

E. Soundmapping and Songwriting—Mansi Gory (Level: Grades 6-12) This workshop will explore the process of creating lyrics and instrumentals through free and accessible cell phone applications with simple interfaces. The main thrust in this curriculum unit is creating a scientific method for song forms and sound-mapping. We will extend our intellectual journey through making connections from sound-mapping to software engineering languages. The essential question will be: how can song form be made scientific? (Attendees must bring cell phones with the capability to access apps.)

3-D Bear: Augmented Reality and 3D Printing as Tools for Student Learning Workshops Each workshop will start with an Intro of Augmented Reality (AR) and 3D printing in teaching, and give teachers the tools for teaching. Each work-shop will demonstrate the higher order thinking skills engaged when you integrate AR and 3D design in the curriculum.

F. I am a Sculptor (Elementary Level)

*****(This workshop takes place only in the morning.)**

Participants will (1) Identify geometrical shapes in their surroundings (shape hunt!); (2) Design a sculpture in AR based on mathematical shapes; (3) Solve 3D puzzles in AR; and (4) Collaboratively work on a piece of art in AR and print the creation in 3D.

G. Redesign Your School (Middle School Level)

*****(This workshop takes place only in the morning.)**

Participants will (1) Think about areas in school you would like to improve; (2) Redo selected areas in AR; (3) Share your design with others, and debate which design is the most effective ; (4) Vote for best design to be 3D printed.

H. Re-enact a Historical Scene (High School Level)

*****(This workshop takes place only in the afternoon.)**

Participants will (1) Select a scene in history that you would like to re-enact; (2) Build a model gallery of 3D models involved in the scene; (3) Upload model gallery in 3D Bear and re-enact scene in Augmented Reality; and (4) Share your work with others.

I. STEAM Vehicle Workshop (Level K-12)



During this workshop, you will find out from NYIT Staff about the Steam Vehicle which may be reserved to visit schools. The STEAM vehicle initiative is designed to address the critical need of engaging students in the process of innovation, creativity and technology so that they can become college and career ready. In addition the project will address the critical need for students to become creators of knowledge while presenting, sharing and publishing their designs and solutions to a larger audience, and engaging in discourse around their designs, creations and inventions. Participants will acquire strategies for problem solving that integrate STEAM into various activities and will obtain skills in using various tools technology tools and processes. This project will provide educators with creative, student-powered, hands-on STEAM learning opportunities that align to Common Core and Next Generation Science Standards. Specific strategies are designed to address the needs of female student, students of color and students in poverty so they can see themselves participating in STEAM-related careers and continuing education. A focus of the vehicle is to bring tactile STEAM experiences for both teachers and students into schools and community organizations. A series of visits are planned to support the students and teacher. The vehicle is equipped with the latest technologies including 3d printers and scanners, laser cutter, Venier probeware, mini mills, Makey Makey creative kits , Robotlabs, Arduino, Galileo and wearable e-textile computers, and mobile internet access . NYIT faculty, staff and students who are from the STEM disciplines will staff the vehicle.



STEAM Conference
(Science, Technology, Engineering,
the Arts and Mathematics)
for Grades K-12 Educators
Thursday, March 15, 2018
8:00 a.m. – 3:00 p.m.
Reid Castle, Manhattanville College
2900 Purchase St., Purchase, NY



Program

Register Here:
[STEAM Conference for K-12 Educators](#)

Planned by this Teacher Center's
STEAM Advisory Committee:
Mary Beth Anderson, Pat Duggan, Steven Giglio,
Anne Marie Kiernan, Michael Jernecons,
Janet Matthews, Ariana Moses, Gregoriann Rollins

