National Institute for Women in Trades, Technology & Science



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Educators

Women in Technology



I'm an educator who wants to learn how to recruit and retain women to technology:

WomenTech Digital Library: Research-based articles for educators to recruit and retain more women into the technology classroom. New!

CalWomenTech Community College Sites: This section is for CalWomenTech Leadership Team Members. (How do I know if my college is a



CalWomenTech Project Description: Learn more about this project to recruit and retain more women at California community colleges' technology programs.

WomenTech Podcast: Hear an interview from the National Center for Telecommunications Technologies in which IWITTS Executive Director Donna Milgram talks about strategies to recruit and retain more women to technology.



Clip Art/Photo Gallery: Clip art and photos of women in technology, trades and law enforcement.

Career Video Clips: Inspire your students with these career videos featuring women in male-dominated jobs.

WomenTech Publications/Posters: A central clearinghouse for products related to women in technology, trades, and law enforcement occupations.

CalWomenTech Library: Where CalWomenTech community college instructors, staff and students can request educational materials for their schools to assist students in areas such as spatial reasoning. (Coming in

WomenTechWorld.org: Spread the word of our WomenTech Technician's Club to your female students with our promotional materials.



I'm a woman in technology/trades who wants to connect with other women in technology and/or employers:

WomenTech Talk: This listserv has more than 500 women technicians and students participating in an email discussion group.

E-Jobs: Browse job openings for female jobs seekers in male-dominated occupations.



E-Mentoring: Women new to traditionally male jobs can find guidance and support from women who have been there.

Role Model Biographies: Receive inspiration from stories and photos of successful women, organized by occupational area.

WomenTechWorld.org: The national online home for women technicians to connect with each other.

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WomenTech Educators >

WomenTech Digital Library

Tools for educators to recruit and retain more women into the technology classroom. View each section and choose which articles to download.

Recruitment Spatial Reasoning
Retention Learning Style
Bridge Courses Curriculum

Women and Math
Student Support
Literature Review



Recruitment: Use these proven strategies to recruit women to technology.

Maui Community College Offers a Model Technology Internship Program Download PDF Now

Eleven students, including 4 women, participated in an Adaptive Optics Science internship. A year later, 80% of the students were continuing their science education, and at least eight had received job offers.

View all 6 recruitment articles



Retention: Learn the reasons why women drop out of technology programs and practical solutions for retaining them in the science classroom.

Large 6-year University Study Identifies Self-Confidence as the Key Factor in Women's Persistence in Engineering Education Download PDF Now

A study of over 500 women in engineering reveals a lack of self-confidence leads to program drop outs and support networks improve retention. The GPAs of women who dropped out were as high as those retained.

View all 7 retention articles



Bridge Courses: Technology bridge courses improve retention of women and minorities by boosting tech building block skills.

Program for Minorities in Engineering Achieves Record Retention Download PDF Now At Pennsylvania State University, an intensive preparation program for minorities in engineering has retained 73% of its participants until graduation, twice the rate of minority students not in the program. Learn about the strategies that led to its success.

View all 8 bridge course articles



Spatial Reasoning: Enhancing spatial reasoning increases retention of women (and men) in the technology classroom.

Spatial Skills Course Can Be Critical in Retaining Women in Engineering Download PPT Now More than three-quarters of women who took an introductory spatial skills course were retained, compared to 48 percent of the women who didn't take the course. This presentation shows what worked at one College of Engineering.

View all 7 spatial reasoning articles



<u>Curriculum:</u> A technology curriculum that appeals to female interests improves retention of women and girls.

Female Students Prefer Engineering in Context Download PDF Now

This article finds that women prefer engineering in a total context, including social and environmental issues as well as purely technical matters. Find out more about designing a curriculum that fits with women's learning styles.

View all 7 curriculum articles



Women and Math: Read about strategies to assist women in succeeding with math, an important skill area for technology.

Math Scores Jump After Four-Week Summer Course for Women and Minorities Download PDF Now

A summer program at the University of New Mexico used techniques such as small group instruction to improve mathematics scores. By the end of the class, nearly two-thirds of the participants had raised their algebra scores by 15 percent.

View all 7 women and math articles

Learning Style

View all 9 learning style articles

Student Support

View all 4 student support articles

Literature Review

View both literature review articles

Learn more about the Digital Library.

