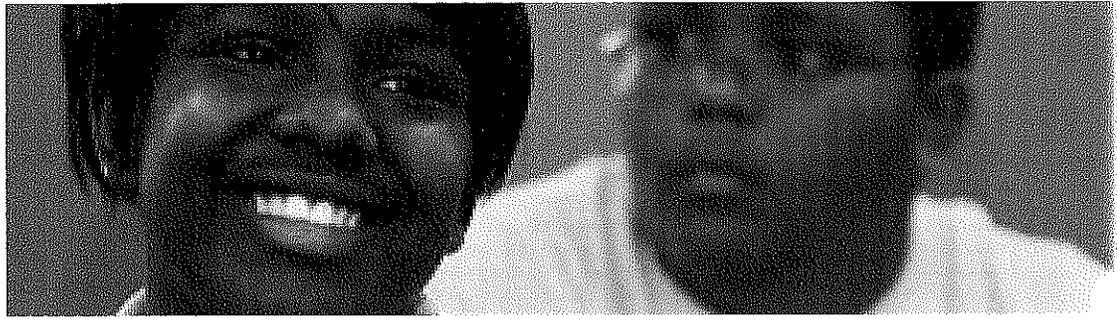


overview



Inspire a generation

We live in a technically advanced world with an ever-growing demand for highly skilled professionals in Science, Technology, Engineering and Math (STEM). At the same time, there is increasing concern among education, business and government leaders that we are not cultivating a workforce prepared to meet the challenges of the future.

The vision of the KC STEM Alliance is to see that a diverse, innovative and sustainable STEM workforce becomes a reality. By developing an environment that leverages the strengths of educators, STEM organizations, and local industry we can create a collaborative network to encourage and sustain interest in STEM careers. Working together will allow us to target limited resources where they are most needed, strengthen STEM programs across the community and serve as a vital source of information and research.

Mission Statement: The KC STEM Alliance is a collaborative network of educators, business partners and organizations that inspires interest in Science, Technology, Engineering and Math careers to generate a robust force of related professionals for our community.

By fulfilling this mission, the KC STEM Alliance will:

- Create a shared services model for STEM programs, such as Project Lead the Way and FIRST, coordinating data collection and program evaluation as well as facilitating school and industry partnerships;
- Support a solid foundation of STEM education for all students, regardless of race, gender or economic status;
- Increase the quality, quantity and diversity of job-ready candidates for local STEM employers; and
- Advance economic development and progress in our community.

For more information or to get involved, visit
kcstem.org/overview

KC

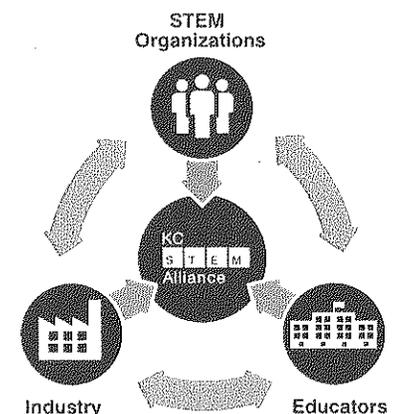
S T E M

Alliance

Building the foundation for innovation

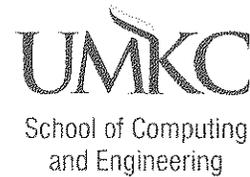
How it works:

In the past, industry, educators and affiliate STEM organizations were challenged with establishing relationships, finding support and managing resources to achieve their goals. The KC STEM Alliance unites and connects area resources and serves as a communication hub and source of vital STEM related information.





KC Engineering Zone



The urban STEM challenge

Students in our central city, too often lack the science, technology, engineering and math (STEM) education and enrichment opportunities afforded those in more affluent Kansas City metro area neighborhoods and schools.

Programs like *FIRST*® Robotics and Project Lead the Way® are recognized leaders in improving student engagement, interest in STEM and preparation for success in college. While these programs are expanding throughout this region, Kansas City's most under-resourced schools struggle to provide the financial and volunteer support and physical space necessary to exponentially grow these programs.

