



Our mission is to prepare our students for the 21st Century workforce. The R&D STEM Learning Exchange provides students with real-world experiences and advanced educational opportunities to ensure they are ready to compete for the jobs of tomorrow.

About the R&D STEM Learning Exchange

The Research and Development (R&D) Science, Technology, Engineering, and Mathematics (STEM) Learning Exchange connects students, teachers, families, universities/colleges, federal laboratories, student organizations, not-for-profit organizations, and private sector employers so that all Illinois students can participate in authentic, high quality, student driven research and development.

Students who participate in these inquiry-based learning experiences build critical thinking skills, learn foundational STEM knowledge, and apply that knowledge to real life circumstance, creating a pipeline of talent for Illinois' business.

The Illinois Science & Technology Institute was chosen to lead the R&D STEM Learning Exchange as part of Illinois Pathways Race to the Top program. The ISTI is an affiliate of the Illinois Science & Technology Coalition (ISTC), a statewide leader that cultivates and attracts research and technology-based economic development in Illinois.

Goals of the R&D STEM Learning Exchange

Engage high school students, especially those from underrepresented groups, in research and development experiences and career exploration.

Increase the number of Illinois students entering and completing postsecondary education in R&D majors.

Reach students, teachers, families, universities and colleges, not-for-profit and entrepreneurial communities, and employers in all geographic areas of the state.

R&D STEM Learning Exchange Initiatives:

Resource Repository stemlearningexchange.org

- R&D-focused resources and programs including professional development, curricula, hands-on learning tools, internships
- Aligned to Next Generation Science and Common Core Math Standards

Mentor-Matching Engine mentormatchingengine.org

- Electronically links students with industry & university mentors
- Supports meaningful research collaboration within mentoring relationship

STEM Challenges & Events

- Connects high school students with external partners to solve complex problems
- Integrates real-world context of STEM concepts into curriculum with support from STEM professionals and facilitates student led inquiry

Value Added

Students

- R&D-focused resources and services including professional development, curricula, hands-on learning tools, internships
- Aligned to Next Generation and Common Core Standards

Schools

- Standards-aligned learning experiences that focus on discovery and critical thinking
- Professional development focused on inquiry-based learning and discovery

Industry

- Improves talent pipeline in critical industry sectors
- Expands the reach of existing STEM content and brand

Partners

- Makes it easier for programs and program users to connect
- Encourages innovation through partnership



Why STEM?

- Illinois will demand a 20 percent increase in STEM jobs between 2008 and 2018, according to a Georgetown University's Center for Education and the Workforce report.
- President Obama's Council of Advisors on Science and Technology concludes that retaining more STEM majors is the lowest-cost, fastest policy option to provide the STEM professionals that the nation needs for economic and societal well-being.
- The President's Council recommends replacing standard laboratory courses with discovery-based research courses and encouraging partnerships among stakeholders to diversify pathways to STEM careers

For more information about the **R&D STEM Learning Exchange**, including a list of our partners, please contact Allie Barwise, allie@istcoalition.org or visit us at istcoalition.org.



ILLINOIS
Pathways