

## CHAPTER SEVEN · TOOLS FOR EDUCATORS AND RESEARCHERS

WORKING ON THE COMPLEX CHALLENGES OF NARROWING THE GENDER GAP IN SCIENCE, TECHNOLOGY, ENGINEERING, AND MATH (STEM) REQUIRES A BROAD ARRAY OF STRATEGIES AND RESOURCES. INFORMAL EDUCATION PROGRAMS VARY IN STRUCTURE AND PROCESS FROM CLASSROOM INSTRUCTION AND OFTEN REQUIRE SPECIFIC TRAINING AND MATERIALS TO CREATE AN EFFECTIVE INTERVENTION. SIMILAR CHALLENGES EXIST IN DEVELOPING INITIATIVES TO ENGAGE HIGHER EDUCATION FACULTY FROM SCIENCE AND ENGINEERING DISCIPLINES IN PROGRAMS AND ACTIVITIES THAT ENCOURAGE GIRLS AND WOMEN TO CHOOSE STEM CAREERS.

PROJECTS IN THIS CHAPTER SEEK TO DISSEMINATE TOOLS AND KNOWLEDGE DEVELOPED FOR AUDIENCES RANGING THROUGH ALL LEVELS OF EDUCATION, AS WELL AS FORMAL AND INFORMAL LEARNING ENVIRONMENTS. INNOVATIVE IMPLEMENTATION STRATEGIES, SUCH AS COMPREHENSIVE SUPPORT SYSTEMS, COLLABORATIVE NETWORKS, HANDS-ON ACTIVITY KITS, EFFECTIVE USE OF DIGITAL RESOURCES, AND TRANSLATION OF RESEARCH INTO PRACTITIONER-FRIENDLY PROGRAMS, PROVIDE OPPORTUNITIES TO ENGAGE A BROADER AUDIENCE IN STEM EDUCATION AND PROGRAMS.

THE POTENTIAL FOR SIGNIFICANT PROGRESS TOWARD SUSTAINABLE OUTCOMES IS GREATLY ENHANCED BY THE PROJECTS HIGHLIGHTED HERE. BUT EVEN MORE PROGRESS WILL RESULT AS FUTURE RESEARCHERS TAKE ADVANTAGE OF THE EXPERTISE AND OUTCOMES OF THESE NSF-FUNDED PROJECTS AND THOSE OF OTHER GENDER-EQUITY SCHOLARS AND REGIONAL AND NATIONAL EXTENSION SERVICES.

*KAREN PETERSON, EXECUTIVE DIRECTOR, PUGET SOUND CENTER FOR TEACHING, LEARNING, AND TECHNOLOGY*



### INTERGENERATIONAL WORKING CONFERENCE ON WOMEN AND SCIENCE RESEARCH

TWO GENERATIONS OF WOMEN-IN-STEM SCHOLARS—THOSE WHOSE RESEARCH EMERGED IN THE 1960S AND THOSE WHO BEGAN THEIR WORK IN THE 1990S—WILL GATHER IN LOWELL, MASSACHUSETTS, FOR A CONFERENCE ON WOMEN'S WORKPLACE ISSUES IN STEM HOSTED BY THE CENTER FOR WOMEN AND WORK AT THE UNIVERSITY OF MASSACHUSETTS-LOWELL. SENIOR SCHOLARS WILL PASS KNOWLEDGE AND EXPERIENCE TO THEIR JUNIOR COLLEAGUES, AND TOGETHER THEY WILL CREATE NEW, INTERGENERATIONAL PROFESSIONAL NETWORKS AND RESEARCH COLLABORATIONS.

In the project's first stage, conference organizers and core participants (nominated by the organizers in consultation with an advisory panel) will identify critical themes in past research on the status of women in STEM. Then a larger group of scholars will discuss these themes at the working conference. Finally, participants will reunite for a workshop to digest conference results and plan conference-associated publications.

In addition to engaging the questions that emerge from this unique dialogue across generations, conference participants will define current standards by creating a women-in-STEM research review applicable across disciplines, incorporating citation analysis and the use of the Delphi method. Most important, the conference will ensure that today's women-in-STEM scholars preserve and build upon the insights of the generation that preceded them.