Bring IWITTS to Your State! WomenTechTrain-the-Trainer Workshop

National Institute for Women in Trades, Technology and Science **www.iwitts.com**

Strategies that work! Our **two-day** WomenTech train-the-trainer workshop helps states and local communities prepare women and girls for technology careers. Conducted by our experienced statewide trainer, Dr. Karen Wosczyna-Birch, who specializes in training ATE Centers, this fast-paced interactive workshop helps Technology instructors, counselors, career services staff and administrators to:

- Develop a plan for recruiting women and girls to your traditionally male-dominated technology program that you can put to use right away.
- Work through case studies with your colleagues on problems that arise in classes where the number of female students is small.
- In-Depth Module on Retention of Women in Technology Programs.



With IWITTS's interactive video, case studies, powerpoint lecture presentations, and development of your own plan, you get an exciting and extremely informative session, plus everything you need to know to educate others. And, since the bulk of the workshop is group work, it's also a great opportunity to interact with and learn from others in your field.

Learn "How To" Train Instructors & Counselors on:

- Learn a menu of new recruitment strategies that are little to no cost based on proven best practice methods from urban, rural and suburban schools.
- In-depth module on gender differences in learning styles. Learn "how to:" excite and engage female students in technology by teaching to their learning style; help (some) female students overcome their fear of breaking the computer
- Incorporate building block technology skills that will enable ALL of your students to succeed in the technology classroom...And much more!

Packed full of recruitment and retention strategies for both community colleges and high schools.

About Karen Wosczyna-Birch, the Trainer

As a woman with a PhD in the sciences, Karen Woszyna-Birch brings a unique perspective to participants in her training sessions. Karen currently serves as the State Director of Connecticut's College of Technology (COT), as a Professor of Applied Science and Technology and as the Executive Director of the Regional Center for Next Generation Manufacturing. She is also a co-PI on a professional development ATE grant awarded to the Connecticut Business and Industry Association (CBIA). Karen has received two NSF ATE grants for the College of Technology for program development and currently is the PI of a CSEMS scholarship grant awarded to the College of Technology.

Hear What Your Colleagues are Saying About the WomenTech Training

"Materials are excellent. Lots of great ideas to go back to school with. I came to the IWITTS conference to learn to recruit and retain women in technology fields at my community college. Everything we covered from videos, presentations to case studies answered my questions and helped validate programs/ideas already implemented." – Michael Bishop, NSF Coordinator, Onondaga Community College, Syracuse, NY

"Donna, with great eloquence and intelligence, taught us workable strategies to overcome the obstacles that stand in the way of women's progress in high skill, high wage careers."

-Claire Rubach, Academic Counselor, Cabrillo College, Aptos, CA

"This workshop really answered my questions on how to interest women in IT careers, and also how to retain them. I feel I have a bag of tricks to take back home."-*Toni Black*, Asst. Professor, University of New Mexico

"This is a must workshop for anyone who cares about their students, all their students. You leave with the knowledge and tools needed to effect needed change in the classroom and in the whole school environment." - **Ben Yates,** Program Coordinator, Technology Education, Central Missouri State University, MO

"I have been waiting for almost a year to attend this workshop and it was well worth the wait. The training has exceeded my expectations."-*Christa Jones, Training Coordinator, Mountain View College, Dallas, Texas*



SAMPLE AGENDA

Day One

- Introduction
- Messages Icebreaker
- Startling Statistics Interventions Can Work!
- Recruitment Video and Discussion
- Recruitment Strategies Lecture
- Lunch
- Recruitment Strategies Lecture
- Recruitment Case Studies
- Developing a Recruitment Plan (Small Groups)
- Recruitment Presentations
- Developing a Recruitment Plan for Your School
- Evaluation and Closing

Day Two

- Classroom Environment Video and Discussion
- Girls and Games
- Retention Strategies
- Valley of the Boys Video & and Discussion
- Retention Case Studies
- Developing a Retention Plan for Your School
- The Workplace Video and Discussion
- Philosophy of WomenTech Training
 Training tips, Overcoming resistance,
 and Getting on the Agenda
- Closing/Evaluation

To schedule a local training, please contact IWITTS Executive Director, Donna Milgram, at donna_milgram@iwitts.com or (510) 749-0200 ext. 101

To read Ms. Birch's outstanding training evaluations visit: http://www.iwitts.com/html/TrainingEvals-KarenWB.html