Schedule for the Day

- 8:00 a.m. Registration and Vendor Visits**
- 8:50 Welcome Remarks**
- 9:00 TED Talk on Creativity by Ken Robinson on the Big Screen**
Creativity expert Sir Ken Robinson challenges the way we are educating our children. He champions a radical rethinking of our school systems, to cultivate creativity and acknowledge multiple types of intelligence. Why don't we get the best out of people? Sir Ken Robinson argues that it is because we have been educated to become good workers, rather than creative thinkers. (TED Talks Home Page)
- 9:20 Short Break to gather panel**
- 9:30 Panel Discussion on the Importance of STEAM at Every Level K-12**
- 10:45 Break and Vendor Visits**
- 11:00 Concurrent Workshops on Integrating STEAM into Your Classroom**
- 12:15 p.m. Lunch and Vendor Visits**
- 1:00 Repeat of Concurrent Workshops**
- 2:15 Evaluations Completed and Collected; Announcements**
- 2:25 Raffle (must be present to win) and handing out of CTLE Certificates**
- 2:40 Closing Remarks**

STEAM Panel

Moderator

Dr. Sherie McClam, Director, Education for Sustainability, School of Education, Manhattanville College

Panelists

**Kristen Crespo, Assistant Principal for STEAM
A.B. Davis Middle School (converting to STEAM HSchool)**

**Lori Cutrone, Assistant Principal
Bruno Ponterio-Ridge Street Elementary School**

**Mary Ellis, Director of Curriculum
Mt. Pleasant Central School District**

**Ariana Moses, Director of Education
White Plains Performing Arts Center**

**Cathy Schaefer, Science Teacher
Blindbrook Middle School/High School**

Concurrent Workshops

Choose one for the morning and one for the afternoon.

**A. Five Minute STEAM Projects w/Five Items or Less!
-- Michael Jernegons (Level: Grades K-8)**

In this interactive workshop, you will learn about and leave with an arsenal of five-minute STEAM projects using five items or less. These projects will encourage students to be creative and critically think how to solve design problems. Learn how to integrate these STEAM projects seamlessly into your curriculum making these projects an exciting part of your teaching.

**B. Math & Movement -- Suzy Koontz
(Level: Elementary and MS Special Ed)**

Working with the founder/designer of Math and Movement, see how movement engendered by this program energizes your students, enables them not only to learn math facts but gain muscle memory of those math facts, and creates a new enthusiasm for math in your classroom. TCCW members may earn a free set of mats.

C. Connecting STEAM to the Real World with

Blended Learning -- Karri Ellis, Everfi (Grades 6-9)

In this B.Y.O. tablet or laptop session, educators will learn about EVERFI's free digital resources that help students make connections between STEAM and their world. Attendees will gain access to our courses and learn about implementation strategies. *Endeavor: STEAM Career Exploration* (Grades 7-9): Through self-paced lessons in an exploratory world, students learn the STEAM skills needed to customize a 3D sneaker, calibrate a "smart" home, and design the algorithms for a playlist. Students also learn about in-demand STEAM careers and end the course with a field guide of careers that match their skills and interests. *Future Goals/Hockey Scholar* (Grades 6- 8): Through immersive game simulations Hockey Scholar explores real-life applications of STEM concepts such as area of an ice rink, conservation of energy of a falling puck, and speed/velocity using skates. Students will also learn about behind-the-scenes STEM and STEAM careers - such as equipment managers, ice technicians and promotion designers - that make a hockey game possible.

D. The Bridge to Nowhere, a Project-Based Learning Experience – Steve Giglio (Level: Grades 4-12)

This hands-on workshop will explore student model bridge building using common and available parts as well as provide a grading rubric and some student level curriculum information. The project can be scaled from grade 4 up to grade 12. Because of time limitations: (1) We will first look at various Bridge Designs students can attempt to construct; (2) Then we will explore the methods of Designing and TESTING a single TRUSS SECTION; (3) We will explore a RUBRIC that is flexible enough for students to be creative and earn points in several different ways to exploit their strengths; (4) We will build a simple Truss-Style Bridge; (5) We will gently LOAD test your bridge in the same manner that the students will; and (6) If time permits, we will reflect on the general process.