DUKEENGAGE IN ORANGE COUNTY, CA
Empowering girls through STEM education

Dates: June 16 - August 10, 2018
(Dates subject to change up until the point of departure.)

Service Themes
• Children & Youth services
• Education & literacy
• Women’s Advocacy & Women’s Empowerment
• Science and Engineering

Program Focus
Empowering girls participating in Girls Inc. of Orange County summer programming by giving them tools to help navigate social, economic and gender barriers to help them to grow into healthy, confident adults, with a focus on personal development, health and STEM education.

Curricular Connections: While all students are welcome to apply, this program may be of particular interest to students studying science, engineering, mathematics, education, and women’s health. (See below for additional details about connecting this program to your academic work.)

Program Leaders
• Marlee Krieger, M.S., Program Co-Director, Research Program Manager, Biomedical Engineering, Duke University, marlee.krieger@duke.edu. Marlee’s work and interests are in issues of women’s empowerment, retention of women in STEM, program evaluation, and women’s global health.
• Nimmi Ramanujam, PhD, Program Advisor, Professor of Biomedical Engineering, Duke University, nimmi@duke.edu. Dr. Ramanujam is a pioneer in the intersection of women’s health and engineering. Her work focuses on issues of education and the retention of women and minorities in STEM fields. She loves teaching undergraduates and graduate students.

Program Overview
The theme of this program is women’s empowerment through education. DukeEngage-Orange County students will volunteer full-time with Girls Incorporated (Girls Inc.) of Orange County – an affiliate of the long-standing national organization dedicated to teaching at-risk and underserved girls to be self-sufficient, successful adults. Specifically, their mission is “to inspire all girls to be strong, smart, and bold.”

Students will volunteer at Eureka! Summer Camp for girls of various age groups (K-12) by being mentors and leaders of classes and activity sessions dedicated to personal and career development, as well as health, and science, technology, engineering and math (STEM) enrichment. The majority of these girls are underrepresented minorities whose families make less than $30,000 annually. In addition, most of the campers are from Santa Ana, a California city with the highest degree of urban hardship as well as high rates of poverty, unemployment and minimal education according to the Public Policy Institute of California. During the time leading up to Eureka! Summer Camp, participating DukeEngage students will create their own STEM curricula, which will be taught and implemented once camp begins. Previously implemented curricula include how to build a microscope, how to remove foreign objects from the ear, and how a periscope works.
Students will also learn National Girls Inc. curricula then co-facilitate those lessons to campers. Such programming includes college preparation, health awareness and reproductive health.

All Girls Inc. programming is broken down into discrete modules or “theme weeks” that are distinct and can be completed independently of each other. All students will spend four weeks (July 9-August 3) working with middle school girls at the Eureka! Camp. They will create their own STEM curricula then implement this curricula over the course of the four weeks. They will also learn Girls Inc. programming then co-facilitate the implementation of that programming with the help of Girls Inc. Staff. Additionally, volunteering may be completed at the Girls Inc. administrative offices for students who wish to gain experience in what it takes to run a nonprofit educational organization.

A critical aspect of this DukeEngage-Orange County program is the development of curricula in advance of the trip, so students can use the skills that they have learned inside and outside the classroom to leave the girls of Orange County with a new set of skills, interests, and abilities that will allow them to pursue careers they may never have been exposed to otherwise, including those in STEM. Students will work together as a group, in consultation with Girls Inc., to plan the activities that will be implemented during the Eureka! Camp.

**Student Learning Objectives/Outcomes**

The primary goal of DukeEngage-Orange County is to empower girls participating in Girls Inc. of OC summer programming by giving them tools to help navigate social, economic and gender barriers to help them to grow into healthy, confident adults, with a focus on personal development, health and STEM education.

By the end of this DukeEngage program we expect Duke students will:

- Have increased ability to work independently in a new environment;
- Have increased knowledge of the challenges faced by other socio-economic classes;
- Gain a sense of meaning and accomplishment through service;
- Learn first-hand about service-related careers;
- Gain self-confidence in learned skills through teaching;
- Understand the importance of targeting the “whole girl” to help her make the best life choices; and
- Understand the profound impact that the appropriate environment and support can have on a girl’s future.

