

The 2010-11 Campus Action Project provides a platform to address some of the barriers girls and women face entering and staying in science, technology, engineering, and mathematics fields.

Eleven teams from around the country were selected to implement projects based on recommendations from AAUW's 2010 research report, [*Why So Few? Women and Girls in Science, Technology, Engineering and Mathematics*](#).

2010-11 CAP Team: BVU

The DREAMS project of the Buena Vista University (BVU) CAP team is designed to provide a mentoring opportunity to middle and high school students. On February 19, more than 20 ninth through twelfth grade girls recruited from local high schools attended a Meet and Greet Day on campus. Guest speakers included two physicians and an environmental scientist who shared their career path and life as a female scientist. College student mentors accompanied the high school students on a campus tour and lunch and the day wrapped up with talks from campus science professors who will work with the students on lab activities in March and April. The hands-on laboratory and field assessments are being filmed and will be compiled for a Follow Your DREAMS website that will highlight the women working on science projects.

The college mentors have met with their mentees a few times informally to discuss college and academic performance. On May 13, there will be a final dinner showcasing their project with the mentors, the mentees, and the mentees' families.

2010-11 CAP Team: DSU

This project is a continuation of an initiative started last year with an AAUW CAP grant. The Dakota State University CAP team aims to increase awareness of STEM career opportunities in Women in Science and Technology and in local middle and high school students through participating in Women in Science and Technology Career Day, establishing mentoring relationships between WIST students and area middle and high school students, and inviting speakers and offering field trips promoting STEM careers to women students on their campus.

On March 7, the DSU team organized the STEM Careers for Women Day which more than 60 local middle and high school students and teachers participated in. There were multiple speakers, panelists, and hands on activities. The students shared their thoughts on women engagement in different STEM careers in the pre and post surveys, a significant number of them changed their opinion about women pursuing careers in science and technology oriented fields. They indicated that the discussions with other women about their careers and work/life balance helped them to understand advantages and disadvantages of pursuing careers in STEM fields life.

The CAP team also participated in a Career Day for Women in Pierre, South Dakota, organized by the Discovery Center and 75 students attended their session.

2010-11 CAP Team: GVSU

The CAP team at Grand Valley State University is working to enhance the Women in Science and Engineering (WISE) program through multi-level mentoring that promotes leadership and builds community. WISE is working to foster increased interactions among the student population and with faculty by hosting a series of round-table discussions. These are the activities so far they have initiated:

Meet and Greet Welcome Back/Grant announcement to students: Pizza dinner and discussion on January 14, 2011. Two STEM faculty members and 28 students attended and learned about the grant, upcoming events, and received information (brochures) and bracelets from AAUW.

Super Science Saturday: January 29, 2011, students and faculty volunteered to assist at a daylong Chemistry demonstration open to the community. The GVSU Regional Math and Science Center counted over 1700 attendees at this event. Students were encouraged to think about how they could use some of the ideas for their upcoming science demonstration in April.

Community Connections Dinner: February 21, 2011, 36 attendees enjoyed a great networking dinner and conversation including discussions on equality, service, mentoring and the community read.. Mentor attendees included four female faculty from STEM (two chemistry, one biology, one math); one female chemical engineer from industry; three representatives from the local AAUW branch; two Women's Center staff; and a representative from secondary education. All attendees were given a copy of *The Immortal Life of Henrietta Lacks* and a WISE t-shirt.

One direct result of the events is that students are utilizing professors' office hours much more than last semester. Also, some faculty members are voluntarily becoming more involved in the lives and interests of the students.

In April, with the support of faculty mentors, the students will plan a science demonstration at a nearby middle school. This "mentoring program will amplify interactions between all levels of students, faculty, and the local community.

2010-11 CAP Team: RIT

Rochester Institute of Technology (RIT)'s 2009 CAP grant, EMPOWER, successfully aided in the development of students' professional skills and of a strong community of women. Through EMPOWER II they are putting these skills toward an outreach program to encourage young women to consider careers in STEM through three outreach activities developed and run by a team of faculty and university students. These activities include: Girls Technology Workshop- a day long on campus workshop for fourth to seventh grade girls, Tech Squad Middle School Edition- outreach activities aimed at middle school boys and girls, and Tech Squad High School Edition- outreach to local high school students. All activities are developed to increase interest and understanding of careers in STEM.

