# Forging Pathways to Invention Education

The Lemelson-MIT Program (LMIT) is a national leader in advancing invention education. Our creative, multi-disciplinary approach enables ALL educators and students, especially those underrepresented in STEM or who don't think of their discipline as STEM related, to see themselves as STEM-capable and contributing to innovation economies. One of U.S. history's most prolific inventors, Jerome Lemelson, and his wife Dorothy, founded the Lemelson-MIT Program at the Massachusetts Institute of Technology in 1994. The family continues to support this vision through The Lemelson Foundation and grant funding administered by MIT's School of Engineering.

LMIT impacts an estimatedHigh school student teams<br/>in our InvenTeams® initiative<br/>have been awardedOur thought leadership<br/>has generated600<br/>educators and nearly13 patents<br/>with20 research journal publications,<br/>9 conference papers, and4,000<br/>students annually.4 more<br/>patents pending.17 case studies.

### Problem Finding, Not Just Problem Solving

Our unique approach begins at the critical problem-finding stage, exposing students to how inventors identify problems, overcome challenges collaboratively, and develop novel solutions with profound social impact. Our research shows that our approach develops students' confidence in their ability to engage in STEM.



#### Modular and Flexible Programming

LMIT's teaching system is customizable to fit into your educational program, including during the school day, in after-school programs, or in summer camps. Our staff assists with professional development and curriculum design to make sure you meet the needs of your students, community, and educators.

For more information, email info-lemelson@mit.edu Lemelson.mit.edu

**25 YEARS OF IMPACT** 

#### Social-Emotional Learning

Our system promotes social-emotional development by encouraging students to find problems their community needs solved as well as working with them to develop and build their inventions. Students experience empathy, learning from failure, persistence, and confidence in problem-solving: the collaborative skills essential to a modern workforce.

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



## Message from the Director

#### Dear Colleagues,

Have you heard someone say, "You will know what good looks like when you see it?". The meaning behind this phrase hit me when I visited the Lemelson-MIT Program (LMIT) and learned about the terrific outcomes being achieved with young women and students underrepresented in STEM fields and disciplines. The staff shared story after story of teams of high school students across the U.S. that created working prototypes of technological solutions – inventions – after a year-long engagement with LMIT. The high school initiative, one of many that collectively span all of grades K-14 – has enabled 13 of our high school teams to be awarded U.S. patents for their work!



I joined the staff to learn about their 'secret sauce' having spent several decades struggling with ways of engaging students and educators in applied STEM learning opportunities. I've learned:

- Invention opportunities are everywhere, and students of all ages, backgrounds, and geographies can learn ways inventors find and solve problems that matter.
- Invention education transforms students' and teachers' lives (their words – not mine) and improves conditions in local communities.
- The opportunities for learning to invent, protect inventions, and create value from them can be taught by educators from all disciplines (not just STEM teachers) if the educator is open to learning new approaches to coaching and facilitating student learning.

LMIT needs your help with expanding access to invention education (IvE) opportunities so that all students can benefit from LMIT's offerings that have been perfected over a 25+ year period. Schools and districts can support the national invention education movement by becoming **Partners in Invention Education** that provides a community and resources for teachers. People outside of education can support the movement by serving as mentors for young inventors as well as being judges and **donors/sponsors** for events that celebrate their work.

Not convinced? Please join us for the livestream of our annual EurekaFest celebration in June or contact us for additional information at **info-lemelson@mit.edu**.

We like to say invention is just plain fun, and it is! Be careful. Once you join our invention education world you may become as addicted as I am. I look forward to hearing from you.

<sup>f</sup>tephanie Couch

**Stephenie Couch, PhD** Executive Director, Lemelson-MIT Program

