LEMELSON·MIT

Building Pathways to Invention Education

Welcome to Lemelson-MIT's Professional Development Workshop

Day 1: Wednesday, July 16, 2025

8:00 AM to 9:00 AM	**Breakfast**
9:00 AM to 9:30 AM	**Welcome to PD** Dr. Michael Cima
9:30 AM to 12:00 PM	**Invention Process Sprint** Ready • Set • Invent! Participants will be broken up into teams as they work through the invention process at a rapid pace.
12:00 PM to 12:45 PM	**Lunch**
1:00 PM to 2:00 PM	**Invention Education: The What and the Why** This overview explores the true power and promise of Invention Education as seen through the eyes—and results—of educators and students.
2:00 PM to 4:00 PM	**Breakout Sessions** (there will be a 10-minute break)
Breakout Option 1	**How to Bring Invention Education to K-8 Classrooms** This interactive session introduces educators to invention and sustainability by guiding them through building musical instruments from recycled materials. Inspired by the Recycled Orchestra of Paraguay, students explore sound, vibration, and instrument design while using the invention process. The project emphasizes creativity, problem-solving, and environmental responsibility, culminating in a celebration of participant-made instruments and music.
Breakout Option 2	**Inventing with Electronics Textiles** Experience invention education hands-on through the creative process of designing wearable circuitry to solve a real-world problem. Explore electrical components with a fun Electronic Petting Zoo activity, build unique circuits and use Micro:Bits for smart applications. Skilled students will demonstrate their unique wearable SMART circuitry, inspiring you to bring this e-Textile project to life in your own classroom.

Day 2: Thursday, July 17, 2025

8:00 AM to 8:45 AM	Breakfast
9:00 AM to 12:00 PM	**Breakout Sessions.** (there will be a 10-minute break)
Breakout Option 1	**Inventing with K-8 Students** Educators will increase their knowledge and experience with inventing, the LMIT invention process, and its iterative nature, through activities they can implement with students to build the skills of invention. This session will also provide the knowledge to assist inventors in presenting at escalating events. *(This session continues after lunch.)*
Breakout Option 2	**Invention through Toy Making** Jump into inventing right away by understanding play and the toy design process. We'll dismantle toys to identify electronic components and microcontrollers we learned from the first e-textiles session. Empower students to self-teach 3D design & printing and Arduino circuitry using TinkerCAD learning center; making your teaching easier and advancing their technology to the next level. Toy making engages young inventors, teaching them to prototype with hardware, inputs, outputs, and software knowledge.
12:00 PM to 12:45 PM	**Lunch**
1:00 PM to 3:45 PM	**Breakout Sessions** (there will be a 10-minute break)
Breakout Option 1	**Inventing with K-8 Students** Continued from morning session.
Breakout Option 2	**Inventing with AI Support** Open the ceiling on inventions and allow the possibilities to be limitless with the power of AI, which is currently a high demand skill across various industries. This session utilizes AI support to program Arduino electrical inputs and outputs, enabling students to invent advanced devices without needing to be computer science experts. Alumni InvenTeam teacher and students from Calistoga High School will aid you in building and automating Arduino controlled electronics using AI for support.
3:50 PM to 4:00 PM	**Closing**