The EMPOWER project has already had an impact on over 100 local 4-12 grade young women in the community.

In January and March, EMPOWER II held the day-long Girls Technology Workshop. The fourth through seventh grade participants rotated through four workshops each featuring a different engineering technology or Packaging Science discipline. Activities included testing plastics for strength and elasticity, making concrete, building spaghetti bridges, making motors, cutting a box with a 3-D cutting table and then assembling and decorating the box, and making charms out of shrinkable plastic.

In February, the Tech Squad team visited a local high school's all-girl FIRST robotics team during one of their Saturday build sessions. The CAP team prepared posters describing the various engineering fields and a brochure for the students to keep with similar information. The vent consisted of a poster session where RIT students talked about their majors, why they selected their major and their plans for the future. The poster session was followed by question and answer session. The Tech Squad then had lunch with the Robotics team. The RIT faculty and students were also able to meet with two high school teachers and talk to them about ways they can encourage their female students to consider a career in STEM.

In May, the Tech Squad will do outreach at a local middle school.

2010-11 CAP Team: RCC

The Rogue Community College (RCC) CAP team and three AAUW branches in southern Oregon will hold the STEM Careers for Planet Earth conference in April 2011 at RCC's career technical campus in White City, Oregon. The conference will educate 150 high school girls and college women about overcoming barriers and selecting courses and majors leading to STEM careers that are well-paying and can contribute to solving major challenges in the world. The conference will include mentor round tables, hands-on STEM workshops, and information on career pathways and financial aid to motivate participants. Follow-up assistance will promote barrier removal and greater access to STEM majors.

So far, the CAP team is working on recruiting participants from 11 area high schools and recruited 15 college students to help plan and carry out the conference. They are working on confirming workshop presenters and speakers for the conference.

The CAP team is also forming a RCC STEM Club. They have found a faculty advisor and they are finalizing the club application and charter.

2010-11 CAP Team: TCC

Since spring 2009, Tidewater Community College has offered an assessment of spatial skills to students in introductory engineering courses. Results found spatial deficiencies in 79 percent of women tested, but only 14 percent of low-performing students completed a voluntary program to improve those skills. With the CAP grant, the Tidewater Community College is implementing a more structured intervention program to increase program participation and success rates of engineering students.

Through a recruitment (and IRB review) process, 23 people are in the program. They will not know the results of their project until the 12 week program is complete.

2009-10 CAP Team: University of Guam

Through their project "Portrait of a Scientist as a Young Woman," the CAP team at the University of Guam successfully created a film, generated some very unique posters, mentored student leaders, and developed some important new networks for students and the women and gender studies program.

Without having any prior experience creating a film, the CAP team produced a 45 minute film about women in STEM fields. Students and professionals were interviewed for the product and the team created a new superheroine, STEMA, who appeared throughout the film. Fifty-five people attended the film premiere.

The poster contest, open to elementary, middle and high school girls, generated lovely art. The posters, to be distributed before the start of the new academic year, will generate support and encouragement to young women in the public school system.

The CAP team felt that the student leaders were the most rewarding aspect of the grant project. They had great willingness to volunteer their free time and energy to this project, negotiating their work and school schedules. The student leaders gained useful experience working together, operating camera equipment, conducting interviews, and editing film. Further, the student team leaders expressed an interest in continuing to develop film-related research work in Women and Gender studies and in their other major course work.

Overall, the CAP team feels very pleased that through this project they created productive connections with women working in STEM fields who are passionate about sharing their experience and expertise with women and girls and consequently that the potential for future collaborations is high.

Major Accomplishments

The film project was extremely successful and the team was able to produce a 45-minute film because of the enthusiasm of the student film crew and the amount of people willing to be interviewed. In the filming and editing process the team members learned valuable new skills.

At the film premier, the CAP team distributed a survey to evaluate the impact of the film on attendees.

- 82 percent of attendees agreed that the film increased their knowledge of the opportunities girls and women have in STEM fields
- 80 percent believed that the film increased their knowledge of the barriers girls and women face when studying and working in STEM fields
- 92 percent of parents in the audience agreed that the film has made them want to talk to their daughters more about studying more STEM subjects
- 69 percent believe that the film has made them want to talk to their daughters more about pursuing a career in a STEM field

- 82 percent of the college or school-aged audience said that the film made them want to study more STEM subjects
- 53 percent responded that the film made them want to choose a career in a STEM field

Last, the project enabled the team to form many useful relationships. They established new relationships with women faculty at the institution and with female professionals outside of the University that they can collaborate with on future projects.

