

The NCWIT Tech Inclusion Journey

Building Inclusive Environments in Undergraduate Programs



32nd Annual
Virtual
Seminar
Series

LIFETIME PARTNER



STRATEGIC PARTNERS



INVESTMENT PARTNERS

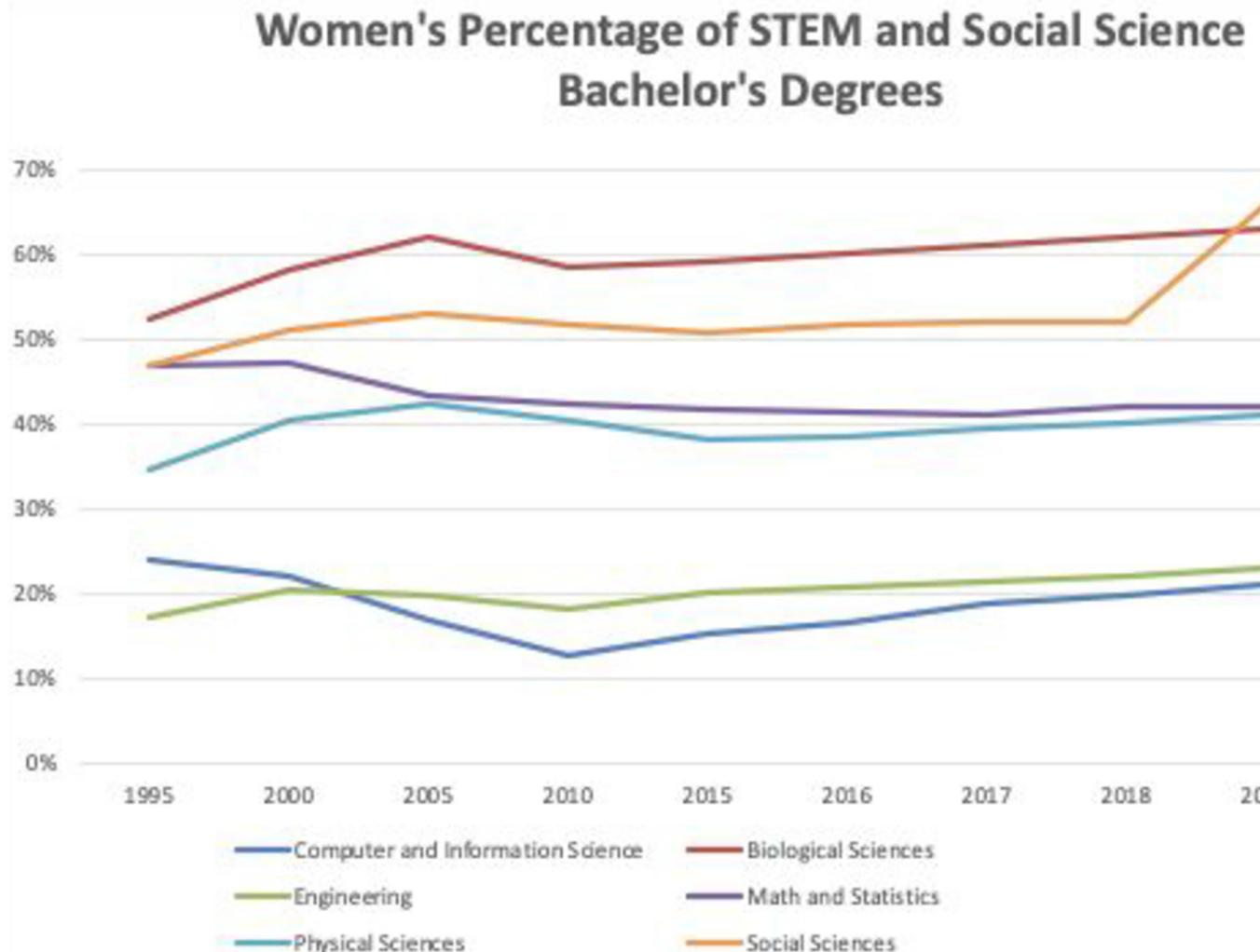
The Fish and the Lake

REI
racialequityinstitute, llc



“Fix the individual” vs “Fix the system”

