March 30, 2019 — Spring Conference Presentations and Posters

- Commission on Adult Basic Education (COABE) Annual National Conference
- National Association for Research in Science Teaching (NARST) Annual International Conference
- National Council of Supervisors of Mathematics (NCSM)
- National Council of Teachers of Mathematics (NCTM) Annual Meeting
- American Educational Research Association (AERA) Annual Conference
- National Science Teachers Association (NSTA) Annual Conference
- International Society for Technology in Education (ISTE) Annual Conference

Commission on Adult Basic Education (COABE) Annual National Conference

March 31 – April 3, 2019 | New Orleans LA

Mathematizing ESOL | April 1, 11:15am – 12:15pm | Studio 6
Sarah Lonberg-Lew, Adult Numeracy Center at TERC

Using the Area Model to Understand Factoring and Polynomials | April 2, 11:00am-12:00pm | Rhythms 1
Heidi Schuler-Jones, Adult Numeracy Center at TERC

Same Difference—Making Sense of Subtraction | April 2, 2:45 – 3:45 pm | Rhythms 1
Sarah Lonberg-Lew, Adult Numeracy Center at TERC

Visualizing Fraction Division | April 3, 11:00am – 12:00pm | Rhythms 1
Sarah Lonberg-Lew, Adult Numeracy Center at TERC

Desmos Classroom Activities 101 | April 3, 2:30 – 3:30pm | Rhythms 1
Connie Rivera, Adult Numeracy Center at TERC

National Association for Research in Science Teaching (NARST) Annual International Conference

March 31 – April 3, 2019 | Baltimore MD

Strand 11 | March 31, 4:20 – 5:50pm | Maryland E

- Health Interventions as Sleeping Police: How Science/Health Education Produces and Regulates Racialized Others
  Kathryn L. Kirchgasler, The University of Kansas; Maria C. Olivares, TERC

Strand 02 | April 1, 8:30 – 10:00am | Gibson

- Investigating the Impact of NGSS-Aligned Resources to Address Elementary Energy Standards
  Sara J. Lacy, TERC; Roger G. Tobin, Tufts University; Sally Crissman, TERC; Leslie DeWater, Seattle Pacific University; Nick Haddad, TERC; Bill Nave; Michael H Russell, Boston College; Lane Seeley, Seattle Pacific University
- Where Does Energy Go when it’s “Gone”? Developing Ideas about Dissipation in Grades 4/5
  Roger G. Tobin, Tufts University; Sara J. Lacy, TERC; Sally Crissman, TERC; Nick Haddad, TERC; Lane Seeley, Seattle Pacific University; Kara E. Gray, Seattle Pacific University

Strand 12 | April 1, 1:15 – 2:45pm | Fells Point

- to Support Multidisciplinary Engagement in Middle School
  Debra Bernstein, TERC; Gillian Puttick, TERC; Michael Cassidy, TERC; Kristen B. Wendell, Tufts University; Fayette Shaw, Tufts University; Ethan Danahy, Tufts University; Susan Bitetti, Tufts University

Strand 04 Poster Session | April 1, 3:15 – 4:15pm | Maryland C-D; Maryland and Baltimore Foyer

- Teachers’ Beliefs about Computational Thinking: Survey Results
  Teon Edwards, TERC; Michael Cassidy, TERC
- Exploring the Intersection of Math and Making: Insights from Theory and Practice
  Scott A. Pattison, TERC; Andee Rubin, TERC

Strand 08 | April 2, 10:00 – 11:30am | Watertable Salon C
• Teachers’ emerging disciplinary questions in the context of computational play
Brian Gravel, Tufts University; Maria C. Olivares, TERC; Eli Tucker-Raymond, TERC; Aditi Wagh, Tufts University; Ezra Gouvea, Tufts University; Amon Millner, Olin College of Engineering; Ada Ren, TERC

Strand 10 | April 2, 10:00 – 11:30 am | Kent

• Improving Understanding of Teaching Practice for Student Learning: A Holistic Measure of Fidelity of Implementation
Eileen McGivney, Harvard Graduate School of Education; Emily Gonzalez, Harvard Graduate School of Education; Sabrina G. De Los Santos, TERC; Amy M. Kamarainen, Harvard Graduate School of Education; Tina Grotzer, Harvard University