Barriers also include little or no access to machine tools, limited afterschool transportation and fewer opportunities for attracting and retaining coaches, mentors and professional role models to adequately prepare college and career ready students.

KC EZ is a direct response to these equity and access issues.

"We know that when students have experiences on college campuses, surrounded by college students and faculty, they are more likely to pursue post-secondary education."

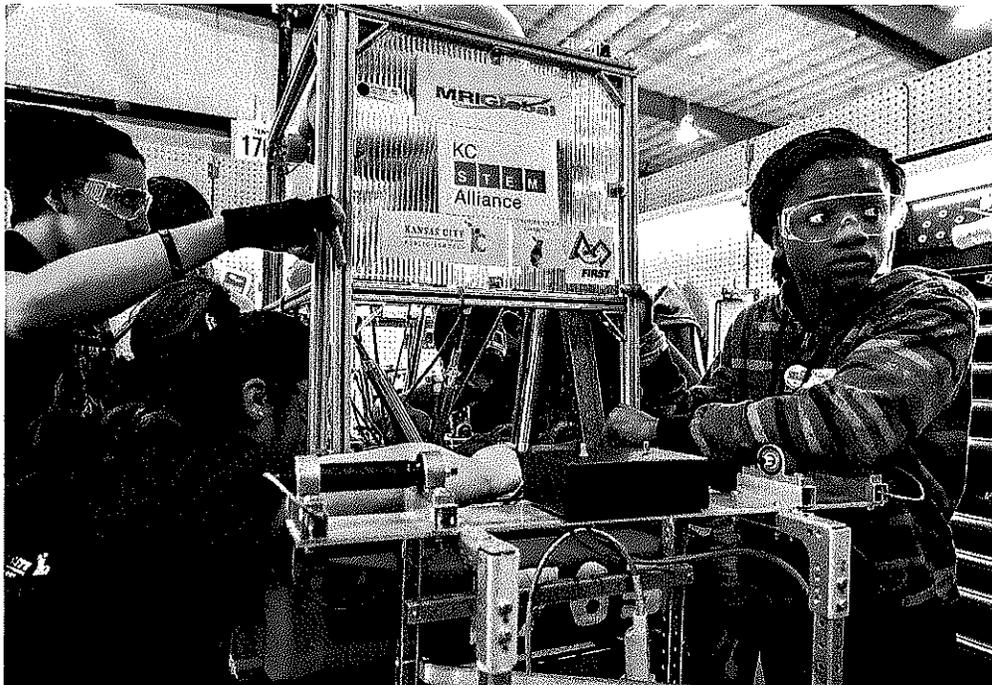
Kevin Z. Truman, Dean
UMKC School of Computing
and Engineering

Model for Success

- Safe, managed environment
- Professional mentors on-site
- Located on the UMKC campus
- After-school and weekend hours
- State-of-the-industry Machine Shop
- Supervised access to equipment and tools
- Computer Design Lab
- Tutoring and mentoring provided by UMKC students and faculty
- Student transportation provided
- Improved access for mentors

Benefits

- Students: Urban youth receive help and support in a safe and accessible on-campus facility
- Families: Diminishes the burden of poverty by encouraging college and career readiness
- Community: Enriches community by supporting corporate and civic engagement
- Workforce: Develops a pipeline to support a more educated and competitive future workforce
- Corporate and College Partners: Provides opportunities for mentorship and recruitment



