



Phyllis Gale
AAUW Berkeley Branch
<http://berkeley-ca.aauw.net/>
and follow us on Facebook

What is AAUW?

- In 1881 Mary Talbot and Ellen Richards meet in Boston with 15 alumnae representing eight colleges to discuss the needs of college-educated women.
- In 1885, their ranks had swelled to 65 members and they form the Association of Collegiate Alumnae (ACA).
- 1885, the ACA conducted their first scientific study to disprove that studying medicine was hazardous to the health of women.
- By 1886, five (5) branches are added included Pacific/San Francisco.

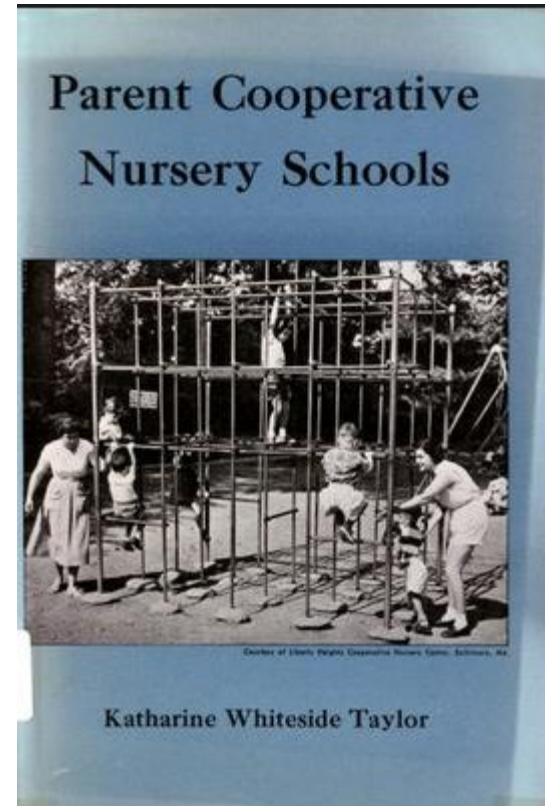


Mary Talbot

Since its first meeting in 1881, AAUW has been a catalyst for change. Our nonpartisan, nonprofit organization has more than 150,000 members and supporters across the United States, as well as 1,000 local branches and 700 college and university partners. Throughout our history, AAUW members have examined and taken positions on the fundamental issues of the day — educational, social, economic, and political.

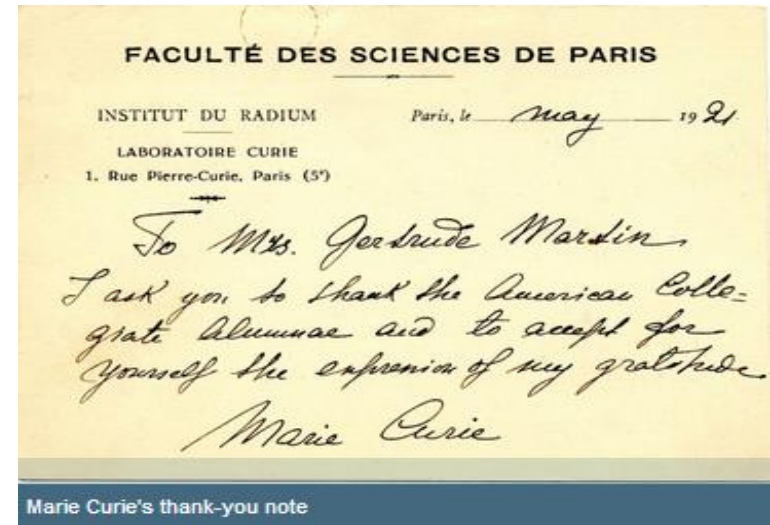
AAUW in California

- In 1885, the Pacific Branch was founded in the San Francisco offices of the Overland Monthly at the invitation of its editor, Millicent Shin.
- In 1894, Millicent Shin read her work on early childhood development at the 1894 Chicago World's Fair.
- 1896, Millicent Shin was the first woman to earn PhD from the University of California
- 1936, AAUW was a leader in the research of Childhood Development under Dr. Shin's guidance.
- 1938, the Berkeley Hills Parent Cooperative Preschool is founded based on the AAUW funded research by Katherine Whiteside Taylor