By the end of this DukeEngage program experience we expect that Girls Inc. will:

- Have benefitted from program leaders and volunteers with experience in STEM fields – particularly engineering – who implemented fun and effective activities for their summer programs; and
- Have new, tested curricula that can be reused during other student classes and workshops.

By the end of this DukeEngage program experience we expect that underserved girls of Orange County will:

- Have gained positive, accessible role models;
- Have increased self-esteem;
- Been exposed to science and engineering in a fun and appealing way;
- Be inspired and encouraged to attain a college education in any field that interests them; and
- Be confident in their ability to be successful in any career they choose.

**Partnership Opportunities**

All students who participate in the DukeEngage OC program will be partnered with the Orange County affiliate of Girls Incorporated.

Service sites include:

- **Eureka!** Eureka! is a four-week program intended for girls entering grades 7 and 8 that includes a curriculum of 25% health, 25% personal and career development, and 50% STEM content. The first four 10-hour days of the week are held on the campus, and the last day is devoted to a field trip related to the week’s theme. Student
participants working at Eureka! can act as session leaders or support staff to work directly with the girls.

- **Santa Ana Unified School District Camp.** This program is targeted for a handful of girls (approximately 20) entering 7th grade who are most at risk of expulsion. This program mirrors the Eureka! program with the STEM and personal development components. It does have one field trip that functions as a reward and team-building opportunity for the girls. This is a challenging program and only a select few Duke students will be able to participate.

Prior to traveling to Orange County, students will attend information sessions and discussions with the Program Director and Girls Inc. to identify the camp-specific service opportunities and lesson plans that most interest them. Together, the students, the Program Director and Girls Inc. will craft individual experiences that meet both student interests and Girls Inc. programming requirements. Students can expect to volunteer between 8 and 10 hours daily with Girls Inc.

**Program Requirements**

**Language:** None

**Course Requirements:** None

**Other Skills:** Girls Inc. has identified engineering as a topic that they would like to include in their curriculum but do not have enough experience to implement. Therefore, we are seeking students who are interested in helping develop engineering and STEM-related programming. However, an extensive background in engineering or STEM is not a requirement. We welcome applications for students in all fields and find that diversity enhances the group experience.

All Girls Inc. summer volunteers and staff are required to participate in a training program that familiarizes them with the organization’s goals and approach. Two to three days of the training are specific to the Girls Inc. national curriculum, and include information on developmental stages of the girls participating, learning methods and teaching tips, techniques for classroom management, all necessary rules and regulations, as well as the content of the programming itself.

Finally, all volunteers working with the girls are required to participate in Live Scan fingerprinting in the state of California for Girls Inc. of Orange County.

**Personal Qualities:** We are looking for students of any gender who have a strong interest in service, education, and the role of girls and women in society. Students who are eager to serve as positive, accessible, role models that will inspire girls to pursue college careers in any field and want to work directly with at-risk girls are encouraged to apply. The successful applicant will be able to effectively and respectfully communicate and interact with girls of different ages, races, religions, and cultures. Girls Inc. feels strongly about providing positive male role models as well female ones.

The successful student in this program will be able to bring high energy and enthusiasm to camp with them every day, and will remain vigilant about the image they portray to campers. A high level of maturity is imperative as Girls Inc. programming includes subjects that can be difficult or uncomfortable for campers to talk about, such as teasing and bullying, staying safe in the modern world, recognizing and avoiding domestic violence/abuse, sexual harassment, and avoiding teen pregnancy and STDs.

The following qualities are keys to success in the DukeEngage-Orange County program:

- **Ability to manage stress in novel environments**—seeks to recognize and regulate stress reactions in themselves and calmly practice coping strategies that work for them; seeks help from others when they feel overwhelmed. While this is a U.S.-based program, participants still report some culture shock and stress at acclimating to new surroundings.