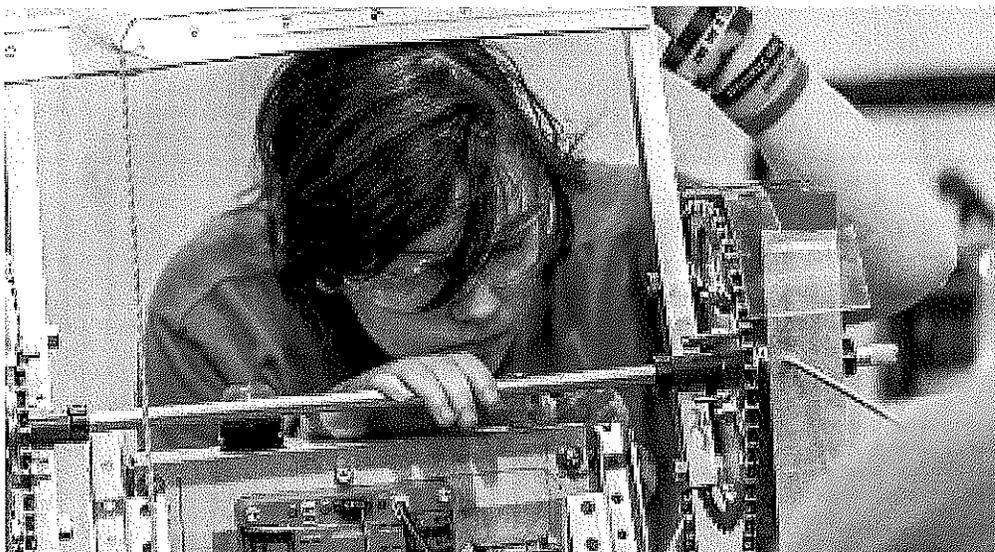
Year one will include build out of the KC EZ space, fundraising and the rapid deployment of a pilot program to provide space and support to two urban FIRST Robotics Competition (FRC) teams.

Photo credit: Charles Maples Photography

A space to create and innovate.

KC EZ is a safe and supportive space where Kansas City's K-12 urban students will acquire real-world knowledge, skills and experience through hands-on science, technology, engineering and math programming, initially through *FIRST* Robotics.

This exciting new initiative is modeled after the Michigan Engineering Zone and will be launched in partnership with UMKC School of Computing and Engineering, KC STEM Alliance with the generous assistance of the Ewing Marion Kauffman Foundation and five major founding partners: US Engineering, NNSA, Honeywell, BNIM, JE Dunn and Mark One Electric. These founding project partners are generously stepping up to provide in-kind donations of space, equipment and project management, as well as down-the-road corporate commitments of financial and volunteer support.



Year two, KC EZ anticipates full utilization by FIRST teams during the FIRST Robotics Competition (FRC) season. Focus groups will identify additional uses for the space and other ways to provide wrap around support for K-12 STEM students.

Photo credit: Charles Maples Photography

KC EZ Partners

The success of this initiative is dependent on broad financial and volunteer support from area businesses and organizations.

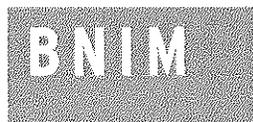
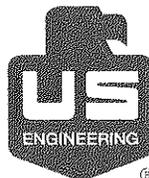
Please visit www.kcstem.org or contact Laura Loyacono at loyaconol@kcstem.org for more information on corporate sponsorships and volunteer and mentor opportunities.

