Research Experiences for High School Students Project Description

Project Title: Showcase STEM Careers at SDSC for Education Outreach

1. Overall Research Project

As technical and scientific innovation continue to drive the global economy, educators and policy makers are trying to promote students’ interest in science, technology, engineering and mathematics (STEM). One way to do this is by increasing the awareness of science and engineering careers, while emphasizing the need for math and science preparation required to be successful in these careers. Critical to this effort is making sure women and minorities are showcased in STEM careers so that ALL students can identify with these career options.

The San Diego Supercomputer Center at UC San Diego employs a diverse group of scientists and engineers with varying backgrounds and pathways to their careers. Our goal is highlight some of these STEM professionals by developing career stories from interviews and research. These career stories will ultimately be part of a “Cool Careers in STEM – Computing and Data Science” booklet available in print and web format, which will be used for educational outreach to K-12 teachers and students.

We are looking for high school students with basic journalism and writing skills, who are interested in helping promote an awareness of STEM careers to students, teachers and counselors. These students will become familiar with the latest research in STEM education and the recommendations to increase student interest in pursuing careers in these fields. Students will learn about the various departments and projects at the San Diego Supercomputer Center and the professionals supporting these projects. Students will interview of subset of these professionals and design career stories around these individuals.

Research Project Background

Currently, females and minorities are significantly underrepresented in the fields of computer science, engineering and physics. One-way to encourage ALL students to pursue an interest in science, technology, engineering and mathematics is to expose them to individuals they identify with working in these fields and to make them aware of the wide variety of careers in these fields. Role models who describe their own experiences and challenges and how they overcame them can help students see their own path to these careers. The old stereotype of a “geeky” white male in a lab coat, working alone in the basement, is not representative of today’s STEM professional. The San Diego Supercomputer Center employs diverse scientists, engineers and computer specialists working in teams to solve exciting problems facing today’s world.

2. Number of Students Supported: 1 – 2

3. Name of Lead Person: Dr. Karen Flammer, Director of Education, San Diego Supercomputer Center, Director of Education, Sally Ride Science @ UC San Diego

4. Plan to Integrate Student(s) into Group Activity: The Director of Education will supervise students directly, provide them with the research on the importance of introducing students to STEM careers and help them create a set of interview questions as well as a template for writing about each STEM career. Students will participate in the poster session at the end of the internship and are free to be as creative as they want in their presentation. Meetings will be set up throughout the project for face-to-face interaction and progress review. Credit will be given to the students for their work so they can
include it in their portfolios. Students may also be invited to attend summer conferences at SDSC if they are interested and their schedule allows.

5. **Student Prerequisite:**
   - Ability to write at least at a 10th grade level (A or B in 10th grade English or Journalism)
   - Proven literacy in science and technology (A or B in at least one science or computer course at the high school level)
   - Interest in exploring STEM careers
   - Comfortable with interviewing engineers, technicians, researcher, primarily in person
   - Familiarity with basic computer skills and Microsoft Word

6. **Number of Hours Per Week:** 10 – 15

7. **Relevant link:** www.sdsc.edu