington, USA

Iman Khalaf, University of Washington, USA

Sarah Lee, University of Washington, USA

Advancing equity and leadership in science education

Strand 8: In-service Science Teacher Education

22-Apr-26, 10:45-12:15

Location: Issaquah AB (L3)

Stand-Alone Paper

District science coordinator frames for equity in STEM

Sara Porter*, University of North Carolina at Greensboro, USA

Stand-Alone Paper

Negotiation of Science Teaching in a 15 Year Research-Practice Partnership

Scott McDonald*, The Pennsylvania State University, USA

Jonathan McCausland*, Iona University, USA

Stand-Alone Paper

Talk or Text? Anal"ing Science Teacher Mentors' Written and Verbal Feedback to Mentees

Lynn Huff*, North Carolina State University, USA

Soonhye Park, North Carolina State University, USA

Grace Carroll, North Carolina State University, USA

Laura Chalfant, North Carolina State University, USA

Katie Glover, North Carolina State University, USA

Khalid Alharbi, North Carolina State University, USA

W. Reynolds, North Carolina State University, USA

Scott Ragan, North Carolina State University, USA

Jason Painter, North Carolina State University, USA

Stand-Alone Paper

Gendered Pathways to Leadership: Examining Sources of Support and Challenges to Science Education Leadership

Elizabeth Lewis*, University of Nebraska-Lincoln, USA

Elizabeth Hasseler*, University of Nebraska-Lincoln, USA

Rachel Benzoni*, University of Nebraska-Lincoln, USA

Lawrence McElravy, University of Nebraska-Lincoln, USA

Wendy Smith, University of Nebraska-Lincoln, USA

Centering Student Voice: Tools for Gathering Experience Data to Inform Science Assessment Design and Practice

Strand 10: Curriculum and Assessment

22-Apr-26, 10:45-12:15

Location: Ballard (L3)

Symposium

Centering Student Voice: Tools for Gathering Experience Data to Inform Science Assessment Design and Practice

Cari Herrmann-Abell*, BSCS Science Learning, USA

Jean Flanagan, BSCS Science Learning, USA

Abraham Lo, BSCS Science Learning, USA

Clarissa Deverel-Rico, BSCS Science Learning, USA

Jeffrey Snowden, BSCS Science Learning, USA

Andy Brubaker, BSCS Science Learning, USA

Melissa Campanella, University of Colorado, USA

Dennis Lee, BSCS Science Learning, USA

Patricia Olson, BSCS Science Learning, USA

Erin Furtak, University of Colorado, USA

Narrating teacher and scientist identity development in science

Strand 11: Cultural, Social, and Gender Issues

22-Apr-26, 10:45-12:15

Location: Aspen (L2)

Stand-Alone Paper

Investigating affective science teacher identity development among potential science teachers

Emily MacLeod*, McGill University, Canada
Pascale Saint-Denis, McGill University, Canada

Carolina Cruz-Vinaccia, McGill University, Canada

Allison Jardim Gonsalves, McGill University, Canada

Stand-Alone Paper

The Quilted Lives of Career Change Science Teachers of Color: A Narrative Inquiry

Jonathan Tam*, Teachers College, USA
Felicia Mensah, Teachers College, USA

Stand-Alone Paper

Constructing Science Identities: Insights from Filipino Educators

Dannipog Dennis*, University of The Philippines, Philippines

Katherine Wade-Jaimes, University of Nevada, USA

PrincesRaymunda Gatan, University of The Philippines, Philippines

Loise Angelica Oruga, University of The Philippines, Philippines

Stand-Alone Paper

Investigating the role of scientists' salient identities in navigating failure experiences

Manuela Mejia*, University of Colorado, USA

Sandhya Krishnan, University of Colorado, USA

Lisa Corwin, University of Colorado, USA

AR/VR-Enhanced Science Learning

Strand 12: Technology for Teaching, Learning, and Research

22-Apr-26, 10:45-12:15

Location: Capitol Hill (L3)

Stand-Alone Paper

The Impact of Tangible Augmented Reality on Students' Understanding of Phosphate Runoff