Why NCWIT Exists



Source: IPEDS



Women hold **57%** of **U.S. Professional Occupations***



Women hold **26%** of **U.S. Professional Computing Jobs***



Women represent **18%** of **CIO positions at Top 1000 Companies****

learn more:

www.ncwit.org/bythenumbers
www.ncwit.org/scorecard

NCWIT is a national non-profit based out of the
University of Colorado at Boulder
that works to

Significantly increase women's
influential & meaningful participation in computing

with **research-based techniques** for taking action in
recruiting, retaining, and advancing women

across the computing ecosystem

4-H • American School Counselor Association (ASCA) • Anita Borg Institute for Women and Technology • Apple Inc. • Applied Trust Engineering • Association for Computing Machinery • Astia • AT&T • Auburn University • Avaya • Avon Products, Inc. • Baldwin Wallace College • Bank of America • Barclays Capital • BizWorld Foundation • Boehringer Ingelheim • Bowling Green State University • Brown University • Bryn Mawr College • California Polytechnic and State University - Pomona • California Polytechnic and State University - San Luis Obispo • California State University - Chico • California State University - Monterey Bay • Carleton College • Carlisle & Gallagher Consulting • Carnegie Mellon University • Catalyst • Center for School Reform, TERC • Center for Urban Education - USC • Central Piedmont Community College • Central Washington University • Chicagoland Entrepreneurial Center • Cisco • Claremont Graduate University • Coastline Community College • College Board • College of Charleston • College of New Jersey • College of St. Scholastica • Colorado Department of Labor and Employment • Colorado School of Mines • Colorado State University • Columbia College • Columbia University • Columbus State University • CommonAngels • Computer • Science Equity Alliance (CSEA) • Computer Science Teachers Association (CSTA) • Computing Research Association • Computing Research Association's • Committee on the Status of Women • Cornell University • Credit Suisse • DePaul University • DePauw University • Dillard University • Dot Diva • Duke University • EMC • ETR Associates • Ewing Marion Kauffman Foundation • Florida A&M State University • Florida State University • Fort Valley State University • Forum for Women Entrepreneurs & Executives • Foundry Group • GalaxE.Solutions • Games for Learning Institute • Georgia Tech • Girl Scouts of the USA • Girls in Tech • Girls Inc. • Golden Seeds • Google • Harrison College • Harvard University • Harvey Mudd College • Hiram College • HP • Hunter College of the City University of New York • IBM • iCarnegie Inc. • IGNITE: Inspiring Girls Now in Technology Evolution • Illinois Institute of Technology • Illinois State University • Indiana University - Bloomington • Indiana University - Northwest • Indiana University - Southeast • Intel • International Society for Technology in Education (ISTE) • Invent Your Future • Iowa State University • ITA Software • Jackson State University • James Madison University • Kean University • Kent State University • KISS Institute for Practical Robotics • Lewis & Clark College • Louis' Angels • Loyola University • Marriott • Massachusetts Institute of Technology (MIT) • Medco • MentorNet • Merck • Michelle R. Clayman Institute for Gender Research, Stanford University • Michigan State University • Microsoft • Microsoft Research • Motorola • Mount Holyoke College • MUSIxE • MTV Networks • Multinational Development for Women in Technology • Murray State University • Muskingum University • National Academy Foundation (NAF) • National Collegiate Inventors and Innovators Alliance (NCIIA) • National Girls Collaborative Project (NGCP) • National Science Foundation • National University - School of Engineering • National Venture Capital Association (NVCA) • NeForr • Network for Teaching Entrepreneurship • New Mexico State University • Norfolk State University • North Carolina A&T State University • North Carolina State University • Northwest Missouri State University • Northwestern University • Ohio State University • Oracle Corporation • Oregon State University • Pacific University • Pate Consulting & Associates, LLC • Pearson Prentice Hall • Pennsylvania State University • Pfizer • Portland State University • Prairie View A&M University • Princeton University • Purdue University • Qualcomm • Quantum Leaps, Inc. • Reinhardt & Associates • Rensselaer Polytechnic Institute • Return Path, Inc. • Rice University • Rochester Institute of Technology • Roger Williams University • Rose-Hulman Institute of Technology • Rowan University • Rutgers State University of New Jersey • Saint Louis University • Saint Mary-of-the-Woods College • Saint Xavier University • Salish Kootenai College • Sandia National Laboratories • Santa Clara University • SDForum • Seattle Central Community College • Sequitor Partners • Siena College • Sinte Gleska University • SkinnySongs • Smith College • Society of Women Engineers • Southern Polytechnic State University • Southwestern University • Spelman College • Spelman University • Springboard Enterprises • Stanford University • State Street • SVB Financial Group • TECH CORPS Ohio • Techbridge • Tennessee Technology Center-Shelbyville • Texas A&M University • The BizWorld Foundation • The Colorado Coalition for Gender & IT • The Girls Middle School • The Next Women • The University of California at Irvine School of Information and Computer Science • Thomson Reuters • Tufts University • UMBC ACTIVATE • University at Albany - SUNY • University of California - Berkeley • University of California - Los Angeles • University of California - Santa Barbara • University of Central Florida • University of Colorado - Boulder • University of Colorado - Denver • University of Denver • University of Illinois - Champaign Urbana • University of Maryland • University of Massachusetts - Amherst • University of Massachusetts - Lowell • University of Michigan • University of Missouri • University of Nebraska - Lincoln • University of New Mexico • University of North Carolina - Charlotte • University of Oregon • University of Puerto Rico • University of South Carolina - Upstate • University of Tampa • University of Texas - Austin • University of Texas - Pan American • University of the District of Columbia • University of Virginia • University of Washington • University of Wisconsin - Whitewater • Utah State University • Virginia Polytechnic Institute and State University • w3w3 Media Network • Wal-Mart Stores, Inc. • Waukesha County Technical College • Webgrrls International • weDID • WellPoint • Wentworth Institute of Technology • WISE Center • Women 2.0 • Women Entrepreneurs in Science and Technology (WEST) • Women Who Tech • Xavier University of Louisiana • xynoMedia Technology • Zynga