Founding Project Partners

Ewing Marion
KAUFFMAN
Foundation



Honeywell

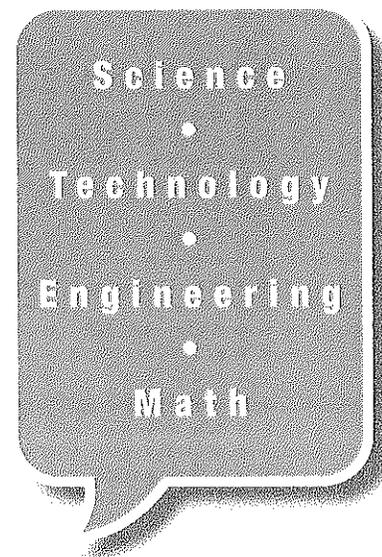


KC Engineering Zone

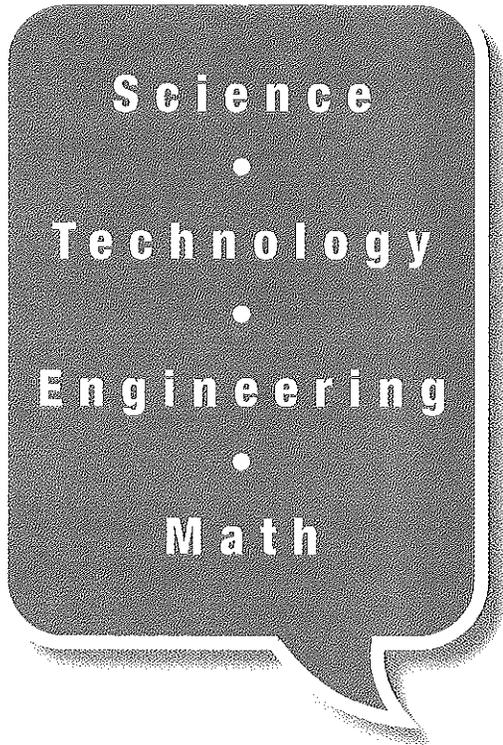
Additional Utilization Options

Focus groups will work during Fall 2014 to determine additional options for full utilization of the KC EZ space by K-12, college, business and community organizations. This might include, but is not limited to:

- Industry certification courses – safety and machining
- Regional workshops for area *FIRST* teams and members
- Programming and Computer Science workshops
- College level courses – math, physics, programming (dual credit)
- Summer STEM Enrichment Programs
- Community access to space/equipment made available to partners and youth agencies.



It's the talk of the town.



In classrooms and boardrooms throughout our region, STEM is an ever-increasing topic of conversation. And while the acronym may still be a puzzle to some, the solution is clear. A highly literate STEM workforce is critical to Kansas City's future.

KC STEM Alliance is committed to growing that workforce right here, in our own backyard. By partnering with local school districts, colleges and universities, and our nationally recognized employers—we can develop STEM literate students empowered with the problem-solving, critical-thinking and collaborative skills central to college and career readiness.

STEM occupations will create
2.6 million
 U.S. jobs from 2010-2020.



| | | |
|----------------------------|--------------------------------|--------------------------|
| Net new jobs: 1,550,000 | Replacement jobs: 1,090,000 | Total jobs: 2,640,000 |
|----------------------------|--------------------------------|--------------------------|

Recovery 2020: Center on Education and Workforce, Georgetown University, June 2012

How to prepare for a STEM degree and career.

Participate in extracurricular STEM activities. Learn more about **FIRST® LEGO League**, **FIRST® Tech Challenge** and **FIRST® Robotics Competition** at kcfirst.org/programs Look for math, science, solar car or computer coding clubs through your school or youth organization.

Take advanced math and science classes. Ask about the **Project Lead the Way® (PLTW)** coursework or AP/IB/Dual Credit options available at your school. Visit pltw.org to learn more.

Enroll in a **summer STEM camp**, Saturday workshop or seminar. For opportunities visit the events page on kcstem.org/events

Make a connection. Internship, mentor and volunteer opportunities will connect you with STEM professionals and guides. For a list of STEM industries and organizations visit kcstem.org/industry

Explore the possibilities. Find a multitude of resources at kcstem.org/students

Talk it up. Encourage your teacher or youth organization leader to invite STEM professionals to visit your school or group and share their college and career path.

205,259

The Kansas City Region will have a total of 205,259 STEM jobs by 2023, an increase of 14% from 2013.

| Kansas City STEM Occupations | 2013 Jobs | 2023 Jobs |
|---|-----------|-----------|
| Science <i>(Life, Physical and Social Scientists & Technicians, Healthcare Occupations)</i> | 96,066 | 114,188 |
| Technology <i>(Computer Occupations)</i> | 35,447 | 40,287 |
| Engineering <i>(Engineers, Architects, Drafters, Engineering & Mapping Technicians)</i> | 17,394 | 20,189 |
| Math <i>(Mathematical Science Occupations, Financial Specialists)</i> | 27,090 | 30,595 |

Regional Workforce Intelligence Network of Greater Kansas City, Fall 2013



P: (816) 235 1509 • E: kcstem@kcstem.org • W: kcstem.org



KC STEM Alliance is an independent operating program of the University of Missouri-Kansas City, School of Computing and Engineering. Tax-deductible contributions may be made to KC STEM Alliance through the UMKC foundation, a 501c3 organization.