AAUW Internationally

- 1920, Marie Curie was asked by Marie Meloney, an American journalist, what Marie would want most in the world, The answer, a gram of radium so she could continue her research.
- AAUW lead the effort to provide to \$157,000 to Marie Curie to purchase radium
- The \$57,000 that remained after Curie's death was returned to AAUW.
- AAUW founded the Marie Curie Fellowship to support women who wished to study chemistry, physics, and radiology



AAUW Fellowships Early STEM Education

- Since 1888, AAUW has awarded fellowships and grants to more than 11,000 women for over \$80 million dollars.
- One of the largest fund source for post-baccalaureate women in the world.
- For the 2012-2013, AAUW funded 278 fellowships and grants with \$4.8 million dollars.
- 1970, AAUW formally sets aside funds for women fellows in Selected Professions for master's programs in the areas:
 - Architecture
 - Computer/information sciences
 - Engineering
 - Mathematics/statistics

Meet Our Alumnae: American Fellowships

Many of our American Fellows have gone on to do amazing things:



Michelle Segar

Michelle Segar (2005–06) is an associate director at the University of Michigan's Sport, Health, and Activity Research and Policy Center for Women and Girls and a behavior-change expert for notable sources like the *New York Times*, *Prevention*, and *Women's Health*.



Melissa Harris-Perry

Melissa Harris-Perry (2001–02) is host of *The Melissa Harris-Perry Show* on MSNBC, a professor at Tulane University, and a columnist for *The Nation*.



Susan Sontag

Late critical essayist, short story writer, and novelist Susan Sontag (1957–58) earned a National Book Award for her work and was also a lifelong human rights activist.



Judith Resnick

The late Judith Resnick (1975–76) used her fellowship to complete a dissertation on chemical engineering and went on to become a Challenger astronaut.

The Beginnings of Tech Trek

- 1991, AAUW Research Program funded the Report:

“Shortchanging Girls,
Shortchanging America”.

- Jane Pauley, NBC Today, affirmed that teachers teach girls and boys differently; teaching to the boys.

- Additional AAUW Issue Briefs regarding girls and the educational environment are issued:

- Hostile Hallways: Survey of Sexual Harassment in America’s Schools

- Restructuring Education: Stalled Agenda

- AAUW California Program Director Marie Wolbach (Palo Alto Branch) lead a team that received a \$5,000 grant in 1997 for a Residential Science and Math Camp for middle school girls which was held at Stanford in 1998

Shortchanging Girls, Shortchanging America

Executive Summary

A nationwide poll that assesses self-esteem, educational experiences, interest in math and science, and career aspirations of girls and boys ages 9–15

There is a circular relationship between enjoyment of math and science and self-esteem. Students who like math and science possess significantly greater self-esteem; students with higher self esteem like math and science more.

Commissioned by the
American Association of University Women

Researched by Greenberg-Lake:
The Analysis Group

<http://www.aauw.org/files/2013/02/shortchanging-girls-shortchanging-america-executive-summary.pdf>

The First Camp at Stanford 1998

Based on AAUW Research, AAUW California targeted girls entering the 8th grade as the age best able to benefit from such an experience.

The goals set for Tech Trek Science Camp for Girls were to:

1. Encourage a diverse group of young women entering eighth grade to take math and science courses each year throughout high school.
2. Motivate students to attend college.
3. Inspire young women to consider careers in science, technology, engineering or math (STEM).

First Stanford camp had 151 Campers supported by 134 AAUW Branches from all over California.



science & math camp for girls



...from the beginning

And Today . . .

- 2012, Since 1998 over 9,000 girls have attended one of the Tech Trek Camps.
- 2012, over 800 girls attended Tech Trek, all on scholarships provided by AAUW California Branches.
- 2012, Grown to 10 camps on 8 campuses from Sonoma to San Diego.



Identifying Unknown Liquids



More Chemistry



Professional Women's Night



In the Dining Commons

What's Tech Trek Camp Like?

•Tech Trek Campers are selected through an application process:

- Application
 - Essay
 - Science Teacher Recommendation
 - Interviews and Selection by Branch
- The Camper spends 1 week in a campus residential experience.
- They may have a single or double room
- 8-10 Campers are assigned to a Dorm Mom
- And they have scheduled activities from Breakfast through the last Dorm Mom meeting at night.



