Attracting and Retaining Women in Computing: Real Programs for Real Progress

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We are a coalition of more than 160 prominent corporations, academic institutions, government agencies, and non-profits working to increase women's participation in information technology (IT).

We believe that inspiring more women to choose careers in IT isn't about parity; it's a compelling issue of innovation, competitiveness, and workforce sustainability. In a global economy, gender diversity in IT means a larger and more competitive workforce; in a world dependent on innovation, it means the ability to design technology that is as broad and creative as the people it serves.
NCWIT MISSION

Significantly Increase Women’s Meaningful Participation in IT

NCWIT Has a Three-Pronged Strategy for Change

**Build Capacity for NCWIT Member Organizations**
Build and support alliances for institutional reform; identify and distribute best practices; promote exemplar organizations.

**Create and Distribute Multimedia Resources**
Research, create, and distribute top-notch resources on women and IT that raise awareness and accelerate reform.

**Propagate Awareness and Outreach**
Serve as national advocate for women and IT through media, campaigns, awards, events, and image reform.

Social Science Research
NCWIT’s Resource Distribution Plan

Social Science Research → NCWIT Resources → Distribution Channels → Tracking → Distribution Partners → Evaluation

NCWIT Resources:
- Awareness
- Action

Distribution Channels:
- Traditional Media
- Events
- NCWIT Site (www.ncwit.org)
- Social Networks
- Syndication

Distribution Partners:
- Alliance Members
- Consulting Firms
- Service Organizations
- Government Agencies
- Affinity Groups
- Virtual Communities

Evaluation
Over 75 institutions. Membership is inclusive
- R1 Universities, Community Colleges, Public, Private, HBCUs, MSIs

AA is a distributed laboratory for best-practices implementation & evaluation
- access to leading-edge resources for recruiting and retention
- structured workshops to identify and innovate best-practices
- ability to share and disseminate information on programs and achievements
- collaborative environment

Seed fund provides micro-finance for reform
- to develop and implement reform programs
- start-up funds, up to $15,000 per project

NCWIT Extension Services for Undergraduate Programs.
- customized capacity-building services to Academic Alliance members
Academic Alliance Objectives

- Contextualize, apply and disseminate research-based promising practices for recruiting women into and retaining them in computing in higher education.

- Re-enforce and leverage the approach that NCWIT is taking with respect to institutional reform – accountability, measurement and practices based on evidence, and sustainability.

- Provide access to leading-edge resources and a collaborative environment to identify and create best-practices.
NCWIT Academic Alliance Members Have Significant Reach

NCWIT Academic Alliance member institutions represent 4 percent of schools reporting data on undergraduate degrees in 2007, yet these institutions graduated nearly 12 percent of all Computing and Information Sciences (CIS) baccalaureate students.

- Twenty-six percent of schools reporting PhD data are members of the NCWIT Academic Alliance, yet these schools graduate 37 percent of all CIS PhD students.
The NCWIT Academic Alliance Seed Fund encourages the widespread application of new promising practices by awarding Academic Alliance members with funds to develop and implement initiatives for recruitment and retention in computing and information technology.

- Peer-reviewed by Academic Alliance members, awarded twice annually
- Recipients commit to sustaining successful projects
- Seed Fund proposals must relate to NCWIT promising practices
- Results are shared broadly

The Academic Alliance Seed Fund is sponsored by Microsoft Research.
Inspiring Ambition

Tracy Camp
Colorado School of Mines

NCWIT Seed Fund Award Winner

Sponsored by Microsoft Research
“A career in computing interests me.”

Pre-test: 64% disagree
Post-test: 27% disagree
“I can find a good job that combines my personal interests with computing.”

