

UCLA

Posters

Title

Diversity @ CENS

Permalink

<https://escholarship.org/uc/item/34n6s01b>

Authors

Kim, Karen

Uehara, Wes

Estrin, D

et al.

Publication Date

2007-10-10

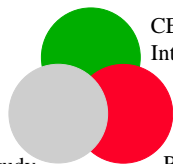


Diversity @ CENS

Karen Kim, Wesley Uehara, Deborah Estrin, Jennifer Belichesky, Christine Borgman, June Chang, Amy Fann, Farnaz Farzad, Kim Misa, Linda Sax

Women@CENS: Increasing Diversity in Engineering and Computer Science

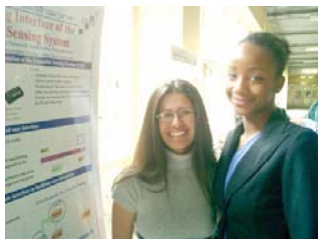
Women@CENS: a research system



CENS Summer Internship

National REU Study

Program Evaluation



The **Women@CENS** program was designed to enhance our REU program with scaffolding that supports students with different skill sets and course backgrounds, and to provide professional development seminars that support female and underrepresented students. Our intent is to develop a set of promising REU diversity practices that can be shared broadly, especially those that increase women participants' sense of belonging, interest, and long-term commitment to engineering and computer science.

Studying How REU Programs Support Women's Interest and Long-Term Commitment to Science and Engineering

The **Women@CENS** research project is studying undergraduate research internship programs in science, technology, engineering, and mathematics (STEM). We are especially interested in learning about aspects of these programs that increase women participants' interest and long-term commitment to STEM fields, engineering and computer science in particular.

CENS Program Evaluation

Program

- Year 1** -- 13 students
Research experiences, program supported by UCLA-CARE
 - Year 2** -- 42 students
Women@CENS funding, gender/diversity seminars, mixed group mentoring
 - Year 3** -- 24 students
Tech Camp, Weekly Progress Meetings, One-on-one meetings
 - Year 4** -- 23 students
Integrated approach to diversity workshops, development of teams all connected to theme
 - Year 5** -- 14 students
Building on the successes of program components in previous years, we will send out materials discussing projects and mentors prior to arrival of participants, add a writing component to our summer program, continue to develop our CENS-alumni network, and continue to solicit funding to keep our program running.
- Tracking Student Success:** An online survey of the 79 alumni from the CENS summer programs from 2003-2006. Of the alumni solicited, 56 completed the survey.

Evaluation

- Obtain funding for more students
- Need to enhance sense of community
- Organically integrate diversity vs. training intervention
- Enhancing a sense of community is the backbone to a successful REU; Inform participants about projects pre-program
- Approximately 75% of survey participants greatly improved their academic, research, and professional skills as a result of participating in the REU.

National REU Study

An online survey was administered to 713 NSF funded undergraduate research internships (REUs) in STEM. Following the online survey, a comparative case study focusing on the practices, evaluation and outcomes of programs especially successful at getting women participants into Ph.D. programs.

Preliminary Findings

•Program components that promote women participants' self-confidence and long-term commitment to engineering and computer science

- Providing good mentors/ mentoring regardless of gender
- The act of research itself
- Having a large proportion of women interns in the program
- Providing women role-models

Implications for Practice

- Maintain critical mass of women participants (mentors, mentees and speakers)
- Address gender equity issues
 - Be persistent about addressing gender equity issues. Keep the backlash in perspective.
 - Indirect & Organic training and intervention
 - Provide opportunities for women participants to network with professional organizations for women

Collaborations & Partnerships

CENS Recruitment

Our Center recruitment has taken great strides through the years. Our center joins forces with other STCs, UCLA research groups and UCLA-AGEP to co-exhibit at national conferences for several professional organizations:

- National Technical Association, Chicago, IL, July 2006
- Society for Women Engineers, Kansas City, MO, October 2006
- California Diversity Forum, Oakland, CA, October 2006 & Santa Barbara, April 2007
- Society for Advancement of Chicanos and Native Americans in Science, Tampa, FL, October 2006
- Society for Hispanic Professional Engineers, Denver, CO, January 2007
- NSBE - National Society for Black Engineers, Columbus, OH, March 2007

We also recruit from local colleges and universities through our partnerships. CENS supported 74 undergrads and 122 grad students in research in 2006.

Local and National Partnerships

We have maintained and developed our local and national partnerships, including:

- 1) UC-AGEP (Alliance for Graduate Education in the Professoriate)
- 2) UCLA CEED (Center for Excellence in Engineering and Diversity)
- 3) UCLA CARE- Summer Programs for Undergraduate Research
- 4) UCLA Henry Samueli School of Engineering and Applied Science
- 5) CAMP (UC-LSAMP) Program
- 6) California State University, Los Angeles
- 7) Loyola Marymount University
- 8) Santa Monica College
- 9) Local chapters of AISES, NSBE, SHPE & SWE
- 10) QEM Network

Hands-on Future Tech Conference

In September 2006, CENS co-organized the 2nd annual Hands-on Future Tech Conference hosted at Norfolk State University, a HBCU in Norfolk, VA. Sponsored and attended by a number of minority serving institutions from the area, this event was a unique opportunity for CENS to be invited into the community to share our research and technology.



Society for Advancement of Chicanos and Native Americans in Science (SACNAS)



CENS participated in a joint-presentation with three other Science & Technology Centers (NCED, SAHRA & CAMPWS) at the 2007 Annual SACNAS meetings in Tampa, Florida. We look forward to future collaborations with other centers as STC representation at this conference increases.

CSULA CEA-CREST/AGEP Collaboration

We have developed a partnership with CSULA CEA-CREST, which focuses on environmental sciences, to teach their undergraduate interns how to create basic sensor networks to incorporate our technology into their projects. CENS will host CEA-CREST students as well as provide technical support in their research endeavors. In the coming summer, we look forward to hosting two graduate students in a joint collaboration with CEA-CREST and UCLA-AGEP.