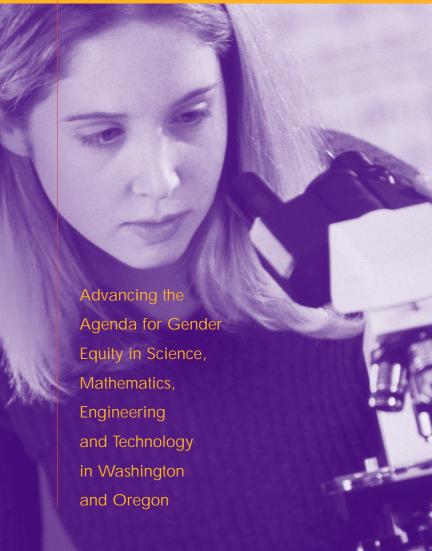
The
Northwest
Girls
Collaborative
Project





## Introduction

hroughout the Northwest, numerous organizations provide activities and support services to motivate and maintain girls' interest in science, technology, engineering, and math (STEM) careers. As the gender gap in technology fields widens, and public and private funds supporting gender equity work dwindle, it becomes increasingly important for girl-serving organizations to coordinate their efforts and services.

The Northwest Girls Collaborative Project (NWGCP), an 18-month program funded by the National Science Foundation Program for Women and Girls, seeks to build the regional capacity of girl-serving organizations and services through the power of collaboration. By collecting information about programs serving girls in Washington and Oregon, promoting coordination and collaboration, and initiating ongoing communication among these organizations, the NWGCP maintains a support system for girls exploring options in STEM.

## The Current Context

With scarce human, financial, and agency resources, the need for collaboration and cooperation has never been greater. In the absence of coordination, stakeholders face a growing sense of isolation and confusion about who is doing what and for whom. Under these circumstances it becomes increasingly important to coordinate existing and evolving activities to effectively utilize resources.

Initially the NWGCP identified 25 STEM-focused girl-serving programs in the Northwest. In general, the activities of these groups were not coordinated; in some cases, groups competed for access to girls and resources—particularly for resources from the corporate community. In the face of recent economic struggles and layoffs, corporations are less inclined to support such programs. Federal and regional funds for gender equity programs have been significantly reduced in the past five years. The need for a coordinated approach is therefore more critical than ever before.

## Dissemination and Outreach

In partnership with the Northwest Girls Coalition, the NWGCP documents and promotes coordination and collaboration among girl-serving STEM programs in Washington and Oregon and is establishing an ongoing communication system linking these organizations. Dissemination and outreach efforts include the following:

#### Project Web Site

A rich project Web site is housed by the Puget Sound Center for Teaching, Learning and Technology. This Web site contains basic project information, the Program Guide, information about STEM-related events, resources, and a virtual conference area that hosts interactive forums and supports communication among project participants. Visit the Northwest Girls Collaborative Project Web Site at: www.pugetsoundcenter.org/ddivide/ditg\_nwgcp.

#### Program Guide

NWGCP has identified more than 100 programs in Washington and Oregon currently supporting girls' interests in STEM careers. The Program Guide describes each program, target audience, and activities. Entries also indicate each organization's current resources and needs relevant to potential collaboration with other girl-serving STEM organizations. The Program Guide is available online, as well as in print, and will be distributed to STEM youth-serving organizations. Visit the Program Guide at http://www.pugetsoundcenter.org/outreach.

#### Forums and Conferences

The NWGCP hosted kick-off conferences in Washington and Oregon in the fall of 2002, bringing STEM-focused organizations together to stimulate interest in the project and to initiate collaboration among project participants.

Three focused forums have been held in order to provide training and education on a variety of topics. All three forums were held via video conference in order to bring audiences from the two states together without the inconvenience and expense of traveling.

The first forum, held in January 2003, highlighted strategies and opportunities for collaboration among STEM-focused girl-serving organizations. Organizations drafted collaborative action plans and outlined joint projects to implement in order to motivate more girls to enter STEM-related fields.

In May 2003, the second forum emphasized the importance of structured program evaluation in order to assess effectiveness and measure outcomes. Evaluation models were presented and discussed.

The focus topic of the third forum, held in October 2003, was designing effective mentoring programs that connect girls with STEM role models. Emphasis was placed on sustainability and ways in which to maintain a strong mentoring program.

The NWGCP culminating conference is scheduled for February 28, 2004 at Microsoft in Redmond, Washington. The conference highlights NWGCP accomplishments and future goals, and includes speakers on STEM and gender equity, a poster session displaying successful STEM projects for girls, presentations of NWGCP mini-grant projects, and breakout sessions on STEM and gender equity topics.

## **Program Self-Assessment Tool**

In collaboration with the Northwest Regional Educational Laboratory, the NWGCP has created a program self-assessment tool that assists organizations to identify strengths and weaknesses. This tool is currently being piloted by mini-grant recipients. A copy of the tool may be obtained from the NWGCP project Web site.



## Mini-Grants

With the support of Washington and Oregon MESA, the NWGCP provided \$25,000 in mini-grants to support projects that encourage girls to enter STEM careers.