The Dorm: Alder Hall



Duck Chucking [Catapults]



Chemistry Magic



Making Ice Cream Using Liquid Nitrogen

Camp Structure

- Each Camp has a scientific theme that is supported by core classes taught primarily by middle school science teachers.
- CSI TV shows has made forensics a popular theme



Forensics: Precision Measurements



Forensics: Blood Spatter Patterns



Leaves



Marine Biology

Each Camp Takes Advantage of their Location

- At Fresno, the campers take advantage of the near by San Joaquin to study river biology.
- And, learn cooperation by paddling canoes.



Professional Women's Night

- Each Camp invites local women to participate in a “professional women’s night”.
- Each “professional woman” is assigned to a table with a set of campers.
- During the course of the dinner, the campers ask a set of questions
- At the evening event, the Campers talk about the “professional woman” at their table
 - Job Title
 - Place of Work
 - What courses did they take
 - Did they have further training
 - Why the like the job they have
- In this example at UC Davis, Robotics was the theme of professional women’s night.



Professional Women's Night: Robotics



Professional Women's Night: Robotics



We Love Our Robot



Dorm Moms, Nurse, and Director

STEM is a Hands-On Experience

- Hands-on experience leaves an indelible mark on the memory of a camper.
- One of the most popular class led by guest women engineers is bridge building.
- Teams are given rope, chairs, wood and even pasta boxes to build their bridges.
- Ingenuity Nights or Build It Nights give each camper team challenges to arrive to a certain end with a set of parts.



Building a Shelter



Suiting Up for Surgery



Building the Golden Gate Bridge



Building Bridges - Weight Test

Campers are Always on the GO!

- Whether it is off to lunch, studying tide pools, or rocket launching, campers are kept busy learning!
- At the end of camp, parents arrive to greet their campers, attend a program covering the camp activities, and leave with their young woman who has new possibilities of what her future might be.





Tech Trek Works

In 1999, a Tech Trek camp at the University of California, San Diego, became the turning point in Allison Wakita's life. Inspired by what she learned at the camp, Wakita went on to graduate from the University of California, Berkeley, in 2008 with a degree in chemical engineering. Today, she's a project engineer for AECOM, where she applies her skills to environmental projects in engineering design, air permitting, and petroleum forensics. She has worked on solar power plants in the Mojave Desert, analyzed oil spills in Southern California, and designed safety valves to avert chemical reactor meltdowns—all efforts that prevent environmental disasters.

*"I clean up
oil spills."*

Tech Trek alumna Allison Wakita (above) works in environmental engineering.

Wakita says that Tech Trek gave her the chance to meet other girls who were excited about science and math and to learn how the subjects in her textbooks apply to real life. Of course, real life can bring real barriers. When she started working, Wakita found that even the clothing for some jobs makes women feel out of place. At 4 feet, 10 inches tall, Wakita has to buy special size-four steel-toed boots and hem 7 inches off her fire-retardant safety clothes. But she wouldn't trade her job for any other. At a 2011 camp reunion, Wakita talked to a new generation of Tech Trekkers about her experiences. A STEM education opens job opportunities no matter what the economy looks like, she said, adding that Tech Trek is more than just a camp. It's a place where you'll find other girls who love STEM just as much as you do.

Where are We Today?

- AAUW is a partner in the National Girls Collaborative which is funded in part by the National Science Foundation.
- AAUW Branches through out the United States had developed local STEM educational programs.
- AAUW reviewed Tech Trek and decided to sponsors it nationally as a model STEM Program for other AAUW States and Districts to adopt.
- In 2013, Tech Trek will expand to the states of Washington, Oklahoma, Florida, Ohio, and Texas. Each camp received \$10,000 grant from AAUW.