Pre-test: 0% strongly agree; 55% agree
Post-test: 45% strongly agree; 36% agree
Women in Computer Science
High School Day for Girls

Rita Powell
University of Pennsylvania
Branding the Event
Logo, web site, poster, T shirts
Women in Computer Science
High School Day for Girls

Initial Event Impact on the High School Girls
Women in Computer Science
High School Day for Girls

- Recruited HS girls through Guidance Counselors
- Easy registration through departmental web page
- Piloted in 2007 with 20 girls
  - Branded and expanded in 2008 with 50 girls
  - Event held in 2009 with 85 girls
- Event agenda: special CS class, VIP lab tours, admissions presentation, panel discussion with Penn CS students & faculty, lots of food, and more...
- Feedback from students, guidance counselors and teachers has been overwhelmingly positive!
- Next Step: Leverage relationships developed with Guidance Counselors through this event to develop an event for them too!
Harnessing Hacking: Encouraging Inclusion through Creativity in IT Education for Latina Youth

Gillian R. Hayes, Paul Dourish, Rebecca Black, Debra Richardson, Gabriela Marcu, Sam Kaufman, Evelyn Fusimalaho

Girls Incorporated of Orange County

Inspiring all girls to be strong, smart, and bold™

University of California - Irvine
Shaping the Future

NCWIT Seed Fund Award Winner
Harnessing “Hacking”

4 week summer camp curriculum that emphasizes:

- Creative technological design
- Problem-based, construction-oriented approach
In small groups, rotate through different roles

Reinforced with a career panel, demos, and poster creation
Multi-Level Mentoring

Undergraduate, High School, & Middle School students working together
Spanish-speaking households can feel alienated from their English-speaking children.

EurekaKathon brings everyone together in a dual language celebration.

Demos, posters, performances.
The Academic Alliance Seed Fund is sponsored by Microsoft Research.

- Experimenting with a variety of K-12 outreach models
- Recruiting via near-peer mentoring
- Targeting cultural barriers
- Changing the Image of IT for vital audiences
- Creating a more supportive environment to retain women we have attracted
- Engaging girls & women through socially relevant projects

The Academic Alliance Seed Fund is sponsored by Microsoft Research.
Academic Alliance Seed Fund Projects

Recruiting via near-peer mentoring

Oregon State University  Students Recruiting Students to CS: HS recruitment program

University of Nebraska Lincoln  Girl Empowerment Mentoring Statewide high school writing program with big-sister mentors

Experimenting with a variety of K-12 outreach models

University of Texas at Austin  Breakfast Bytes Saturday morning CS club for middle and high school students

Indiana University  Just Be: Making IT Real Team-based activities for high schools using computing concepts in a roadshow format

University of Pennsylvania  Outreach and Mentoring to High-school Girls Game design and summer camps engage high schools to encourage interest in computing
Academic Alliance Seed Fund Projects

Targeting cultural barriers

Colorado Coalition for Gender and Information Technology
Inspiring Ambition
DVD to recruit from community colleges into four-year CS and IT programs

University of California Irvine
Encouraging Inclusion through Creativity in IT Education for Latina Youth
Innovative workshops for girls serving a primarily low SES Latina population

Creating a supportive environment to retain women we have attracted

Towson University
Multi-Level Mentoring
Student mentor program using peer-led team learning

Columbia University
Emerging Scholars Program
Encourages active discussion of CS topics in a positive, relaxed and open environment
Academic Alliance Seed Fund Projects
Changing the Image of IT for vital audiences

Purdue University  
*Are You Smarter than your 5th Grader?*  
Engages an influential layer – parents – with Pair Programming

DePauw University  
*Leveling the CS1 Playing Field*  
Engages first-year women students through role modeling

Engaging girls & women through socially relevant projects

Rochester Institute of Technology  
*Golisano Scholars, Kids on Campus*  
Residential summer program providing a collaborative environment

Claremont University  
*An Interdisciplinary Approach to Increase Interest in IT*  
Engages female and underrepresented groups, through teamwork and problem-based learning in environmental projects.
15 winning projects are now underway

Status and results for projects can be downloaded:
www.ncwit.org/pdf/NCWITSeedFundReports.pdf

Round 5 will award 3 winners from 18 proposals.

Round 6 proposals are due Nov 1, 2009
for more information: www.ncwit.org/work.awards.seed.html