 8<sup>th</sup> Annual Middle School Girls Conference on Math, Science, and Technology
 This conference brings together hundreds of middle school

This conference brings together hundreds of middle school girls to explore their interests in STEM subjects and careers. This mini-grant supports the development of an assessment process that enables organizers to determine the long-term effects of this conference.

#### AoIT TechTours

Girls from the Highline School District area are introduced to information technology, network systems, engineering design, computer electronics, and videogames/3-D animation via tours of local high tech companies.

#### Beyond Our Borders:

North Okanogan Outreach for Girls in STEM Girls in the North Okanogan area explore employment opportunities by touring the manufacturing line at Boeing's Everett plant, visiting the Microsoft Museum and accessing the Xbox usability lab, and meeting women engineers at both facilities. They also meet STEM professionals in a series of evening community forums, hosted by the girls themselves.

■ Breaking Boundaries Summer Day Camp
Hispanic girls from low-income families build selfconfidence and discover career options through outdoor
activities, hands-on science, math, and computer projects,
drama, and craft-making and sales. Their experience
continues during the school year with mentoring and
tutoring designed to reinforce their skills.

#### Building Better Machines

Middle school girls engage in interesting and practical engineering projects while visiting a Boeing engineering facility. Boeing engineers later facilitate a hands-on exploration of engineering concepts helping girls practice problem solving and build motorized machines using Capsela construction toys.

Female students at Waldport High School in Oregon explore their interests in STEM fields by visiting the Art Institute of Portland and other industries around the Portland/Vancouver area and meeting professionals working in STEM.

- Career Mentoring for Native American Girls High school Native American girls receive pre-employment training and participate in paid summer internships at the Oregon Museum of Science and Industry. The girls are mentored by young female STEM professionals.
- Development of STEM Enrichment Assessment Tools This project develops assessment tools to evaluate the effectiveness of STEM enrichment elements for young women currently offered by WSU Spokane MESA and WSU Spokane CityLab. Professional evaluation of these programs helps ensure continued success in attracting girls to STEM and soliciting funding.

#### DigiGirlz

This exciting four day summer workshop brings underprivileged and minority girls from Seattle high schools to Microsoft to participate in hands-on computer technology labs, tour Microsoft departments, learn about resume writing and interviewing, hear presentations from successful female Microsoft employees, and learn about Microsoft's summer internship program.

### Dream Big Dreams

Girls at Chemawa Indian School learn about the field of engineering through girl-oriented hands-on learning activities, resources, and mentoring from members of the Society of Women Engineers.

### Engineering for Girls

Girls at Bellingham's Sehome High School pursue their interests in engineering by designing house plans using Chief Architect (3D architecture software), meeting female engineers and engineering students, and learning more about potential STEM careers.

#### Eureka Tacoma

Young teen women in Pierce County develop their confidence and skills in math, science, and sports in this all-girl setting. Over three consecutive summers, this month-long program presents girls with progressively more challenging experiences and higher expectations, as well as the skills, teamwork, attitudes, and behaviors that will help them succeed.

### Expanding Your Horizons

This career day conference serves girls in the Northwest Oregon and Southwest Washington region. Speakers represent a variety of non-traditional occupations and lead hands-on workshops to inspire the girls to embrace and investigate careers in science, technology, engineering and mathematics, as well as careers in the trades such as automotive and construction.

### Explore Engineering Kit

This kit provides the entire curriculum and most of the supplies required for a Girl Scout community group to implement an engaging, hands-on engineering workshop for girls in grades 1-3. The program helps young girls develop critical thinking skills and teamwork in the context of engineering and design.

## Fair Play Design and Discover at Wattles Boys and Girls Club and at Westside PAL.

Girls entering the 7th-10th grades explore design and engineering concepts during this interactive two-week day camp, and the optional six-month mentorship with a professional engineer. During the camp, girls meet and work with engineers, designers, and researchers, and then complete an independent project for presentation in a Solutions Showcase.

#### Future Connections Girls Summer Program

Eighth grade girls transition into high school in this 12-week program. As they visit their future high school, they also develop core values and goals, strategies to achieve goals, and relationships with role models and mentors that will help them succeed.

#### Girls on the Sound

Low-income, inner-city 7<sup>th</sup> and 8<sup>th</sup> grade girls develop critical thinking, decision-making skills, and self-confidence while learning about careers in the environmental and marine sciences. Girls visit the UW Oceanography and marine science research labs, see women researchers and scientists in a professional setting, and receive mentorship from women scientists in the classroom.

- Two hundred girls from Coos Bay, Oregon attend a popular science exhibition that they might not otherwise see through OMSI's traveling Science Fair. The exhibition kicks off a Science Club sponsored by SWOYA Boys & Girls Club and promotes participation in Women in Science Careers Day and the Southwestern Oregon Regional Science Exposition.
- Science, Learning and Underachieving Girls (Success in School Science)
  Teachers, students, and researchers work together to uncover ways in which underachieving girls can and do engage in learning science. Drawing from University of Washington research and the real-life expertise of inner-city 9th grade science teachers from Garfield High School in Seattle, this collaborative team will design and implement classroom science sessions that combine personal and cultural relevance with scientific inquiry, grounding science learning in the lives of underachieving girls.

