

Creating STEM college and career pathways through invention education

Join Partners in Invention Education (PIE), a professional community offering year-round collaboration between the Lemelson-MIT (LMIT) program staff, invention education supporters, K-12 educators, higher education faculty, informal educators and administrators from K12 and higher education. We'll help you develop seamless STEM college and career pathways through invention education that engage students of all ages and backgrounds, while keeping your assessment and other needs in mind. Findings from our research can inform invention education offerings as part of the regular day or as extracurricular enrichment that supplements existing programs.

Education partners are supported in their work with learners through LMIT's summer professional development workshop and the following working groups:

- **Invention Adventures** (grades PK 9–12)
Introduce students to inventing through playful activities, coaching, and mentoring leading to submissions to fairs, conventions, or competitions.
- **Junior Varsity (JV) InvenTeams** (grades 6–10)
Establish technical knowledge, mindsets, and hands on skills to prepare students to develop prototypes of inventions.
- **High School and Community College Curriculum Resources** (grades 9–14)
Easily adaptable resources in which students develop prototypes of inventions to solve problems of their own choosing. Includes guidance on implementing a Computer Science and Invention related capstone course that meets the state of California's 3rd year lab requirement for the UC system, giving students the experience and credits needed to compete.

The invention and inclusive innovation experts at LMIT will help you and your staff design and manage your invention education offerings, ensuring that implementation is tailored to your goals. In doing so, we will draw on the approaches of other invention educators LMIT has assisted over the past 26 years. We can also pair you with education researchers eager to help you demonstrate your outcomes. Additionally, we will connect you with intellectual property experts and others who can increase the exposure and recognition of all your endeavors.

The LMIT Difference

Problem Finding, not just Problem Solving

Problem-solving skills are crucial for students, but helping them learn how inventors identify problems and develop novel solutions with profound social impact is often overlooked. LMIT has developed a teaching system that begins at the critical problem finding stage. Our research has shown that our approach to invention education helps students—especially those under-represented in STEM—develop confidence in their ability to engage in STEM.

Social-Emotional Learning

Empathy, learning from failure, persistence, and confidence in problem solving are known outcomes from students' work as inventors. LMIT's teaching system promotes social-emotional development by encouraging students to find problems in their community that need solving and to work with them to develop and build their inventions. Students work in teams, engage knowledge from their home cultures and insights gained through their engagement with community members, enabling them to develop the collaborative skills essential to 21st-century employment.

Dedication to Diversity in STEM

LMIT's teaching system is focused on empowering all students to envision themselves as inventors and STEM-capable, regardless of their gender, race, ethnicity, or socio-economic background.

Modular and Flexible Programming

LMIT's teaching system can be customized to fit into your students' education in whatever ways work best for them and for you. Whether that's in the school day or after school, a summer camp, or as part of your professional development plan! LMIT's staff can work with you to make sure you meet the needs of your students, community, and your educators.

26 Years of Experience

LMIT impacts an estimated 500 educators and nearly 4,000 students annually. High school student teams in our InvenTeams® initiative have been awarded 12 patents with 5 more patent pending. Our thought leadership has generated 20 research journal publications, nine conference papers, and 17 case studies.

Membership Details

Benefits of Joining PIE

LMIT's Partners in Invention Education community is unique and offers many advantages over other programs:

- Association with the Lemelson-MIT Program and its success
- Proximity to STEM professionals willing to share information and expertise in emerging fields due to commitments to equity and social justice
- Access to STEM professionals from diverse backgrounds who can serve as role models
- Ability to deliver education online, in-person, or in a hybrid model, plus experience rapidly shifting from one mode of delivery to another
- In-house researchers with many years of experience in STEM and invention education who can help with design and demonstration of outcomes
- Economies of scale from shared use of technologies, licenses, and technical support
- Ties to leaders of STEM, Intellectual Property, and Entrepreneurship ecosystems and networks in states across the nation
- Visibility with policymakers for joint work that advances diversity, equity, and inclusion in STEM, invention, and entrepreneurship



Basic Membership: \$10,000/year

- Three free registrations* for a three-day, summer professional development workshop for educators.
- Opportunities for three educators and/or administrators to collaborate across the school year with Lemelson-MIT staff and the working groups via remote conferencing to continue their professional learning.
- Up to three hours of free collaborative working sessions with Lemelson-MIT staff to provide advice on school or district specific efforts for invention education expansion.
- Free access to existing teaching resources as well as new resources developed by the Lemelson-MIT Program and made available via a Creative Commons license.
- Assistance with engaging your surrounding business community and elected officials in supporting your efforts.
- Lemelson-MIT Partners in Invention Education banner for participating school sites and main office.

Basic Membership Supplementary Options:

- Discounted pricing of current rates (20% discount) for additional registrations in the summer professional development workshop.
- Additional collaborative working sessions and in-person visit by LMIT staff (\$1,000 per day plus travel).

Gold Membership: \$20,000/year

- **Everything included in Basic Membership.**
- Unlimited number of free registrations* for the summer professional development workshop and year-round working groups.
- District or site-level curriculum review (up to 40 hours) by invention education experts and suggestions for how to integrate invention education into existing instructional offerings to determine ways of enhancing student outcomes.

Gold Membership Supplementary Option:

- Additional collaborative working sessions and in-person visit (\$1,000 per day plus travel).

** Does not include hotel or travel for in-person professional development workshops.*

For more information, contact our
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