Amber Meeks*, North Carolina State University, USA

M. Jones, North Carolina State University, USA

Caitlin Haedrich, North Carolina State University, USA

Kathleen Bordewieck, North Carolina State University, USA

Tanzimul Ferdous, North Carolina State University, USA

Adrian Kuhlman, North Carolina State University, USA

Toluwalase Salako, North Carolina State University, USA

Madeline Stallard, North Carolina State University, USA

Stand-Alone Paper

Immersive Learning Analyzed: An Eye-Tracking Study about a VR-based Physics Experiment

Matthias Klassen*, Institute for Mathematics and Physics Education, Physics Education Research Group, Leibniz University Hanover, Germany

Salome Flegr, Chair of Physics Education, TUD Dresden University of Technology, Germany

Gunnar Friege, Institute for Mathematics and Physics Education, Physics Education Research Group, Leibniz University Hanover, Germany

Stand-Alone Paper

Exploring the Materiality of Representation in Chemistry Student Learning with Augmented Reality Molecular Models

Song Wang, California State University, Dominguez Hills, USA

Stanley Lo, University of California, San Diego, USA

Rou-Jia Sung, Carleton College, USA

Thomas Bussey, University of California, San Diego, USA

Stand-Alone Paper

Supporting Geoscience Multimedia Learning With an Intelligent Attention Guidance Technology

Muhammad Rehman, University of Florida, USA

Do Hyong Koh, University of Florida, USA

Priyadharshini Prasad, University of Florida, USA

Nazanin Adhami, University of Florida, USA

Chih Hsuan Lin, University of Florida, USA

Jonathan Martin, University of Florida, USA
Ellen Martin, University of Florida, USA
Kara Dawson, University of Florida, USA
Albert Ritzhaupt, University of Florida, USA
Pasha Antonenko, University of Florida, USA

CS, CT, Robotics, & Project-Based Computing in STEM

Strand 12: Technology for Teaching, Learning, and Research

22-Apr-26, 10:45-12:15

Location: Virginia (L4)

Stand-Alone Paper

Scalable STEM Education Intelligence Extraction: From Personality Assessment to Comprehensive Professional Wellbeing Analysis

Derric Cox*, Wright State, USA
Tanvi Banerjee, Wright State, USA
William Romine, Wright State, USA

Stand-Alone Paper

Which Computational Thinking Skills Matter for AI-Mediated Science Learning? Gender-Comparative PLS-SEM Study in Medical Education

Hung-Che Lin*, National Defense Medical University, Taiwan
Chin-Sheng Lin, National Defense Medical University, Taiwan
Min-Hsien Lee, National Taiwan Normal University, Taiwan
Tzung-Jin Lin, National Taiwan Normal University, Taiwan
Chia-Ching Lin, National Kaohsiung Normal University, Taiwan
Jiun-Yu Wu, Southern Methodist University, USA

Chin-Chung Tsai, National Taiwan Normal University, Taiwan

Guo-Li Chiou, National Taiwan Normal University, Taiwan

Jyh-Chong Liang, National Taiwan Normal University, Taiwan

Stand-Alone Paper

Exploring Student Experiences in a CS-Integrated, Project-Based Ocean Science Curriculum Using Educational Robotics

Xin Xia*, University of Virginia, USA
Jennifer Chiu, University of Virginia, USA
Kim Wilkens, University of Virginia, USA

Stand-Alone Paper

From Knowledge to Practice: How Professional Learning Shapes CS Teaching in Elementary Schools
Khushbu Singh*, University of Virginia, USA
Jennifer Maeng*, University of Virginia, USA

Beyond the Competent Outsider: Visions of Science Literacy Shaping Engagement With Science in Everyday Life

Strand 13: History, Philosophy, Sociology, and Nature of Science
22-Apr-26, 10:45-12:15
Location: Seneca (L4)

Related Paper Set

Ecologies of Trust and Representation: Rethinking the “Insider” and “Outsider”

Eric Kirk*, Utah State University, USA
Daniel Pimentel*, University of Alabama, Tuscaloosa, USA

Related Paper Set

Gotta Catch 'Em All: Fiction and Fandom as a Context for Becoming a Competent Outsider

Lundgren Lisa*, Utah State University, USA

Eric Kirk, Utah State University, USA

Gabriel-Philip Santos, Ramond M. Alf Museum of Paleontology, USA

Earyn McGee, Independent Researcher, USA

Related Paper Set

Experiential learning as a bridge between school science and real-world problems for science civic engagement