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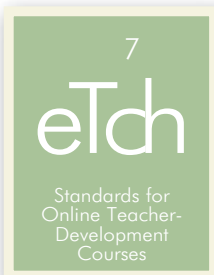
### RESOURCES FOR K-12 SERVICE AND EXPERIENTIAL LEARNING IN STEM

THE UNIVERSITY OF DAYTON IS DEVELOPING A WEB SITE OF RESOURCES FOR K-12 STEM TEACHERS, OFFERING INFORMATION ON HANDS-ON (EXPERIENTIAL) AND COMMUNITY-BASED (SERVICE) LEARNING. THE INVESTIGATORS WILL EVALUATE, DISTILL, AND CLASSIFY THE MOST EASY-TO-USE, INEXPENSIVE, AND EFFECTIVE METHODS. HAVING A CENTRAL, USER-FRIENDLY, AND EASILY ACCESSIBLE REPOSITORY FOR THESE RESOURCES WILL MAKE IT EASIER FOR TEACHERS TO IDENTIFY AND USE THEM IN THEIR CURRICULA.

Hands-on and community-based projects help students make connections between STEM subjects and real-world issues, which in turn increases student interest in STEM disciplines. This approach has been shown to enhance the interest of girls and other underrepresented populations in these fields. The use of service learning also teaches students social responsibility and ethics, showing them the human side of science, math, and engineering.



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### STANDARDS FOR ONLINE TEACHER-DEVELOPMENT COURSES

TERC, A NOT-FOR-PROFIT EDUCATION RESEARCH AND DEVELOPMENT ORGANIZATION BASED IN CAMBRIDGE, MASSACHUSETTS, IS CONDUCTING A STUDY TO DETERMINE WHICH CHARACTERISTICS OF ONLINE SCIENCE COURSES FOR TEACHERS CORRELATE WITH POSITIVE LEARNING OUTCOMES FOR FEMALE STUDENTS.

The study has two phases. In the first, researchers surveyed and analyzed 40 online science courses for teachers. For the second phase, researchers have selected a subset of 25 courses for in-depth examination and are now using their findings to develop recommendations for national standards, addressing interactivity, accessibility, and other topics.

The project staff and the advisory committee comprise highly experienced online developers, science educators, professional development experts, and educational researchers with experience in

diversity and gender issues. Half of the programs being examined in depth are nonprofit educational organizations; the others are university affiliated. Two are associated with master's programs for teachers.

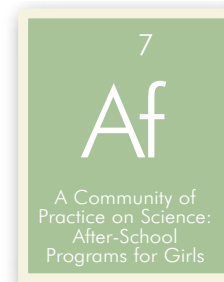
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### A COMMUNITY OF PRACTICE ON SCIENCE: AFTER-SCHOOL PROGRAMS FOR GIRLS

THE INFORMAL, NONCOMPETITIVE ATMOSPHERE OF AFTER-SCHOOL PROGRAMS MAKES THEM ESPECIALLY SUITED TO ENGAGING GIRLS' INTEREST IN STEM. THE EDUCATIONAL EQUITY CENTER AT THE ACADEMY FOR EDUCATIONAL DEVELOPMENT, IN COLLABORATION WITH THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, HAS CREATED A WEB SITE ([HTTP://WWW.AFTERSCHOOL.ORG/SGA/](http://www.afterschool.org/sga/)) WHERE TEACHERS, RESEARCHERS, AND POLICYMAKERS CAN SHARE KNOWLEDGE ABOUT THE INTERSECTION OF SCIENCE, GENDER, AND AFTER-SCHOOL (SGA) PROGRAMS.

The SGA Community of Practice allows after-school practitioners from across the country to share their research, program evaluations, curricula, "best practices," and publications. Members engage in dialogue through online Webcasts, threaded discussions, bulletin boards, and electronic discussion lists.

The forum is an extension of the 2002 Science, Gender, and Afterschool Conference. At the conference, participants developed *Science, Gender, and Afterschool: A Research-Action Agenda* (publication available on the SGA Web site). The *Agenda* divides SGA research into three key areas: recruiting girls to after-school programs and retaining them once they've joined; program content and pedagogy; and staffing and

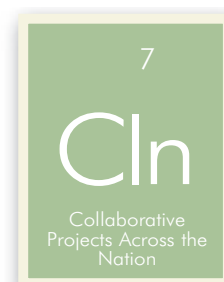


professional development. The Web site includes discussion of these issues along with links to research materials, curriculum information, and other organizations dedicated to advancing STEM education through after-school programs.