- **Ability to work productively on a supervised team**—responds to feedback and critique from co-workers and supervisors with maturity and openness to improvement; listens actively and communicates courteously; responds with patience and perseverance to new or unanticipated situations and obstacles; accepts
responsibility for their actions.

- Empathy and cultural sensitivity—effectively and respectfully communicates and interacts with people of different ages, races, religions, and cultures; demonstrates curiosity about the lives of others without judgment.
- Self-awareness—possesses an age-appropriate understanding of the personal strengths and weaknesses they bring to a DukeEngage project/program; able to articulate their beliefs and values, and to state authentically their personal motivation to serve as a volunteer; demonstrates an awareness of how others may view them in a variety of cultural settings.

Curricular Connections
Students who enjoy their experience in Orange County are encouraged to pursue other opportunities with Duke’s Center for Global Women’s Health Technologies. These activities may include completing an independent project in the area of women’s health and empowerment, serving as a student mentor to the next group of DukeEngage students by sharing their experiences in curriculum development, or utilizing the Center’s connections to other local Durham groups (such as Student U) to continue working with girls. The Center also offers classes within the Biomedical Engineering and Global Health departments.

Program Details
Description of Community: Students will reside in Fullerton, CA, and will work in several cities and towns in Orange County, including Costa Mesa, Santa Ana and Huntington Beach. Girls Inc. is located in Santa Ana, so much of the students’ time will be spent there. Santa Ana is located in the Santa Ana Valley in southwestern California on the Santa Ana River. It is close to the Santa Ana Mountains and the Pacific Ocean. The Orange County area is generally considered to be urban/suburban and has a large Hispanic population.

Housing and Meals: Students will be housed in a nearby university dormitory. Dorms are typically apartment style. We expect that wireless internet, meal plans, cellular service and laundry facilities will be available.

Meal plans are available through the university. Residence halls are located within walking distance of a grocery store, and cooking facilities are available if students wish to prepare their own meals.

If you do not eat certain types of food for cultural, religious or personal reasons, please contact the DukeEngage office, dukeengage@duke.edu, to discuss whether or not your dietary needs can be reasonably accommodated at this program site.

Transportation: While Orange County does have a public transportation system available, most Californians drive everywhere they go. All placement sites are within 20 miles (or a 30-minute drive) of each other, and the site coordinator will take students to and from their placement sites in a rental van or public transportation can be used. The van will also be used for transportation to and from enrichment activities. For non-program-related activities, there is an OCTA bus stop on campus that connects to the public transportation system.

Communication: Residence halls have wireless internet and cellular service. Placement sites will also have wireless internet and cell phone service. We assume all students will have a cell phone for emergencies; please notify the program staff if this is not the case. Students can decide to bring their laptops, but DukeEngage is not responsible for the loss, theft, or damage of personal property or electronic devices. Participants are required to inform the site coordinator of their location at all times when not with the group and must remain reachable.

Local Safety and Security; Cultural Norms, Mores and Practices: As part of their planning, DukeEngage strongly advises all prospective applicants to familiarize themselves with the common challenges travelers encounter at this program site in order to make an informed application decision that is right for them. We recommend starting with the Diversity, Identity and Global Travel section of the DukeEngage website.
Opportunities for Reflection: Students will be required to reflect on their experiences by completing weekly blogs as well as keeping notes regarding successes, suggestions, and feedback on their curricula. Students will then be required to revise the curricula appropriately and transmit it to Girls Inc. for future implementation. The group will also meet regularly for reflection sessions throughout the program. Typically, reflection topics include history of the area, impact of the program, the mission of Girls Inc. and weekly challenges.

Other Opportunities: On evenings and weekends not dedicated to enrichment activities, the group has enjoyed eating together and physical activity. The dormitory setting should allow students adequate privacy and individual time. Students also have the opportunity to meet Duke alumni, who sometimes organize excursions for the students. Students are encouraged to spend time in the community around the Fullerton campus, as well as in Santa Ana. Ocean swimming will not be allowed in any DukeEngage program.

More Information:
- Duke’s Center for Global Women’s Health Technologies: http://gwht.pratt.duke.edu/
- Girls Inc.: http://www.girlsinc.org/