



# STEM EDUCATION SHOWCASE '24 PROGRAM

April 6, 2024 — WPI Innovation Studio

8:00 - 8:55

## CHECK-IN & CONTINENTAL BREAKFAST | 2ND FLOOR

Time to connect with others (*and time to set up Share-a-thon tables*)

8:30 - 8:55

## (optional) MEDITATION | RM 207

Jillian DiBonaventura leads a mindfulness practice to open the day

9:00 - 9:30

## WELCOME & KEYNOTE | RM 203-205



### *Generative AI and Education: Myths and Opportunities*

**Gillian Smith**, WPI Assoc. Professor of Computer Science and Director of Interactive Media & Game Development

9:35 - 10:20

## WORKSHOP SESSION 1

### *Culturally Responsive Computational Thinking in the Classroom* | PK-5 | Innovation & Entrepreneurship Center

Tiffany Davis, Instructional Coach at Ashburnham Westminster Regional School District  
Nea Sann, Pedagogista (instructional coach) at Worcester Head Start

Experience a project with the Root robot that integrates ELA/math (PK-1) or math/art (grades 2-5). After some hands-on programming fun, we will reflect on the elements of computational thinking and culturally responsive pedagogy that were present in the project.

### *The Storyline Model of Teaching & Learning Science* | PK-12 | RM 203

Mia Dubosarsky, STEM Education Center at WPI

The Storyline pedagogy shifts the way we teach science, putting the students at the center and allowing them to drive instruction as they 'figure out' and explain a key phenomenon. Participants will experience an 'Anchoring Phenomenon', model their thinking, ask questions, and propose ways to investigate further.

### *Equitable Equations: Diverse Paths to Math Proficiency* | gr 3-10 | RM 205

Tamisha Thompson, STEAM Instructional Coach at Millbury Public Schools

Participants will engage in math activities designed to celebrate diverse perspectives, promote inclusive practices, and recognize all students' ability to achieve math proficiency through perseverance and productive struggle.

10:25 - 11:15

## SHARE-A-THON

### **SHARE-A-THON** | 2nd Floor Landing

*See additional page for topics and presenters*

### **Research Experiences for Teachers (RET) Poster Session: Engineering for People and the Planet (and the Classroom)** | RM 203

11:20 - 12:15

## WORKSHOP SESSION 2

### **Teaching with Generative AI** | PK-12+ | Innovation & Entrepreneurship Center

Yunus Telliell, WPI Humanities & Arts

Experience generative AI in action. Participants will experience how different prompts lead to a variety of products. Implications for classroom, copyright, and academic work will be discussed.

### **Lesson plans inspired by RET research on the UN Sustainable Development Goals** | gr 6-12 | RM 203

Rachel Adamsky, Genesis Bernabel, Rebecca Cooke, Joelis Valez Diaz, Gregory Jones, Meredith Leighton, Thara Rangaraj, Dylan Shanes, David Tavilla, Christina Vlad

Pre-service and in-service teachers in the 2023-24 cohort of the Research Experience for Teachers (RET) program at WPI share their lessons inspired by their research on the United Nations Sustainable Development Goals (UN SDGs). The authentic research experience provided context for teaching "integrated STEM" and ways to engage students.

### **An Ecosystems Approach to Equity & Access of STEM Opportunities** | PK-12+ | RM 205

Discussants include: Emily Dodge (Worcester Education Collaborative and Woo-Labs), Abby Doyle (Girls Inc.), Nglan Henglin (SEACMA), JP Perkins (African Community Education), Raquel Mota-Hays (Union Hill Elementary School, Worcester), WPI Teacher Preparation students from the EDU220X class

A conversation (with examples) of how community organizations, schools, and individuals can partner and contribute to a thriving ecosystem of STEM learning opportunities for PK-12 students.