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### COLLABORATIVE PROJECTS ACROSS THE NATION

THE EXPERIENCE OF GIRLS' STEM EDUCATION PROGRAMS ACROSS THE COUNTRY HAS GENERATED A WEALTH OF EXPERTISE IN PROMOTING STEM DIVERSITY. THE PUGET SOUND CENTER FOR TEACHING, LEARNING, AND TECHNOLOGY (PSCTLT) HAS FORMED TWO REGIONAL NETWORKS THAT ENABLE ORGANIZATIONS TO SHARE KNOWLEDGE: THE NORTHWEST GIRLS COLLABORATIVE (NWGC), WHICH BROUGHT TOGETHER PROGRAMS FROM WASHINGTON AND OREGON, AND THE NATIONAL GIRLS COLLABORATIVE PROJECT (NGCP), WHICH EXTENDS THE NETWORKING EFFORT TO CALIFORNIA, INDIANA, AND MASSACHUSETTS. IN ADDITION, THE TEXAS CENTER FOR EDUCATIONAL TECHNOLOGY AT THE UNIVERSITY OF NORTH TEXAS HAS ESTABLISHED THE SOUTHCENTRAL GIRLS COLLABORATIVE PROJECT (SCGCP), LINKING ORGANIZATIONS FROM ARKANSAS, LOUISIANA, NEW MEXICO, OKLAHOMA, AND TEXAS.



In an allied project, the Midwestern Rural-Urban Collaborative (MRUC), a joint effort of Southwest Missouri State University and Drury University, will build networks in Missouri, Kansas, and northeastern Oklahoma. MRUC's special mission will be to reach girls in rural communities, which typically lack access to such resources.

All these programs were designed using the PSCTLT strategy for network-building, which has four main components:

- *Outreach:* A regional industry and community "Champions Board" involves the community and engenders support and visibility. This advisory board, with members drawn from STEM fields, identifies regional organizations promoting girls' STEM education.
- *Forums and conferences:* At events throughout the targeted region, facilitators of STEM diversity programs share ideas and information, using videoconferencing and online technology to maximize participation and supplement face-to-face networking.
- *Minigrants:* To encourage collaboration, small grants are awarded to groups developing projects that will enhance the delivery of STEM programs to girls.
- *Online program directory:* STEM programs provide information about needs and resources to help organizations network, identify collaboration opportunities, and share resources.

United by NWGC into a regional network, organizations in the Northwest have gained from one another's experience, collaborated to develop a standard rubric for program evaluation, and managed resources to the greatest advantage of girls' STEM education. By forging connections among researchers and advocates for STEM

diversity, they have formed the infrastructure needed to sustain and develop smaller, local programs. And their combined public profile has raised community awareness of the need for increased girls' participation in STEM.

NGCP, MRUC, and SCGCP will carry the network to further regions, so that knowledge gained by one program will be shared by all.



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### OPPORTUNITIES FOR WISCONSIN WOMEN

WHILE WISCONSIN HAS MANY SCIENCE AND ENGINEERING PROGRAMS AIMED AT GIRLS AND YOUNG WOMEN, TEACHERS AND CAREER COUNSELORS ARE OFTEN UNAWARE OF THESE RESOURCES. OPPORTUNITIES FOR WISCONSIN WOMEN IN SCIENCE, TECHNOLOGY, AND ENGINEERING (OWWSTE) WILL INTRODUCE WISCONSIN EDUCATORS TO REGIONAL AND NATIONAL PROGRAMS THAT PROMOTE GIRLS' STEM EDUCATION.

OWWSTE will work closely with the Wisconsin Department of Public Instruction, the Wisconsin Science Network, and the Wisconsin Academy for Staff Development Initiatives to identify school districts that have a low percentage of women taking upper-level STEM courses. These agencies will then help select appropriate counselor and teacher leaders for program training; these educators will be invited to a

summer workshop, where they will acquire media, instructional tools, and training they can then share with peers in their districts. Materials disseminated through the workshop will include detailed outlines of lesson plans for in-service workshops. Also included will be a video featuring a discussion of gender-conscious pedagogy, information about STEM programs available to girls and young women in Wisconsin, and interviews with successful women scientists from Wisconsin.