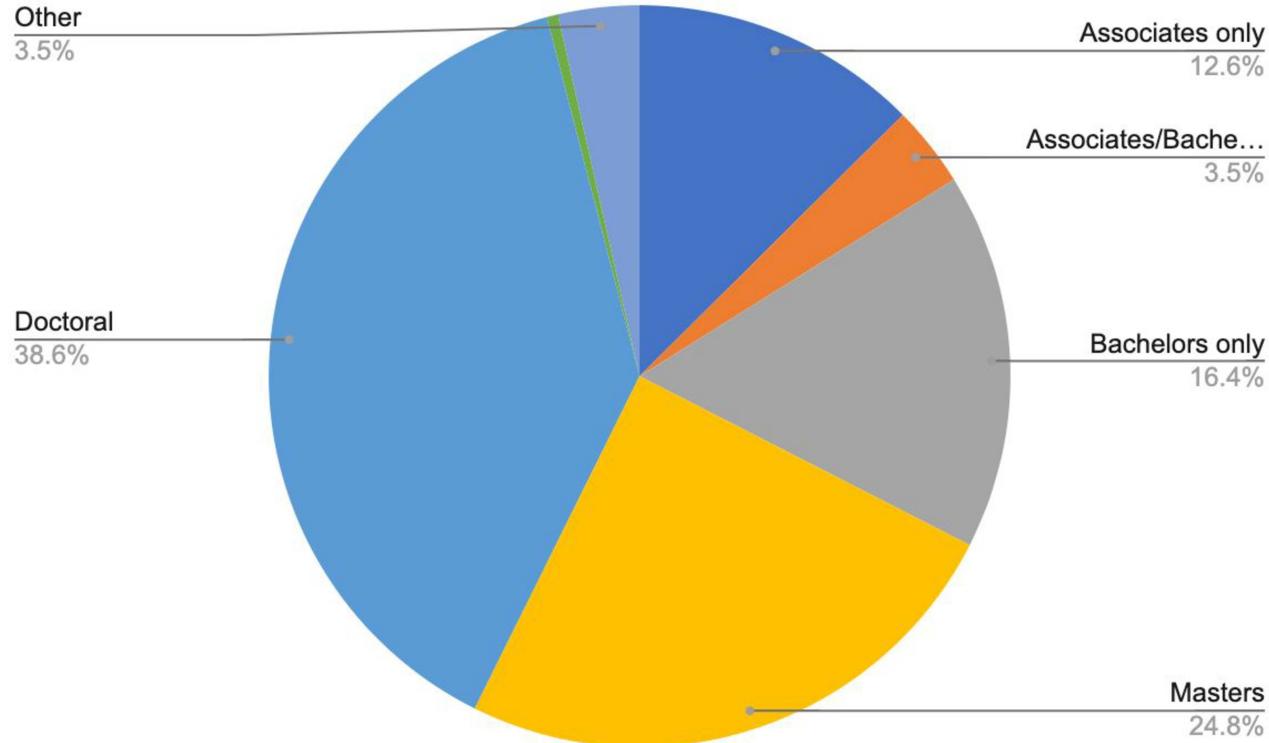


ACADEMIC ALLIANCE

Membership

>600 colleges
& universities
from every state

Academic Alliance member organizations
as of June 2020.



