



**PROJECT TITLE: CampSpark!**

**PROJECT TAGLINE/CAPTION** (160 characters):

A one week summer STEM camp for high school students who are enrolled in PAIR (Partnership for the Advancement and Immersion of Refugees).

**IMAGE:**



Primary Contact: Katelin Cherry

Primary Contact Email: [kdc6@rice.edu](mailto:kdc6@rice.edu)

Primary Contact Department: Bioengineering

Name of Group/Organization: Rebecca Richards-Kortum Lab



## PROJECT DETAILS

CampSpark! will be a one week day camp that will encourage collaboration between Rice graduate STEM students and PAIR (Partnership for the Advancement and Immersion of Refugees) high school students. PAIR, a local Houston organization founded by Rice students that works with refugee middle and high school students, will identify twenty high school students interested in careers in STEM. These students will then be invited to participate in a week long summer day camp held at Rice University.

Each day will include a lesson focused on a different aspect of STEM followed by an activity incorporating what they learned. For example, one day could include a lesson on programming with microcontrollers followed by an activity using an Arduino to blink a light on the circuit board. Each day will also have a presentation from a STEM graduate student about his/her work. Three of the days will include a tour of a different research lab at Rice University, one day will have a campus tour of Rice University, and the last day will include a Q&A panel discussion with Rice graduate students to answer any questions the high school students may have about pursuing a career in STEM. An example schedule is below:

Time	Monday	Tuesday	Wednesday	Thursday	Friday
12:00 - 12:30pm	PAIR will pick up students and transport to Rice University				
12:30 - 1:30pm	Lesson on STEM topic	Lesson on STEM topic	Lesson on STEM topic	Lesson on STEM topic	Lesson on STEM topic
1:30 - 2:30 pm	Activity based on Lesson	Activity based on Lesson	Activity based on Lesson	Activity based on Lesson	Activity based on Lesson
2:30 - 3:30 pm	Lecture by Graduate Student	Lecture by Graduate Student	Lecture by Graduate Student	Lecture by Graduate Student	Lecture by Graduate Student
3:30 - 4:30 pm	Tour of Research Lab	Tour of Rice University	Tour of Research Lab	Tour of Research Lab	Q&A with Rice Graduate Students
4:30 pm	PAIR transports students home				

# GRAD starter

**Timeline:** If the project will take place at a specific time and place, please give details. Is it a one-time event or a series?

Our event is planned for the summer of 2017 (tentatively for June 19-23) and will be held on the Rice University campus. We will coordinate with the Rice BioScience Research Collaborative and the Oshman Engineering Design Kitchen to schedule rooms for the week.

We will begin promoting to Rice graduate students in January of 2017 to secure volunteers for the event as well as speakers. Prospective speakers will be required to submit their presentation one month in advance as well as give a mock presentation to the co-chairs. This will ensure that speakers are presenting to the students in an effective and useful manner for the high school students.

While this proposal is for a one-time event, we hope this camp will engage students' interest in STEM and motivate graduate students to organize annual events in the coming years.

**Audience:** Who is your target audience? (e.g. program-specific, interdisciplinary, or university-wide? Will undergraduates, faculty, staff, or postdocs be involved? Any off campus participants?)

PAIR for STEM Summer Camp will be organized by Rice graduate students and staff in partnership with PAIR staff. They are, as follows:

Katelin Cherry, co-chair, Bioengineering Research Technician  
Melody Tan, co-chair, PhD student in Bioengineering  
Mark Michael, co-chair, BCM Medical Student/ HHMI Medical Fellow  
Lauren West, Senior Programs and Operations Manager at PAIR  
Shaina Holm, Program Manager at PAIR

The target audience will be Houston's refugee high school students as well as Rice's graduate students.

How many people do you anticipate will participate?

For the first year, the number of high school students will be limited to 20 students. We expect 10-15 graduate students to volunteer for the week.



**Marketing Plan:** How do you plan to publicize the project?

The event will be advertised heavily at Rice through the Graduate Student Association at their monthly Coffee Break meetings, weekly newsletter, and Facebook page. Additionally, it will be publicized through the RGA and RVA email newsletters. These communications will provide information to prospective volunteers and speakers.

## **ADVANCEMENT**

**What are the goals of the project?**

There are two main aims for this summer camp:

1. **Increase interest of refugee high school students in STEM careers.** Many of the students face challenges as refugee students in American schools; some have come with limited English or no experience in a structured school system. Many are not aware of the various careers available in STEM, and we aim to educate them about the many possibilities that STEM has to offer in a fun and encouraging environment. Additionally, we will focus on connecting the students with resources for college. Many of the students might already be interested in STEM or may become interested, but will need the resources to know how to make this career path feasible.
2. **Provide mentorship opportunities for Rice graduate students to the high school students.** The various activities of the camp will encourage interaction between graduate students and the high school students. Graduate students will assist the high school students in activities, give lectures on their experiences as STEM students, as well as lessons on STEM topics. More importantly, Rice graduate students will interact with the high school students on a personal level and will learn more about Houston's refugee community.

Briefly explain the need for the project and how it will promote excellence in scholarship, training, and/or development?

High school is a turbulent time in which we start to think about career paths and interests. Students from refugee families have additional difficulties of navigating an often unfamiliar language, culture, and education system. It is easy for them to feel discouraged, especially when they see their educated, talented parents working basic, tedious jobs in the United States. Our project addresses this need by providing a fun environment to explore and experiment with different areas of STEM. And if participating in the camp piques their interest in STEM, they will already have some understanding of what their life would look like a few years down the road as well as the steps that will get them there.

Additionally, graduate students spend much of their time on research and are not able to engage their communities in the same capacity as they used to. Volunteering with CampSpark! would provide an opportunity for mentorship and to practice explaining their



work to people outside their field—an important skill for any career. We also think that they will have fun volunteering. This is too often overlooked, resulting in burnout.

If this is an existing project/event or a similar one exists, describe how the project/event is being expanded or enhanced.

PAIR currently holds a summer camp every year for their middle school students, but there is no program in place for high school students.

If your proposal is for a pilot project, suggest how it might develop over a three-year period.

In addition to holding a 2017 summer camp, the co-chairs plan to hold four workshops a year at PAIR's afterschool tutoring program to maintain and expand interest in STEM. Graduate students will be invited to volunteer for these workshops. The co-chairs will coordinate the yearly summer STEM camp in coordination with PAIR as well.

Describe how you will measure the success and impact of this project. Please, provide quantitative targets, if possible.

High school students will be required to submit pre- and post- camp surveys on their attitudes and career interests in STEM. These surveys will be used to improve future workshops and summer camps. We will also measure the camp success by recording high school and graduate students experiences through video clips and written text.

## BUDGET

### *Itemized Budget*

Please, provide an itemized budget. List each item, a description, and the anticipated cost.

Item	Description	Cost
Transporation	Van rental to transport high school students to Rice University as many do not have their own means of transportation	\$1350
Staff T-shirts	T-shirt with camp logo provided to camp staff and students	\$500
Snacks/drinks	Snacks and sodas/water provided throughout the day	\$500
Printing	Copying costs, paper, pencils	\$150
Activity Materials	Supplies for STEM based activities	\$500
Total Expenses		\$ 3000



***Funds from other sources***

Please, provide any information on funds from other sources that you have secured or potential funds that you plan to apply for.

Source	Status	Cost
Med Student Council BCM Community Outreach Scholarship	Applied and Awaiting Approval	\$500
Total Amount		\$500

If the project/event has been offered in the past, how was it supported?

Not applicable to this specific event.