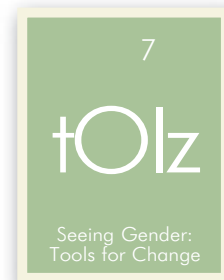
Educators will discuss ways to avoid gender bias in STEM education and strategies to draw promising female students into STEM careers. University of Wisconsin faculty trained by the NSF-sponsored Women and Science Project will participate in workshop sessions.

The program aims to increase girls' interest in STEM fields by 10 percent, as measured by a survey of female juniors and seniors at participating high schools.

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### SEEING GENDER: TOOLS FOR CHANGE

TO ENCOURAGE SENSITIVITY TO GENDER ISSUES IN SCIENCE INSTRUCTION, KANSAS STATE UNIVERSITY IS DEVELOPING AN INTERACTIVE CD-ROM SET FOR INCOMING AND ACTIVE HIGH SCHOOL TEACHERS, TEACHER EDUCATION FACULTY, AND COLLEGE FACULTY IN STEM FIELDS.



The CD-ROM set includes

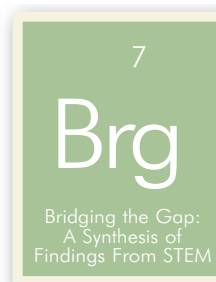
- Segments on research, bias, and classroom interventions
- Interviews with high school teachers and college faculty about how they became sensitive to gender issues and helped promote reform
- Interviews with researchers familiar with studies on gender bias in the fields of psychology and education
- Abstracts of relevant journal articles
- Essays that invite further reflection
- Interactive activities to support reflection by the users
- Resources for teachers to use in their classrooms

To ensure the product's effectiveness, researchers have conducted field tests with STEM teachers and faculty. They have also created guidelines for introducing the CD-ROM to incoming teachers in classroom settings and to active teachers and college faculty in professional development seminars.

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**BRIDGING THE GAP: A SYNTHESIS OF FINDINGS FROM STEM**

FROM 1993 THROUGH 2001, NSF AND THE AMERICAN ASSOCIATION OF UNIVERSITY WOMEN (AAUW) FUNDED HUNDREDS OF PROJECTS INTENDED TO INCREASE GIRLS' AND WOMEN'S PARTICIPATION IN AND EQUAL ACCESS TO LEARNING OPPORTUNITIES IN STEM. TO DOCUMENT THIS PERIOD, AAUW COMPILED A SUMMARY OF 175 PROJECTS SUPPORTED BY NSF AND 200 BY AAUW.



The research team summarized findings in the following areas:

- Gender differences in math and science skills and performance
- Differences among girls based on ethnicity and race
- Approaches that successfully engage female students
- Factors that influence girls and women to pursue study in STEM fields
- Turning points for female STEM majors in higher education
- Factors that determine persistence in STEM at the graduate school level

These findings are published in the report *Under the Microscope: A Decade of Gender Equity Projects in the Sciences*. They have been

disseminated widely to education policymakers, teachers, and administrators through AAUW's publishing and marketing programs.

GRADE LEVEL: ELEMENTARY SCHOOL, MIDDLE SCHOOL, HIGH SCHOOL, UNDERGRADUATE, POSTGRADUATE, PROFESSIONAL DEVELOPMENT, INFORMAL

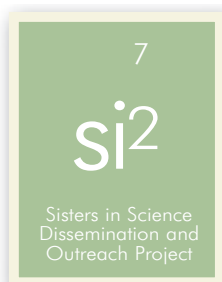
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**SISTERS IN SCIENCE DISSEMINATION AND OUTREACH PROJECT**

THE SISTERS IN SCIENCE DISSEMINATION AND OUTREACH PROJECT (SISDO) DISSEMINATES TO A NATIONAL AUDIENCE THE CURRICULA, RESEARCH FINDINGS, AND PROFESSIONAL DEVELOPMENT METHODS GENERATED BY THE NSF-SUPPORTED SISTERS IN SCIENCE EQUITY REFORM PROJECT (SISERP).