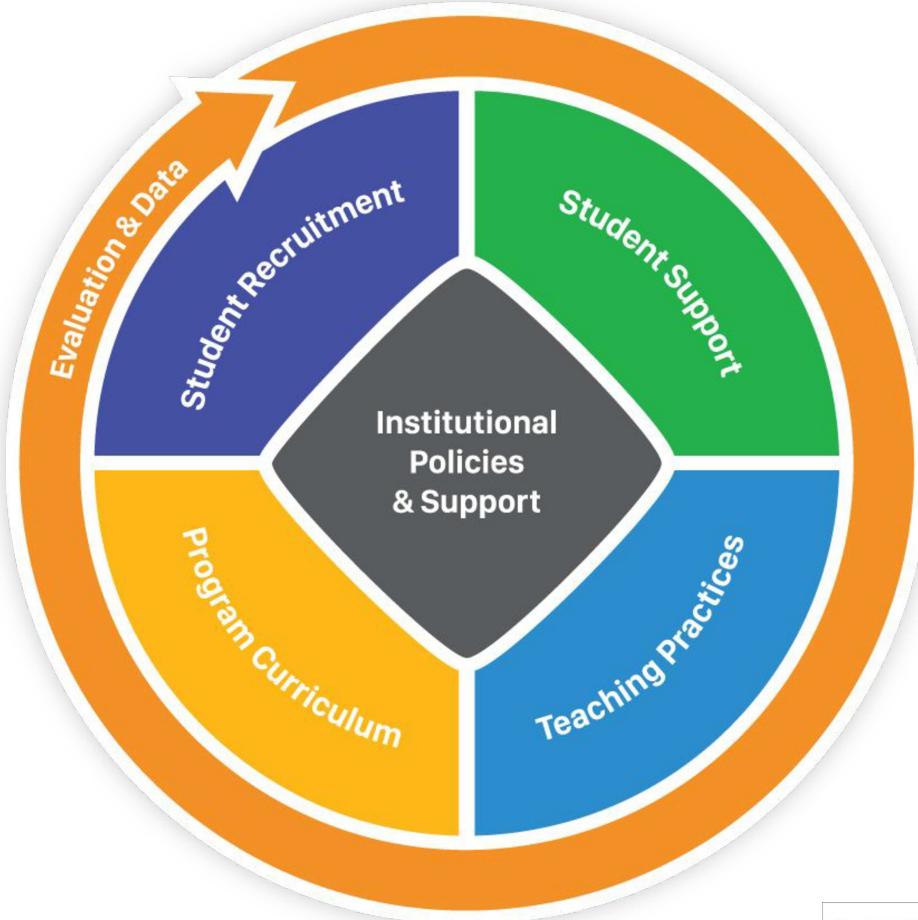
The Fish and the Lake

REI
racialequityinstitute, llc

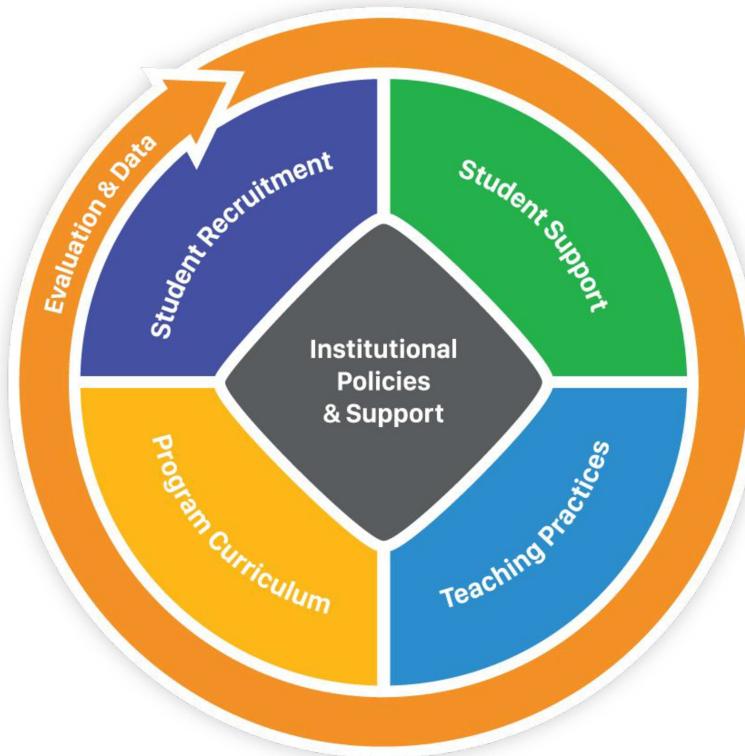


“Fix the individual” vs “Fix the system”

Conceptualizing the elements of the system for undergrad programs