HIGH SCHOOL SENIOR SHOWCASE

PLTW
2015

PLTW Senior Showcase

Wednesday, April 15, 2015

9:00am – 11:30am

Sprint Festival Plaza, Union Station
30 W. Pershing Rd. Kansas City, MO

The PLTW Senior Showcase celebrates graduating Project Lead the Way (PLTW) students and highlights their senior capstone projects from the Engineering Design and Development (EDD) and Biomedical Innovations (BI) courses. These students have completed rigorous senior projects that present innovative solutions for real world problems. Guests are invited to visit with student teams as they showcase projects through poster exhibits, prototypes and informal presentations.

The Showcase is open to the public and all are welcome to attend. Please go to www.kcstem.org for more information. We hope you enjoy meeting the innovation leaders of the future and are inspired by their ingenuity.

PLTW-Kansas City Engineering Design Competition

New to the 2015 Showcase will be the introduction of an engineering design contest. The competition is made possible by supporters of KC STEM Alliance and highlights the importance of engineering design and problem-solving in STEM education and recognizes and rewards outstanding student projects with scholarships and commendation. Projects will also be judged by "guest investors" and recognized for innovativeness and marketability. The top projects will be recognized at the Showcase.

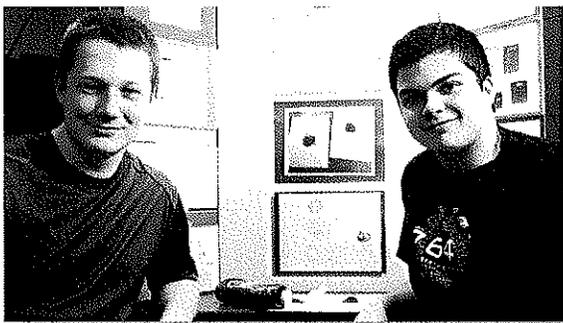
Volunteer Opportunity

Judges are needed to review projects online and at the event. This is great opportunity to preview innovative projects from future engineers, as well as offering inspiring advice to potential entrepreneurs.

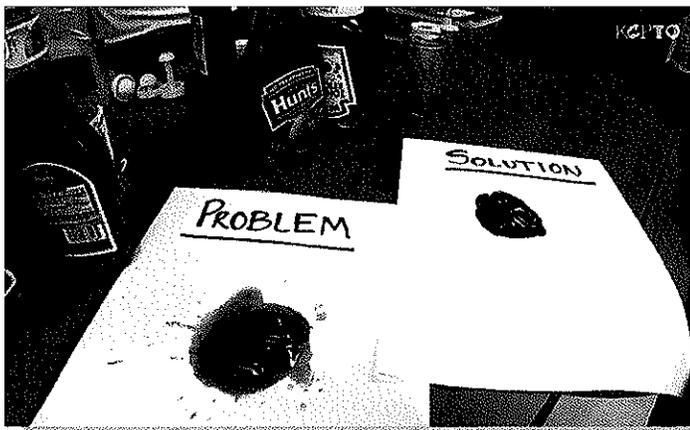
Please contact Ann Zimmerman, zimmermanab@kcstem.org or 913-961-9444 for more information or to volunteer as a judge.

Sponsored by KC STEM Alliance

KC
STEM
Alliance



At the 2014 Senior Showcase, Liberty North High School seniors Tyler Richards and Jonathon Thompson addressed the watery-ketchup conundrum.



They solved their problem by designing a new ketchup cap and creating a prototype on a 3-D printer. The cap was previewed at the 2014 PLTW Senior Showcase and made a splash with features on KCPT, Good Morning America, Huffington Post and many others.