12:20 - 12:30

## CLOSING | 1ST FLOOR AMPHITHEATER AREA

Concluding remarks, reflections, and distribution of PDP certificates

# SHARE-A-THON

**10:25-11:15**  
**2nd Floor Landing**  
**WPI Innovation Studio**

## ***Integrated STEM Projects Resource Center*** | PK-12

Sara Donovan and Ladda Kosaketh

The Integrated STEM Projects Resource Center is your 'go-to' place to gather lessons and ideas for high quality integrated STEM projects. Stop by to see the newest additions!

## ***I am STEM Lesson Library*** | PK-7

Vanessa Haerle and Jane O'Connor

Check out the "I am STEM" lesson library! All lessons follow the engineering design process, guiding students to solve standards-aligned problems in storybooks!

## ***Seeds of STEM Preschool Integrated STEM Curriculum*** | PK-K

Colleen Bostwick

Seeds of STEM is a year-long STEM curriculum that engages early childhood students in problem-solving activities. Come meet Problem Panda and see what problems you can solve!

## ***Project Based Learning (PBL) with Woo-Labs*** | PK-6

Clare Fallon and Chris Acone

Come see how project-based learning (PBL) is being used at the Guild of St. Agnes to guide students to use digital cameras, basic photo editing skills, and the use of light and shadow to express emotion through photography.

## ***The new 5th & 8th grade STE MCAS*** | gr 3-8 science

Kate O'Donoghue and Dave Mangus

Try out sample tasks from the NEW 5th & 8th grade STE MCAS currently being piloted across the state.

## ***STE Classroom Performance Assessment Tasks*** | gr 3-8 science

Beth Grady and Kristie McGuire

Explore the STE Classroom Performance Assessment Tasks developed by DESE to support classroom instruction that focus the application of STE practices to real-world phenomena.

## ***Root Robots and Computational Thinking*** | PK-5

Self-Exploratory

Explore Computational thinking (CT) tasks through programming the root robots. Review PK-5 lesson plans that integrate culturally responsive CT into elementary curriculum and instruction, developed by the IMPACT project.

***Integrating Biology and Computational Modeling in High School Curricula by Using and Building Simulations of Ecological Systems*** | gr 9-12

Shari Weaver

The Bio-CS bridge is a transdisciplinary curriculum that integrates biology and computational thinking to engage students in studying complex biological systems while addressing computational standards on hypothesis testing, data analysis, and modeling natural phenomena.

***Wipple*** | gr 5-12

Wilson Gramer

Wipple (<https://wipple.dev>) is an educational programming language designed by WPI student Wilson Gramer. With Wipple, students learn to code by creating drawings and music, exploring math and physics, and more. Hands-on demonstrations will be available, and feedback is welcomed!

***WPI Inspiring and Developing Educators Association (IDEA) Student Club*** | PK-12+

IDEA Club members

The Inspiring and Developing Educators Association is a WPI student led education association. They would love to hear your teaching wisdom, and share about their recent experiences in the community!

***Mentor Teachers and Program support within the WPI Teacher Preparation Program***  
| gr 5-12

Kismet Fair and Jess Racine, supervising practitioners with Jimmy Kennedy and Christian Rua, teacher candidates

Coaching and mentoring the next generation of STEM educators is stimulating and rewarding work. Come speak with current supervising practitioners and program supervisors about their experiences guiding and developing teacher candidates as they navigate the challenges of today's educational landscape.

***PhysTEC Teachers Advisory Group (TAG)*** | gr 9-12

TJ Noviello

The WPI Physics Teacher Advisory Group meets monthly to discuss pedagogy, current issues in education, and to support one another in curriculum. Join our table to see how to build a community of educators.

**POSTER SESSION**

***Research Experiences for Teachers (RET): Engineering for People and the Planet (and the Classroom)*** | RM 203

Rachel Adamsky, Genesis Bernabel, Rebecca Cooke, Gregory Jones, Meredith Leighton, Thara Rangaraj, Dylan Shanes, David Tavilla, Joelis Velez Diaz, Christina Vlad

Pre-service and in-service teachers share their research results addressing a United Nations Sustainable Development Goal (UN SDG) and conducted over 6 summer weeks in a WPI lab during summer 2023. Their research experiences were then brought back into their classroom.