SISERP, a CUNY Queens College initiative, developed and implemented five programs committed to STEM gender diversity: Sisters in Science, All Sisters in Science, Sisters in Science in the Community, Sisters in Science in Career Choices That Matter, and Sisters in Sports Science.

These programs have proven their efficacy with measurable results. Girls who participated in Sisters in Science, for example, showed statistically significant increases on math and science assessment tests and expressed more positive attitudes toward STEM careers. After two years of participation in the study, the girls also displayed more self-confidence and assertiveness in STEM classrooms. Teachers benefited as well: they reported heightened awareness of gender-diversity issues, especially regarding the different learning styles of girls and boys.

A wide variety of SISDO materials are available at its Web site (<http://www.sistersinscience.org>). They include curriculum modules, a

quarterly newsletter that reports new research findings, a publication series on gender diversity and science education, and a book that synthesizes teachers' experience and academic research.

In addition, SISDO facilitates educational programs, including an annual conference, a three-day Summer Institute for K-12 educators, and a range of workshops, symposia, and in-service courses.

GRADE LEVEL: ELEMENTARY SCHOOL, MIDDLE SCHOOL, HIGH SCHOOL, PROFESSIONAL DEVELOPMENT

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### DISSEMINATING NATIONAL SCIENCE PARTNERSHIP KITS

THE FRANKLIN INSTITUTE AND GIRL SCOUTS OF THE USA ARE DISSEMINATING MATERIALS AND RESOURCES DEVELOPED BY THE NSF-SUPPORTED NATIONAL SCIENCE PARTNERSHIP FOR GIRL SCOUTS AND SCIENCE MUSEUMS (NSP). AT THE HEART OF THE NSP PROGRAM ARE SCIENCE ACTIVITY KITS THAT LEADERS CAN USE TO ENGAGE THEIR GIRLS IN SCIENTIFIC THINKING AND HANDS-ON DISCOVERY. EACH KIT INCLUDES A RANGE OF GROUP AND INDIVIDUAL ACTIVITIES DESIGNED FOR ABOUT 15 GIRLS, AND CONTAINS A LEADER GUIDE WITH INSTRUCTIONS AND EXPLANATION OF THE RELEVANT SCIENCE IN CLEAR, STRAIGHTFORWARD LANGUAGE. THE ACTIVITIES ARE ORGANIZED BY WEEK, CAN BE COMPLETED IN FIVE TO SEVEN SESSIONS, AND INCLUDE HANDOUTS IN SPANISH AND ENGLISH.

In addition, NSP has published *Partners in Science: An NSP Guidebook*, a manual for the development of new site partnerships between Girl Scouts and other science-strong institutions, as well as strategies for implementing NSP in a variety of venues, including camps, public housing, rural communities, detention centers, homeless shelters, schools, and after-school programs.

NSP's new dissemination model eliminates its previous requirement that museums or Girl Scout councils become network members or that troop leaders undergo special training by their area museum or Girl Scout council partners in order to gain access to the kits. Instead, kits are now available to any Girl Scout leader through the NSP Web site (<http://www.fi.edu/tfi/programs/nsp.html>), along with instructional aids, video, and Web-based support.

GRADE LEVEL: ELEMENTARY SCHOOL, MIDDLE SCHOOL, PROFESSIONAL DEVELOPMENT

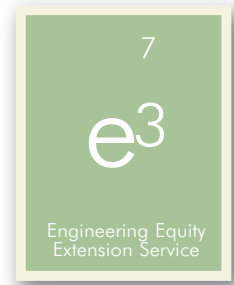
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### ENGINEERING EQUITY EXTENSION SERVICE

OVER A FIVE-YEAR PERIOD, THE CENTER FOR THE ADVANCEMENT OF SCHOLARSHIP ON ENGINEERING EDUCATION OF THE NATIONAL ACADEMY OF ENGINEERING WILL IMPLEMENT AN ENGINEERING EQUITY EXTENSION SERVICE (EEES). EEES WILL BE A COMPREHENSIVE, RESEARCH-BASED CONSULTATIVE AND PEER-MENTORING INFRASTRUCTURE THAT SUPPORTS GREATER GENDER DIVERSITY IN ENGINEERING EDUCATION BY REACHING OUT TO TEACHERS AND FACULTY WHO MAY NOT ALREADY HAVE AN INTEREST IN GENDER-DIVERSITY ISSUES.