TECH TREK

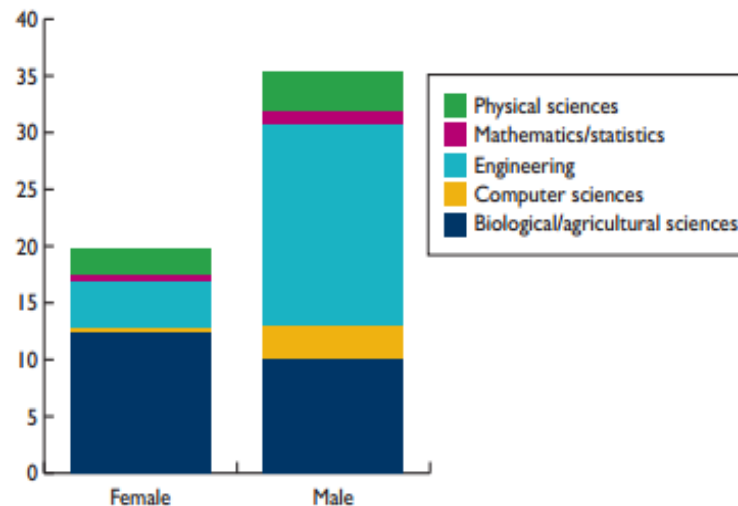


**Science and Math
Camps for Girls**

Powered by  AAUW

AAUW Research Inspires STEM Action

What percentage of first-year college students intend to major in science and engineering?



SOURCE: Higher Education Research Institute, University of California at Los Angeles, special tabulations (2011) of the Survey of the American Freshman cited in National Science Foundation, Division of Science Resources Statistics. 2011. Women, minorities, and persons with disabilities in science and engineering: 2011. Special Report NSF 11-309. (Arlington, VA) Table 2-8.

Tech Trek is their first exposure to a college campus, and the experience is instrumental in showing the girls that they can thrive there. The success of Tech Trek alumnae and their continued enthusiasm about the program speak to just how life-changing it can be.

The American Association of University Women (AAUW) research report *Why So Few? Women in Science, Technology, Engineering, and Mathematics*—one of the most highly quoted and authoritative pieces on women and girls in STEM—found that, compared with their male peers, women continue to major and choose careers in STEM fields at an alarmingly low rate. *Why So Few?* says that getting girls thinking at an early age about majoring and working in STEM is a critical step in widening the pipeline of women who are entering and staying in these fields as adults—a goal that is absolutely necessary to keep American businesses competitive globally.

Tech Trek has fostered girls' interest in STEM for 15 years. The weeklong camp provides an opportunity for girls to learn about STEM subjects in a fun-filled, hands-on college environment. For many attendees,



AAUW Continues Research to Support STEM Education and Professions

- ❑ *Where the Girls Are: The Facts About Gender Equity in Education (2008)*
- ❑ *Why So Few? Women in Science, Technology, Engineering, and Mathematics (2012)*
- ❑ *Graduating to a Pay Gap: The Earnings of Women and Men One Year after College Graduation (2012)*
- ❑ *The Simple Truth about the Gender Pay Gap (updated, 2013)*
- ❑ <http://www.aauw.org/what-we-do/research/>

What can I do? What can We do?

- Join the Berkeley Branch and start an on-site interest group supporting Tech Trek.
- Partner with the Berkeley Branch to fund Tech Trek campers.
- Donate access supplies or equipment to the Camp.
- Provide a Lab for the 2013-2014 Sonoma Camp.
- Spend a week as a Dorm Mom

The graphic to the right is for the national campaign. If you want to participate locally contact us at AAUWBerkeley@gmail.com. Or, if you want to support our local camp contact the Sonoma Camp at sonoma@aauw-ca.org.

A Priority for the Nation and for AAUW

AAUW has been a leader in the effort to get more girls interested in STEM, and the issue has been gaining momentum nationally. Even the White House has made STEM a priority. President Barack Obama said, "Reaffirming and strengthening America's role as the world's engine of scientific discovery and technological innovation is essential to meeting the challenges of this century."

AAUW is especially concerned with the still-pervasive stereotypes and climates that keep women from contributing their skills in the STEM workforce. "As an untapped talent pool, women are a key part of the solution. Because women offer different perspectives and approaches to problem solving, recruiting and retaining them in these fields can open the door for new innovation," said AAUW Executive Director Linda Hallman, who was a 100 Women Leaders in STEM honoree. "Diversity leads to innovation, and innovation leads to profit."

By getting involved in Tech Trek, your company will be on the cutting edge of fostering and recruiting the next generation of women innovators.

Enough talking about the problem—let's work together on the solution. E-mail us at stem@aauw.org to get started.

How to Get Involved

How can you be a part of this exciting program?

- 1 Give your women employees a chance to be instructors, role models, and speakers at a Tech Trek camp.



- 2 Donate lab coats, goggles, test tubes, and other workshop supplies.



- 3 Host a Tech Trek field trip that inspires as well as educates.



- 4 Provide laptops, video cameras, or other technology.



- 5 Fund a Tech Trek camp.