## Splash Soars:

#### **Engineering and Aeronautics**

Thirty 8th grade girls applied the scientific principles of flight as they took control of a glider in flight. These girls had previously learned these principles in Summer Science Splash, a four-week science program held at Seattle University. Instructors from the Society of Women Engineers had guided the girls' Splash lab experiments during the summer and were on hand to share this extraordinary and memorable experience.

#### Tech Challenge: Oregon Institute of Technology Science

and Engineering Fair

High school girls from Oregon's Klamath Basin who are interested in science and engineering are encouraged to participate in the Tech Challenge. This local science fair is an Intel Science and Engineering Fair supported in part by the Intel Foundation. Tech Challenge targets underrepresented populations, including girls and ethnic minorities in rural communities, in an attempt to encourage their entry into STEM professions.

#### The House That Jill Built

Girls explore nontraditional career opportunities in the building, construction, mechanical, and utility trades at the GirlFEST interactive house built by Oregon Tradeswomen, in collaboration with the Columbia River Girls Scouts.

#### Winterhaven AWSEM Girls Club

Advocates for Women in Science, Engineering and Mathematics (ASWEM) is a career and role awareness program designed to encourage girls to explore careers in math, science and technology. As an after school science club, it provides opportunities for girls to work cooperatively on math and science activities, and to visit women actively working in these fields.

#### Women and Principles of Flight

Forty 6<sup>th</sup> grade girls at McLoughlin Middle School build and fly their own rubberband-powered planes in this hands-on engineering workshop. High school students facilitate the workshops and Society of Women Engineer members mentor and provide career models for the girls.

### Women in Technology

Girls employ math and science tools learned in the classroom to address a real problem at a local company. Having the opportunity to apply their skills in this collaborative and supportive environment encourages them to think creatively and get involved in math and science.

### The World and Beyond

Eighth graders at the Seattle Girls School enjoy an integrated examination of aviation, aerospace, and astrophysics in this year-long curriculum that begins with an actual flight in a small airplane and culminates in building an actual airplane from scratch.

## Get Involved in the NWGCP

## Participate in a Virtual Conference

NWGCP created a virtual conference site to facilitate communication and interaction among girl-serving organizations. The virtual conference enables project participants to continue the discussions begun at the program kick-off events and participate in several forums that bring together girl-serving organizations from across the Northwest. Participants in the virtual conference can discuss issues on discussion boards, ask general questions of the community, post announcements of interest to the community, or connect with other participants via instant messaging. To join the NWGCP virtual conference, visit www.pugetsoundcenter.org/ddivide/ditg\_nwgcp/vconf/ and click "Register Here".

## Join the NWGCP E-mail List

A rich conversation with resources and ideas occurs on the Northwest Girls Collaborative Project e-mail listserv.

- E-Newsletter: members of the NWGCP listserv receive information about the NWGCP as well as information from other resources that may be valuable for STEM-related programs, including funding opportunities, resources, and upcoming events.
- MatchMakers: helps to match current needs with resources by sending a bi-weekly listserv e-mail listing specific needs and resources that members of the NWGCP listserv have submitted. Members can then respond if they can meet a particular need or would like to use a listed resource.

To join the NWGCINFO listserv visit: http://listserv.pugetsoundcenter.org/nwgcinfo.html or send an e-mail to nwqcp@pugetsoundcenter.org.



# Project Leadership

administers STEM programs for girls.



The NWGCP is under the guidance of a Champions Board made up of influential individuals in science, technology, engineering, and mathematics, including leaders from the state math and science teacher associations, concerned faculty from post-secondary education, representatives from Northwest companies specializing in research, technology and engineering, and representatives from both the Washington and Oregon state education departments.

Karen Peterson, Project Director
Karen is the Director of the Diversity in Technology Group
at the Puget Sound Center for Teaching, Learning, and
Technology. She serves on the board of SMARTgirls, a
Seattle-based nonprofit organization that develops and

Brenda Britsch, Assessment and Evaluation Brenda is a Research and Evaluation Associate with the Northwest Regional Educational Laboratory. Her doctoral work centered on the effects of sports participation on adolescent females.

Mary Burton, Culminating Conference Coordinator Mary is the Assistant Director of the Diversity in Technology Group at the Puget Sound Center for Teaching, Learning, and Technology. She has assisted in the implementation of the NWGCP components, and is coordinating the NWGCP culminating conference.

A. Frances Lindner, Assessment and Evaluation Francie provides leadership and professional development in the area of school improvement, smaller learning communities, school-to-career, and dropout prevention for the Northwest Regional Educational Laboratory where she has worked for 14 years.

Patricia MacGowan, Mini-Grants
Patricia is the State Director and co-founder of the
Washington MESA Program (Mathematics, Engineering,
Science Achievement). MESA now serves 4,935 pre-college
students in 80 schools

Louise Stevens, Outreach
Louise is lead consultant with Education Projects
Management, assisting school districts in the design
of career/college guidance programs. Louise has been
involved in career guidance for over 30 years.