EEES will promote understanding of issues that affect recruitment and retention in engineering in

- Preparing girls in grade six through sophomore year of college for engineering studies
- Social environment inside and outside the classroom
- Curricular content
- Curricular scope and course sequence
- Curriculum delivery and instructional style

EEES will engage faculty and teachers by facilitating access to STEM gender-studies experts and the resources of National Academy of Engineering. Campbell-Kibler Associates is providing expertise in applying research on gender-diversity principles to teacher and faculty professional-development activities, such as instructional practices, curricular and laboratory content, and outreach work.

Additional partners in developing EEES include the American Society of Mechanical Engineers, the Institute of Electrical and Electronic Engineers, Project Lead the Way, and the National Association of Partnerships for Equity. This will allow the service to provide a network of "extension agents" on gender diversity among national engineering organizations. All such partner organizations will be selected on the basis of their broad reach, existing emphasis on professional development for their members and affiliates, and demonstrated capacity to influence activities in classrooms where engineering is taught.

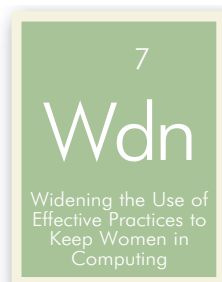
Various opportunities for professional development will be available for teachers and faculty on the Web, including

- Expert-mediated technical assistance forums
- Peer-led discussion sessions
- Access to archived materials

EEES will also provide a handbook for proposing and managing engineering education projects and for conducting workshops on engineering education at regional and national meetings. This handbook will unite the areas of gender diversity, engineering education, and project management into a seamless whole.

In evaluating the service, Goodman Research Group will look for changes in instructor attitudes and measure the impact and extent of instructor participation.

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### WIDENING THE USE OF EFFECTIVE PRACTICES TO KEEP WOMEN IN COMPUTING

THE NATIONAL CENTER FOR WOMEN AND INFORMATION TECHNOLOGY IS AIMING TO EFFECT A SIGNIFICANT AND SUSTAINED INCREASE IN WOMEN'S ENROLLMENT IN AND GRADUATION FROM INFORMATION TECHNOLOGY BACHELOR'S PROGRAMS NATIONWIDE. THROUGH ITS UNIFIED PROGRAM OF CHANGE, THE CENTER IS CREATING AN EXTENSION SERVICE WITH THE INITIAL OBJECTIVE OF WORKING WITH AN EXISTING COALITION OF ACADEMIC DEPARTMENTS. KNOWN AS THE NCWIT ACADEMIC ALLIANCE, THE PARTNERS IN THIS COALITION WILL STRIVE TO IMPLEMENT PRACTICES THAT INCREASE WOMEN'S PARTICIPATION IN THEIR PROGRAMS.

A main step in creating the extension service will be the swift development of "exemplar institutions," or models of success. Information on the processes these exemplar institutions employ and their outcomes will be widely disseminated to other institutions, which will in turn receive support to help them emulate the successful programs.

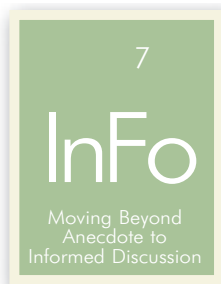
The Unified Program of Change includes annual workshops to disseminate effective practices and support outreach and recruitment. Participating institutions will also receive support through customized consultations with industry members and experts in implementation. For faculty, small grants will be made available for research-based innovation and development.

All Academic Alliance members are committed to implementing only those interventions shown through research to increase recruitment and

retention of women, so rigorous evaluation will be built into every stage of the project. Each member institution will be supported in collecting and analyzing its own data, which will then be sent to the National Center for Women in Information Technology for further analysis. A nationally recognized leader in assessing educational reform will undertake an external evaluation of the extension service.