Strand 06 | April 2, 2:30 – 4:00 pm | Maryland E

• Illuminating Strategies that Support Science and Engineering Practices in Informal Settings
Julia Plummer, Pennsylvania State University; Philip L. Bell, University Of Washington; Lisa Anthony, University of Florida; Kyungjin Cho, Pennsylvania State University; Michele Crowl, Discovery Space of Central Pennsylvania; Zachary A. McKinley, Pennsylvania State University; Scott A. Patterson, TERC; Kathryn Stofler, University of Florida; Gina N. Svarovsky, University Of Notre Dame; Jamie Wallace, American Museum of Natural History

Strand 2 | April 3, 1:30 – 3:00 pm | Federal Hill

• Intellectual Humility: Desettling Teacher-Student Relationships to Knowledge in STEM
Maria C. Olivares, TERC; Eli Tucker-Raymond, TERC; Brian Gravel, Tufts University; Aditi Wagh, Tufts University

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National Council of Supervisors of Mathematics (NCSM)

April 1-3, 2019 | San Diego CA


Presenter: Susan Jo Russell

Who can think mathematically? An overly simplified view of a progression from “concrete” to “abstract” can restrict access to cognitively demanding tasks for students seen as “not yet ready” for work on regularity and structure. This talk, illustrated with classroom examples, focuses on how one school committed to a focus on mathematical argument.

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National Council of Teachers of Mathematics (NCTM) Annual Meeting

April 4-6, 2019 | San Diego CA

Understanding Place Value: When 97 Isn’t Just 90 + 7 | April 4, 9:45 – 11:00 am | Hilton Bayfront; Indigo 204

Presenters: Karen Economopoulos & Megan Murray

What are the big ideas that students and teachers need to understand to have a deep and flexible knowledge of place value? What does it look and sound like when students have such knowledge? This session examines students’ thinking through work samples, dialogue, and activities that promote a deeper understanding of place value in K-2.

Who Gets To Do “Abstract” Mathematics? Mathematical Argument in an Urban Elementary School | April 4, 1:30 pm | Hilton Bayfront, Sapphire EF

Who can think mathematically? An overly simplified view of a progression from “concrete” to “abstract” can restrict access to cognitively demanding tasks for students seen as “not ready” for work on regularity and structure. This talk uses classroom examples to illustrate how one school committed to a focus on mathematical argument.

Presenter: Susan Jo Russell

Building Students’ Algebraic Thinking: Explorations with Evens and Odds Pre-K–2 Session | April 5 – 9:00 am | Hilton Bayfront, Sapphire 410

In this session, teachers will explore activities involving even and odd numbers as a context for supporting early elementary students in noticing mathematical relationships and building arguments. The presenters will share video and three lessons from an early algebra instructional sequence implemented in a kindergarten classroom.

Susanne Strachota, University of Wisconsin-Madison; Angela Murphy-Gardiner, TERC, Cambridge, Massachusetts
American Educational Research Association (AERA) Annual Conference

April 6–9, 2019 | Toronto, Canada

Designing for Design: Creating Learning Environments That Support Equitable Engineering for Students in Grades 3-8 | April 6, 10:25 – 11:55am | Sheraton Centre Toronto Hotel, Mezzanine Level, Maple West

- Designing Biomimetic Robots With Middle School Students
  Fay Shaw, Kristen Wendell, Ethan Danahy, Debra Bernstein, Gilly Puttick, Michael Cassidy

Diverse issues in Algebra Teaching and Learning | April 6, 10:25 – 11:55am

- Describing the Unknown: Moving Toward Variable Notation and Algebraic Thinking in Kindergarten
  Ranza Torres, Sam Prough, Susanne Strachota, Ana Stephens, Yewon Sung, Angela Gardiner, Maria Blanton, Eric Knuth

- Results of a Grades 3-5 Early Algebra Intervention With At-Risk Populations
  Rena Stroud, Maria Blanton, Angela Gardiner, Eric Knuth, Ana Stephens, Despina Stylianou

Multimodel STEM Learning With Emerging Bilingual Students | April 6, 12:20-1:50pm

Discussant: Ann Rosebery

Multiple Perspectives on Out-of-School Learning | April 6, 12:20-1:50pm

- Youth Hanging Out and "Making Do": Social Practices for Navigating Information While Making Brain Gravel, Eli Tucker-Raymond

Designing for and Engaging With Heterogeneity in Students’ Thinking in Science | April 6, 10:25-11:55am

- Designing for Heterogeneity: Imagining New Geographics of Nature-Culture Relations Through Artscience
  Beth Warren, Ann Rosebery

Exploring Diversity and Synergy Across Research Programs Within Early Algebra | April 7, 8-9:30am

- A Learning Trajectory in Kindergarten and First-Grade Students’ Thinking About Variable With Indeterminate Quantities
  Barbara Brizuela, Ana Ventura, Maria Blanton, Angela Gardiner, Katharine Sawrey, Ahsley Newman-Owens