Amy Dunbar-Wallis*, University of Nebraska, USA

Jenny Dauer, University of Nebraska, USA

Christine Haney Douglass, University of Nebraska, USA

Related Paper Set

Science Teachers as a Public for Science: Living as Insiders and Outsiders to Science

Sam Evans*, University of Wisconsin-Madison, USA

Pro-Environmental Dispositions in Youth

Noam Brenner*, Technion - Israel Institute of Technology, Israel

Dalit Lan*, Technion - Israel Institute of Technology, Israel

Tali Tal*, Technion - Israel Institute of Technology, Israel

Stand-Alone Paper

Fostering Environmental Justice Consciousness Through Culturally Sustaining STEM Education in Hispanic Border Communities

Uma Ganesan*, University of Texas Rio Grande Valley, USA

Angela Chapman*, University of Texas Rio Grande Valley, USA

Stand-Alone Paper

Connecting Science Learning to Local Contexts: Outcomes from a Multi-Phase, Teacher-Scientist Curriculum Project

Susan Gomez Zwiép*, BSCS Science Learning, USA

Jill Grace*, WestED, USA

Katy Nilsen*, WestED, USA

Aaron Soo Ping Chow, WestED, USA

Ashley Ivelan, WestED, USA

Place, Culture, and Community in Environmental Science Learning

Strand 14: Environmental Education and Sustainability

22-Apr-26, 10:45-12:15

Location: Jefferson B (L4)

Stand-Alone Paper

From Enjoyment to Engagement: How Place-Based Citizen Science Cultivates

***Meet the Market: Cultural
Connections at Pike Place with the
International Committee***

22nd Apr 26, 13:00-15:00

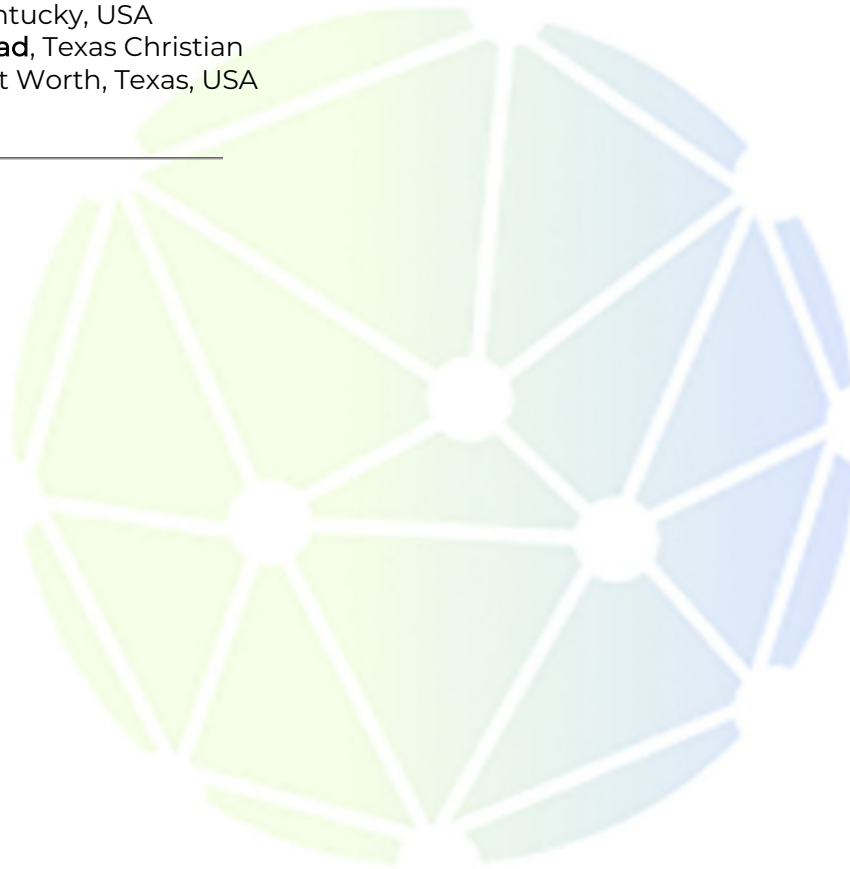
Location: Offsite

Social Event

Organizers

Sahar Alameh, University of Kentucky,
Lexington, Kentucky, USA

Christelle Fayad, Texas Christian
University, Fort Worth, Texas, USA



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