

# **SIUE STEM Center and community partners boost STEM interest among young females**

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EDWARDSVILLE - The Southern Illinois University Edwardsville Center for Science, Technology, Engineering and Mathematics (STEM) Research, Education and Outreach,

the Madison County Housing Authority (MCHA), and the Mannie Jackson Center for the Humanities Foundation (MJCHF) have partnered to educate and inspire young females through STEM-related lessons.

“Take a piece of foil, put it in the baking soda, and then we’re going to keep this the same test each time,” said Colin Wilson, STEM Center Resource Center Manager, to a room of approximately 20 girls in Madison, who were eager to learn more about hand pollinators.

Wilson traveled throughout February, March and April to Madison and two other MCHA locations, in Venice and Alton, to teach STEM lessons to nearly 50 young girls. The lessons highlighted such topics as water pollution, filtering contaminated water, reusing greywater, agricultural engineering and hand pollinators.

“We’re testing different materials like pipe cleaners, marbles and pom-poms to see how much pollen they pick up and drop,” explained 13-year-old Malia King. “I like to do these fun experiments.”

The goal of the partnership is to prepare young females for a bright future. The STEM Center’s high-impact community engagement practice (HICEP) complements the goals of the MCHA’s afterschool programming.

“Current statistics show that 89-percent of Madison County Housing Authority family apartments have female head of households,” said Andy Hightower, executive director of the MCHA. “In an effort to decrease this percentage, we have developed programs that target young females. We feel that if the MCHA can provide young females with the tools and skills necessary to become successful women, it will have a positive impact on the community as a whole.

“These young women will be better prepared to obtain a good paying job and purchase homes, thereby decreasing the number of females needing low income housing in the future.”

“The STEM Center wants to reach as much of the region as we can. Working with organizations like the MCHA, that already have a program in place, allows us to use our resources efficiently and effectively,” added Wilson. “This type of afterschool experience is exactly what research has shown to increase student engagement, and as a result, lifelong interest in STEM topics.”



“The MJCHF is proud to partner with the MCHA and the SIUE STEM Center, as SIUE has developed a proven reputation for its outreach programming in underrepresented and low-income areas,” said Dr. Ed Hightower, executive director of the MJCHF. “The MJCHF believes it has a moral obligation to foster positive interaction of youth through STEM and other educational opportunities. The Foundation’s focus is inclusiveness of youth of different cultures, races and ethnicities. Many of the youth served by the MJCHF reside in public low-income housing developments and live at or below the poverty level, with limited access to healthy STEM opportunities.”

Student feedback underscores the excitement for learning that is being generated by the STEM Center’s engaging and interactive programming.

“I might grow up and need to know this,” added 11-year-old Kalyn Belford. “I like science and the experiments we do. I aspire to be a fashion designer. So, I’ll need to know math, and how to do measurements and adjustments.”

“The students that participate in our program are grateful that we are providing such an opportunity that allows them to learn while having fun and thinking out of the box,” said Marie Nelson, program director with the MCHA. “They often express that information learned through this program will help them make wise choices later in life when they are seeking their career.”

Madison County Housing Authority Mission Statement: To provide safe, quality affordable housing to low income families in Madison County; and to promote personal responsibility and self-sufficiency of residents while maintaining the fiscal integrity of the agency.

Mannie Jackson Center for the Humanities Mission Statement: The MJCH conducts activities that promote mutual understanding and respect among people of different cultures, races, ethnicities, religions, and other distinctions; influence positive social change by transforming attitudes and perceptions towards greater acceptance, tolerance, and interaction among these groups; and ultimately remove barriers that hinder individuals and groups from realizing their aspirations and full potential.

The Southern Illinois University Edwardsville Center for STEM Research, Education and Outreach comprises an independent group of researchers and educators, innovating ways to engage students and the public in science, technology, engineering and math (STEM). Within the SIUE Graduate School, the Center brings together research faculty, graduate students and practitioners to conduct education research. The Center contributes educational expertise to SIUE undergraduate classes and provides professional development for K-12 teachers. The Center boasts a significant library of equipment and resources, which are available for loan at no cost to campus and regional instructors. For more information, visit <https://www.siue.edu/stem/about.shtml> or contact STEM Center Director Sharon Locke at [\(618\) 650-3065](tel:6186503065) or [stemcenter@siue.edu](mailto:stemcenter@siue.edu).