- Developing a Comprehensive Approach to Early Algebra
  Eric Knuth, Ana Stephens, Maria Blanton, Angela Gardiner, Despina Stylianou, Rena Stroud

Game-Based Assessment: How Has the Field Matured Over the Past 10 Years? | April 7, 8-9:30am

- Game-Based Measures of Implicit Learning
  Elizabeth Rowe, Jodi Asbell-Clarke, Ryan Baker

Teacher Learning to Position Students as Capable in Class Discussions: Looking Across Subject Matter Domains | April 7, 9:55-11:25am

Discussant: Ann Rosebery

- Classroom Discussion as Participative Thinking : Challenges for Teacher Education
  Beth Warren, Andrea Caroline Bien, Rebecca Gadd, Maria Olivares, Sarah Yeates Arnold

Learning Experiences: In Inquiry and Perceptions | April 7, 11:50am-1:20pm

- Instructional Orchestration With Digital Games: Influences on Students’ Learning Experiences
  Danielle Boulden, Eric Wiebe, Osman Aksit, Karen Mutch-Jones, Santiago Gasca, Chad Dorsey, Frieda Reichsman, James Lester, Trudi Lord

Responsive Facilitation and Iterative Design: An Approach for Engaging Underrepresented Youth in STEM – Roundtable | April 7, 3:40-5:10pm

Dionne Champion

Constructivist Learning Environments and Participants’ Reasoning | April 8, 8:00 – 10:00am | Metro Toronto Convention Centre, 700 Level, Room 713B

- Integrating Computational Practices and Game Design in Eight-Grade Science: Student Outcomes With Respect to Systems
  Gilly Puttick, Jackie Barnes, Michael Cassidy, Eli Tucker-Raymond, Casper Harteveld, Gillian Smith

Advances in Learning Environment Studies in Roundtable Session 25 | April 8, 10:25 – 11:55am | Metro Toronto Convention Centre, 800 Level, Hall F
Teachers and Students Engage in Participatory Practices While Creating Games About Climate Change
Michael Cassidy, Gilly Puttick, Eli Tucker-Raymond, Casper Harteveld, Gillian Smith

Embodiing STEM: Dance as a Means to Access Science, Math, and Technology | April 8, 12:20 – 1:50pm | Sheraton Centre Toronto Hotel, Second Floor, Wentworth
Chair: Dione Champion; Discussant: Ann Rosebery

Embodying Physics: Dance as a Pathway for Learning and Identify for Black Girls in Science
Folashade Cromwell Solomon, Tracey Wright

Promoting STEM Learning and Engagement Through Rich Technological Experiences | April 8, 2:15-3:45pm

National Science Teachers Association (NSTA) Annual Conference
April 11–14, 2019 | St Louis MO

NESTA and NOAA Ocean, Climate, and Weather Share-a-Thon | April 12, 12:30 – 1:30pm | Annex, America's Center
Join more than 20 NESTA members and other educational specialists as they share their favorite NGSS-congruent classroom activities. Lots of free resources!
Speaker: Carla McAuliffe

NESTA/NSTA's Aerospace Advisory Board Share-a-Thon | April 13, 8:00 – 9:00am | Hall 1, America's Center
Hosted by NESTA's Aerospace Education Programs Advisory Board in collaboration with NSTA, this will be the 4th NESTA/NSTA Aerospace Share-a-thon. Building on our past successes, this session will join more than 25 NESTA/NSTA members, and STEM education specialists, as they share their favorite NGSS-focused aerospace activities. This is the keystone event for the advisory board in fulfilling its charter of promoting best practices in aerospace education.
Speakers: Carla McAuliffe, TERC; Christian Greer, Chief Officer for Science Education Experience, Saint Louis Science Center

NESTA Earth System Science Share-a-Thon | April 13, 11:00am – 12:00pm | Annex, America's Center
Join more than 20 NESTA members and other education specialists as they share their favorite NGSS-congruent classroom activities. Lots of free resources!
Speakers: Richard Jones, District Director XVI, University of Hawaii-West Oahu; Carla McAuliffe, Senior Curriculum Developer, TERC

International Society for Technology in Education (ISTE) Annual Conference
June 23 – 26, 2019 | Baltimore MD

Designing an interdisciplinary curriculum that engages middle schoolers in robotics | Tuesday, June 25, 4:00–6:00 pm
Debra Bernstein, Michael Cassidy, Ethan Danahy, Gilly Puttick, Fay ette Shaw, Kristen Wendell