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KEYWORDS: EXTENSION SERVICE PROJECT, RECRUITMENT, RETENTION, CURRICULUM MATERIALS, INTERVENTION, SYSTEMIC REFORM, BEST PRACTICES, DEPARTMENTAL CLIMATE, ENVIRONMENTAL FACTORS, LONGITUDINAL STUDY/SERVICE, ALL-YEAR, TEACHER TRAINING, STAFF/FACULTY TRAINING, WORKSHOPS, ENGAGED LEARNING, SUPPORT SYSTEM, REAL-LIFE APPLICATIONS, ACTION PLAN, DISSEMINATION PLAN, SURVEY, QUESTIONNAIRE, SCHOOL-BASED, COMPUTER TECHNOLOGY, INFORMATION TECHNOLOGY, TECHNOLOGY, INDUSTRY PARTNERS, TOOLS, CONNECTIONS, DATA COLLECTION, ASSESSMENT TOOLS, MINI-GRANTS	





### MOVING BEYOND ANECDOTE TO INFORMED DISCUSSION

THE WELLESLEY CENTERS FOR WOMEN AT WELLESLEY COLLEGE AND CAMPBELL-KIBLER ASSOCIATES SEEK TO HELP RESEARCHERS IN GENDER AND THE SCIENCES BETTER COMMUNICATE THEIR WORK TO THE MEDIA, POLICYMAKERS, AND ADVOCATES WHILE HELPING THE MEDIA BETTER UNDERSTAND ISSUES ASSOCIATED WITH STEM.

This project is developing a variety of materials to do this, including

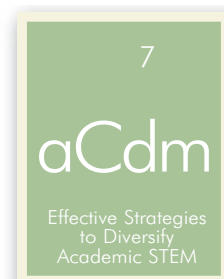
- A series of research briefs on “hot topics” in gender and STEM education and careers
- Short downloadable audio visual messages from researchers on compelling issues related to gender and STEM research
- Interactive modules on how gender ideologies influence what people do and don’t hear from research and how researchers can use a knowledge of gender ideologies to better ensure that their results can be heard and understood
- Tools, including PowerPoint presentations and talking points, that can help communicate research results in ways that are accurate and that the public can understand and use

- Tips for finding and assessing research on gender and race/ethnicity and STEM

The materials are being distributed through the project Web site, <http://www.FairerScience.org>. In addition, a FairerScience blog is being developed, and work is being done on ways to use “wikis” or wiki-like tools to expand the electronic community of STEM gender researchers and advocates.

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KEYWORDS: DISSEMINATION PROJECT, GENDER-DIVERSITY AWARENESS, MEDIA RESOURCE CENTER, GENDER RESEARCH BRIEFS, SCIENCE POLICY, ELECTRONIC COMMUNITY	





### EFFECTIVE STRATEGIES TO DIVERSIFY ACADEMIC STEM

UNIVERSITY DEANS AND DEPARTMENT HEADS PLAY A CRITICAL ROLE IN BRINGING ABOUT REFORM AT THEIR INSTITUTIONS. SUCH OFFICIALS MUST TRANSLATE THE BROAD GOALS OUTLINED BY HIGH-LEVEL COMMITTEES, SUCH AS BOARDS OF REGENTS, INTO EFFECTIVE POLICY AND RESULTS.

For this reason, New Mexico State University assembled leading academic administrators from six Carnegie Doctoral/Research University institutions to develop a publication tentatively titled “Effective Strategies to Diversify Academic STEM,” along with a PowerPoint presentation. Each of the participating institutions is either a minority-serving institution or an ADVANCE-funded institution.

The administrators synthesized—in an accessible format—existing literature on gender, race, and ethnicity as they relate to the recruitment of students and faculty in STEM. In doing so, they have assembled a set of effective, concrete strategies to increase participation of women and minorities in science and technology fields.

Dissemination of the products will take place in three ways:

- Presentations by participants at conferences in their respective fields
- Distribution of the publication to presidents, provosts, and deans at all 151 Carnegie Doctoral/Research University–Extensive institutions
- Posting of a PDF version of the documents on the New Mexico State University Web site

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KEYWORDS: DISSEMINATION, RECRUITMENT, ENGAGEMENT, GENDER EQUITY AWARENESS, GENDER DIFFERENCES, SYSTEMIC REFORM, ADVANCEMENT, ENVIRONMENTAL FACTORS, STAFF TRAINING, SUPPORT SYSTEM, DISSEMINATION PLAN, BOOKLET, POWERPOINT PRESENTATION, MINORITIES, INDUSTRY SPONSORS, TOOLS, DATA COLLECTION	

