STUDENTS INNOVATE TO SOLVE STEM CHALLENGES
Illinois Science & Technology Institute Challenges More than 800 High School Students

Chicago, Ill. – May 16, 2016 – What happens when 800+ high school students join forces with experts from some of the world's most innovative companies? They tackle pressing problems that extend beyond the classroom.

This is the R&D STEM Learning Exchange, where Illinois students are solving real world STEM problems.

Through the Illinois Science & Technology Institute (ISTI; istcoalition.org/the-institute), students at 19 Illinois high schools are addressing real-world problems in partnership with 10 industry and academic partners. The result: students build skills in research and development (R&D) through hands-on learning projects and gain valuable exposure to careers in science, technology, engineering and math. Their efforts culminate in the **Third Annual STEM Challenges Student Showcase to be held May 19, 2016** at Motorola Mobility's Chicago office in the Merchandise Mart.

"Tasking students with relevant problems that haven't been solved allows them to put their ideas to the test, while providing a window into STEM careers. This program is all about pushing students to innovate alongside industry mentors and, ultimately, helping to build a pipeline of talent in critical industry sectors in Illinois," said Mark Harris, president & CEO of the ISTI, an affiliate of the Illinois Science & Technology Coalition.

In January, students across Illinois - from Englewood, Evanston, and the rural communities of Williamsfield and Washington - paired with an Illinois-based company or university to address a targeted challenge. They collected data, conducted research, and collaborated with mentors to develop ideas into innovative solutions. Challenges topics ranged from medication adherence and mobile device security, to smart energy use and the Internet of Things.

Among many STEM challenge solutions, one team created a "Water YOUsage" app. The app provides tools and methods to reduce water consumption. Another school developed a teddy bear that recognizes a sleeping child's asthma attack, immediately alerting parents and paramedics.

Since its inception, the R&D STEM Learning Exchange has impacted more than 2,000 students and 50 teachers through three key initiatives: 1:1 student-mentor online collaboration on the Mentor Matching Engine; the R&D STEM Resource Repository, a curated collection of STEM programs and resources in Illinois; and these STEM Challenges.

About the Illinois Science & Technology Institute: The Illinois Science & Technology Institute (ISTI) is a 501(c)(3) public charity and an affiliated, complementary effort to the Illinois Science & Technology Coalition. The mission of the ISTI is to advance scientific understanding and technological innovation in Illinois through discovery, education, invention, and partnership. www.istcoalition.org/the-institute

2015-16 Challenges and Partnerships

AbbVie Foundation. Design and recommend an innovation or system to improve health literacy and wellness in the North Chicago community. *North Chicago Community High School.*

Argonne National Laboratory. Research teenagers' use of apps for mobile devices, analyze knowledge and perceptions about security, and recommend improvements for security. *Evanston Township High School.*

Baxter International Inc. Research renal dialysis and parenteral nutrition, focusing on home treatment. Recommend design innovations to improve usability, accessibility, and patient outcomes. *Lindblom Math & Science Academy, Instituto Health Sciences Career Academy, Muchin College Prep.*

Illinois State University's Center for Renewable Energy. Develop a prototype, product, or system that manages everyday energy use in an innovative and "smart" way. *Downers Grove North High School, Downers Grove South High School, Washington High School, Williamsfield High School.*

Microsoft. Identify a problem in your community and use Internet of Things technology to build a solution or improve upon existing technology to address that problem. *Lake View High School.*

Motorola Mobility. Identify a way to use mobile phones to investigate and solve current problems for people in our local or global community. *Gwendolyn Brooks College Prep, Von Steuben Metropolitan Science Center.*

Motorola Solutions. Investigate and recommend new mobile technology apps and tools that would help save lives and keep people safe in emergency and disaster situations. *Chicago Vocational Career Academy.*

Northrop Grumman. Research and develop a countermeasure sensor system that can detect and defeat hostile threats. *Palatine High School, New Trier Township High School, Oak Park & River Forest High School.*

TGG Group. Identify a way in which individuals systematically deviate from rational decision-making in a harmful way and develop a recommendation based on behavioral economics for reducing the harmful behavior. *ITW David Speer Academy, Wheeling High School.*

Takeda Pharmaceuticals. Address the problem of medication adherence in one therapeutic area (diabetes or depression) and develop solutions for patients. *Maine South High School, Evanston Township High School, Oak Park & River Forest High School.*

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