Research Experiences for High School Students Project Description

Project Title: Science Communications Writer Intern

1. Overall Research Project

We seek high school students with interests in basic journalism and science writing in particular, and the desire to learn more about communicating key messages through both traditional and modern (social media) methods. As a result of this experience, students will gain a better understanding of how such supercomputer clusters work – but more importantly, be challenged with reducing the technical jargon and other barriers to understanding foundational elements of high-performance computing and data storage.

This internship will include interviewing key SDSC/Comet staffers such as Rick Wagner, Bob Sinkovits, and others to explain how we designed Comet to provide access to high-performance computing to a broader base of researchers (“HPC for the 99%”) while making Comet an easy-to-use gateway for conducting research in this age of massive data sets. Students will have at their disposal our video of the Comet build-out, and possibly create a narrative for that video, with the aim of at taking the mystery out of supercomputers for a more general (less technical) audience.

We anticipate that ‘Science Writing and Communication: Supercomputing Basics’, using Comet as the main example, might entice some students to consider careers in computational sciences, or at least open this avenue as an option in science-based communications and writing.

Research Project Background

Science Writing and Communications: Supercomputing Basics

This is the year that the San Diego Supercomputer debuts Comet, its first petascale supercomputer. Petascale? What does that mean to most people? And other than knowing that supercomputers are fast and really complicated, how many people understand even the most fundamental things about what makes a supercomputer so super? In fact the National Science Foundation is urging researchers and science writers alike to write at a more basic level of understanding.

This from an email dated January 23, 2015:

**NSF to Researchers: Plain English, Please**

National Science Foundation Director France Córdova recently announced important new steps to enhance transparency and accountability at NSF. Under the new directive, principal investigators will work with program officers to draft an award abstract in plain English that describes the project and how it will advance the progress of science, the national defense, or the nation’s health, prosperity and welfare. The move comes amid intense scrutiny from Capitol Hill about the value of research in the social sciences and on climate issues. House Science Committee Chairman Lamar Smith and Sen. Rand Paul (R-KY)—a leading contender for his party’s presidential nomination in 2016—recently penned a Politico op-Ed on the subject.
2. **Number of Students to be supported**: 1-2

3. **Name of Lead person**:
   Diane Baxter, Director, Education Department, Jan Zverina, Lynne Friedmann, External Relations, San Diego Supercomputer Center, UCSD

4. **Plan to Integrate Student into Group Activity**:
   SDSC Communications Director Jan Zverina and Diane Baxter, SDSC’s Associate Director for Education, will supervise students directly, help them to develop questions for SDSC/Comet staff, and create a variety of media (text and possibly video) to articulate the basics of supercomputing in a clear and compelling way to both the general public and their student peers. Students will receive professional style and substance guidance from Lynne Friedmann, SDSC’s staff science writer. 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. For each project, an initial meeting will be used to outline the basics, with review and editing done partly electronically and partly through in-person meetings. The interns will receive constructive criticism of their work, with constructive suggestions for how it might be improved. Completed articles or videos may appear on the SDSC website or in SDSC’s ‘Innovate’ e-newsletter, with full credit given to the students for their work so they can include it in their portfolios. Students may also be invited to report on the SDSC 2015 Big Data Summer Institute in August if they are interested and their schedule allows.

5. **Student Prerequisite**:
   Required prerequisites:
   - Evidence of ability to write at least at a 10th grade level (A or B grades in 10th grade English)
   - A or B in at least one science or engineering course at the high school level.
   - Ability to receive constructive criticism of their writing with grace and humor, and make revisions to improve it as guided by professional communication staffers.

   Students will need to be comfortable in interviewing researchers, primarily in person. One of us will always provide an introduction.

6. **Number of hours per week**: 10-15 hours

7. **Relevant link**:
   San Diego Supercomputer Center:
   [http://www.sdsc.edu/](http://www.sdsc.edu/)