



STEM+C PI Project Expo

During the STEM+C PI Project Expo, participants can explore different project stations to experience demonstrations, interactives, posters, videos, and/or artifacts from project work. The expo will feature the following projects and presenters.

1. **A Framework for Computational Thinking Through Systems Modeling** *Daniel Damelin, Namsoo Shin, Tom Farmer, Lynn Stephens*
2. **Adaptive Training of Representational Flexibility for Adolescents with Autism Spectrum Disorder** *Fengfeng Ke, Jewoong Moon, Zlatko Sokolij, Kelly Whalon, Shayok Chakraborty, Greg Hajcak*
3. **Agricultural Applications of Computer Science** *Joseph Kern, Emporia State University*
4. **An App-Building Approach to “Teaching Computational Thinking and Coding in High School Biology: Year 1** *J Bret Bennington and Stavros Valenti*
5. **Coding in Kindergarten: Research on the Development of An Assessment to Measure Kindergarten Children's Abilities to Reason Computationally With Mathematical Problem-Solving Skills** *Jody Clarke-Midura, Jessica Shumway, Victor Lee*
6. **Collaborative Research: Using a School-Based Sensing Platform and Targeted Teacher Professional Development to Support Computational Thinking Integration and Student Learning** *Tamara Sumner, Mimi Recker, Quentin Bidy, Alexandra Gendreau Chakarov*
7. **Using Programmable Sensors to Design Interactive Classroom Data Displays** *Tamara Sumner, Mimi Recker, Quentin Bidy, Alexandra Gendreau Chakarov*
8. **Computer Science Integrated with Mathematics in Middle School (CSIMMS)** *Ellen Granger, Florida State University*
9. **Data Clubs: Introducing Middle School Students to Data Science** *Andee Rubin, Jan Mokros*
10. **Debugging by Design: Developing a Tool Set for Debugging with Electronic Textiles to Promote Computational and Engineering Thinking in High School** *Yasmin Kafai,*



University of Pennsylvania

11. **Designing Biomimetic Robots: An Interdisciplinary Middle School Curriculum** *Debra Bernstein, Gillian Puttick, Michael Cassidy, Kristen Wendell, Ethan Danahy, Fayette Shaw*
12. **Designing Constructionist Formative Assessment Games** *Nathan Holbert, Teachers College, Columbia University*
13. **Developing Measures of Computational Thinking for Science** *Eric Greenwald, University of California, Berkeley, Lawrence Hall of Science*
14. **EcoMOD: Integrating Computational Thinking in Ecosystem Science Education via Modeling in Immersive Virtual Worlds** *Shari Metcalf, Chris Dede, Harvard University*
15. **Fostering Computational Thinking with Self-Regulated Learning** *Erin Peters-Burton, Peter Rich, Timothy Cleary, Anastasia Kitsantas, Phil Winne*
16. **Infusing Computing: 3C PD Model** *Jennifer Albert and Marnie Hill*
17. **InSPECT: Integrated Science Practices Enhanced by Computational Thinking** *Sherry Hsi, Lisa Hardy, Colin Dixon*
18. **Integration of Modeling and Computer Programming Experiences in Algebra Courses** *Arnulfo Pérez, PhD & Lucia Chacon-Diaz, PhD*
19. **Interdisciplinary Approaches to Teaching Computational Environmental Science** *Helen Zhang, Yihong Cheng, Mike Barnett, Benjamin Shapiro, Ludovico Cademartiri, David Blustein*
20. **Linking Mathematics and Computational Thinking: Co-designing Preschool Activities with Educators and Parents.** *Ximena Dominguez, Shuchi Grover, Danae Kamdar, and Phil Vahey,*
21. **Making Science Relevant for the 21st Century: Early Lessons from a Research-Practice Partnership** *Cheri Fancsali, Zitsi Mirakhur, Research Alliance for NYC Schools*
22. **Math Modeling with R** *Jie Chao, Concord Consortium*



23. **Visualizing Geohazards and Risk with Code** *Jie Chao, Concord Consortium*
24. **Modular Computational Tools to Integrate Biology and Computational Thinking via a Citizen Science Project** *Carolina Ruiz, Shari Weaver*
25. **Never the less, they persisted: Engaged students in the face of disengaged teachers** *Colby Tofel-Grehl, Utah State University*
26. **Preschool Apps that Integrate CT with Math and Literacy** *Jillian Orr, Marisa Wolsky, and Heather Lavigne*
27. **PrimaryAI: Integrating Artificial Intelligence into Upper Elementary Science with Immersive Problem-Based Learning** *Krista Glazewski, James Lester, Anne Ottenbreit-Leftwich, Bradford Mott, Adam Scribner, Cindy Hmelo-Silver*
28. **Principles And Resources For Integrating Computational Thinking Into High School Science Courses** *Robert R Gotwals, North Carolina School of Science and Mathematics*
29. **Project overview of the Digital Forensics Learning Environment** *Daryl Pfeif & Cassy Soden, Digital Forensics Solutions*
30. **Research-Practice Partnership Designed Modules Integrating Computer Science into Middle School Earth, Life, and Physical Science: Outcomes from the Initial Design Process** *Susan McKay, Mitchell Bruce, Laura Millay, University of Maine*
31. **Solving Real Problems: Using Transdisciplinary Teams and Citizen Science Research to Motivate STEM+C Curriculum Development** *Elizabeth Ryder, Worcester Polytechnic Institute*
32. **STEM+C Showcase Webinars** *NSF*
33. **Synergistic Learning of STEM + CT in C2STEM: A Learning by Modeling Environment** *Gautam Biswas, Vanderbilt University*
34. **VELA: Integrating Dynamic Mathematics to Advance Understanding of Variable, Expressions, Loops, & Abstraction** *Shuchi Grover, Looking Glass Ventures*



35. **Visual physiological computing environment** *Chris Crawford, Deborah Spencer, Paul Goldenberg*
36. **A Game-Based Learning Environment for Teaching AI to High School Students**, *Ning Wang, University of Southern California*
37. **Mathematics through Programming in the Elementary Grades** *Paul Goldenberg, Education Development Center*
38. **ENGAGE: A Game-based Curricular Strategy for Infusing Computational Thinking into Middle School Science** *James Lester, Dave Blackburn, Kristy Boyer, Bradford Mott, Eric Wiebe*
39. **Comp Hydro: Integrating Data, Computation, and Visualization for Model-based Water Literacy** *John Moore, Beth Covitt, Alan Berkowitz*
40. **Building a Computational Thinking Foundation in Upper Elementary Science with Narrative-Centered Maker Environments** *Bradford Mott, Cathy Ringstaff, Aleata Hubbard, James Minogue, Kevin Oliver*