Change Model for Undergraduate Programs

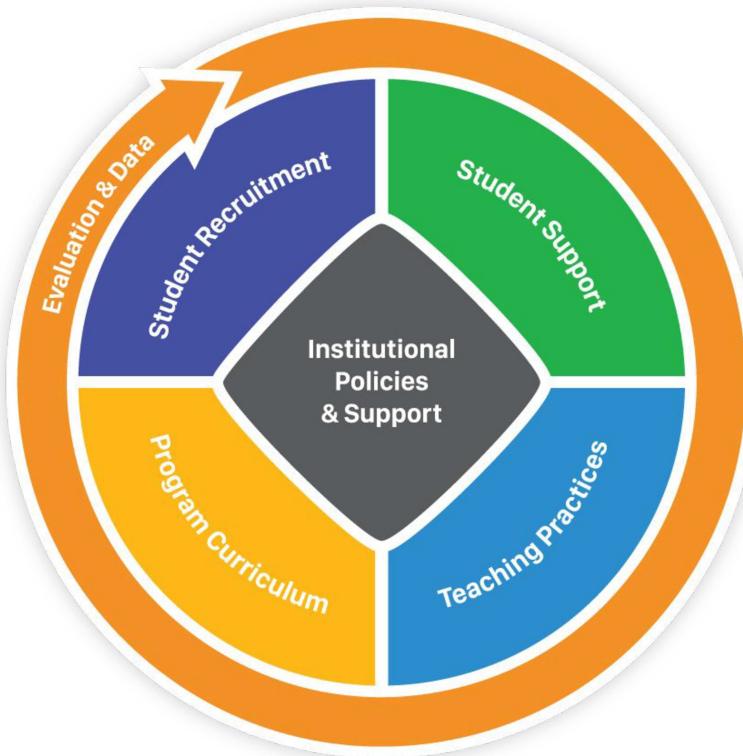


Student Recruitment

What are you communicating to prospective students about your program?

Where are you fishing? The same old streams?