2010-11 CAP Team: UMKC

The campus action project at the University of Missouri, Kansas City, is addressing learning environments. Their primary goals are to enlighten local high school counselors and teachers of the obstacles to the attraction to, education in, and retention of women in STEM careers and to engage and encourage female high school students to pursue STEM careers.

Students and the School of Computing and Engineering (SCE) Student Affairs Representative spoke to 60 female 7-8-9 graders regarding Engineering in January (2 schools). They spoke to and distribute the AAUW-sponsored Why So Few? powerpoint presentation to more than 100 counselors and teachers at a Project Lead the Way event in January.

SCE hosted a Power in Science weekend SCE with 60 students of color (30 females), with another weekend planned for April. Also during April, college students will speak about STEM at local high schools.

On May 21, SCE will work with the Division of Diversity, Access, and Equity to host a leadership/career workshop. SCE will provide five interactive sessions that promote STEM to high schools. The sessions will include a plenary speaker/panel (coordinated by the CAP Team student members) to begin the program followed by four interactive, small group, hands-on science education sessions. The hands-on sessions will be repeated to allow for full participation. They are working to recruit 100 girls from the schools the team is visiting as well as from the Science Power and KC LEADS Programs.

2010-11 CAP Team: UWM

The University of Wisconsin, Milwaukee, team created STEM Today, Degree Tomorrow, a STEM literacy and mentoring program for UWM students and middle school girls. Participants will create team projects using the training they gain during individual Saturday workshops in STEM, present their project to their parents and the community, and attend a field trip to the Museum of Science and Industry in Chicago.

\The team recruited 33 young women in fifth through eighth grades to participate in the STEM Girls program. So far, the students attended three of the four workshop sessions and they are making great progress on the project vehicles they are creating. On April 9 they will complete their projects and presentations. On April 30 they will present their projects to their peers, parents, the local AAUW branch, and the community at Discovery World Museum. On May 14, they will visit the Museum of Science & Industry in Chicago, IL.

2010-11 CAP Team: VT

The Virginia Tech CAP team created a Connecting Women in Construction outreach program in response to the severe underrepresentation and low retention rates of women in building construction and construction engineering majors. The research portion of the project will examine the stereotypes middle school girls and sophomores in college hold about these career fields. The action portion will seek to dispel these stereotypes by connecting girls to successful role models and to help girls gain self-confidence in their ability to develop relevant skills to succeed in these fields.

On February 22, the team held a forum for industry experts to discuss the “New Voice of Construction.” The 36 attendees were from several disciplines, representing students, academics and industry. It was also a mixed gender panel and audience, and was a good opportunity to position the Connecting Women Program and AAUW as an organization which is supportive of progress in the industry, and has programs of interest to all. The positive response suggests that they could offer more forums, as a way of providing a common ground.

In March, they held a Skills Training and outreach to middle schools day. In early April, they will hold a networking lunch on campus and in late April, a networking evening reception.

2010-11 CAP Team: WUSTL

The Washington University in St. Louis team will expose women in high school to the different fields of science and the numerous STEM career paths. Undergraduate and graduate students are working together to plan three consecutive Saturday workshops for ninth graders focusing on biology and biotechnology, physical sciences, and engineering.

Sixty ninth grade girls from 17 schools, of which seven were inner city and nine were suburban, registered for the three workshops. At the first workshop, 36 students participated. Of the students who had registered and did not show up, 27 (out of 30) were from inner-city schools and it seems like the major reason for the no-shows was transportation issues. The CAP team is working to provide transportation for the other sessions.

During the workshops, there was great diversity. The girls were randomly placed in teams and all of the girls were enthusiastic about working together and did not segregate themselves. It was obvious that the girls found out that they could work with and learn from people of different backgrounds, and that learning and discovering science can be a common ground that they could get excited about. It was also a great opportunity for the girls to see other girls their age, young adult females, older female adults, and mothers.

The college students who have been developing the activities have been working together with the CAP faculty advisor for more than a month. They all have learned about the science in these activities, the level needed for ninth-graders, how to develop experiments for high school, and how to write lab handouts for high school. They established relationships that they had not had from our prior interactions as teaching assistant, employer, and professor.