



Foundations Of Resilient CybEr-physical Systems (FORCES)

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Goals Year 1

- * Examine current classes taught in the area of CPS across our institutions
- * Identify the expertise of 4 partner institutions in the this area
- * Plan for module development in these areas and how would these KSAs be employed through a Capstone Project, which employs real-world scenarios from various CPS domains
- * Conduct outreach on topics of interest to professionals and graduate students who will attend conferences like HiCons 2014 and sister CPSWeek Conferences
- * Identify a talented pool of students on each of our campuses who want to conduct research in CPS

Goals for Discussion

- * **Goal One:** Discussion with Industry Partners about what you are looking for in terms of Education
- * **Goal Two:** Discussion with the Group about Education & Outreach Goals
- * **Goal Three:** Support the needs of our students and post-docs around research and career

Some Statistics for Shock Value

- * In 2010, the science and engineering workforce in US was 4.9% this percentage has been relatively flat for ten years
- * In 2011, 42% of degrees in science and engineering went to women; 11% of these students were URMs.
- * Deep Dive in CS: 21% of degrees in computer and information sciences and 7% were URMs.
- * In 2012, only 43% of SAT takers graduated from high school with a level of academic preparedness associated with a high likelihood of college success.
- * In 2012, only 26% of ACT takers, met all four benchmarks in English, reading, science and mathematics.

Industry Focus on Education

- * Year 5 Goal: Series of online modules related to resilient control and economic incentives
- * Capstone projects to develop real world experience and KSAs that are important to industry
- * What are industry goals for education & outreach...
 - What levels are most important for focus?
 - What would the product be or look like?
 - Can you name the knowledge, skills, and abilities you are looking for?

Education & Outreach Goals

- * Increase the participation of diverse populations in cyber physical research
 - Tools Available
 - In-year research for students
 - Mentoring of students in your group
 - What others...

- * Focus on high school students
 - Tools Available
 - Partnerships with local providers
 - TRUST BFOIT: Berkeley Expertise
 - What others...

Needs of Graduate Students & Post-Docs

- * Robust team focus and cross pollination of ideas across departments.
 - Semester long exchange programs for grad students
- * Building a pipeline for high school students and undergraduates