Change Model for Undergraduate Programs

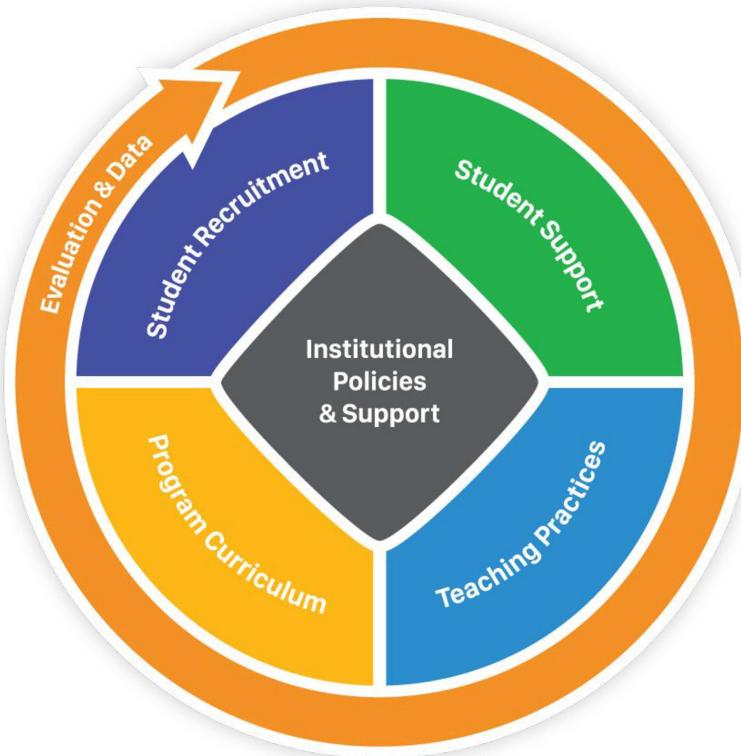


Student Support

How do you support the development of professional identity and confidence in all students?

How do you promote the growth of a sense of belonging and community for all students?

Change Model for Undergraduate Programs



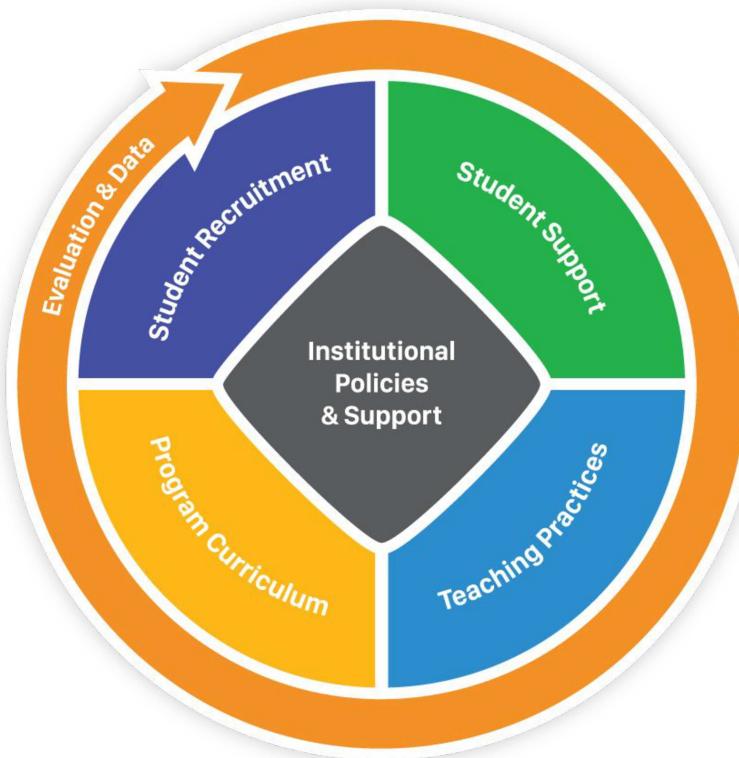
Teaching Practices

Are teaching practices engaging students with different backgrounds, interests, and learning styles?

Are classrooms inclusive and bias-free?

Does the environment support the development and use of a growth mindset?

Change Model for Undergraduate Programs

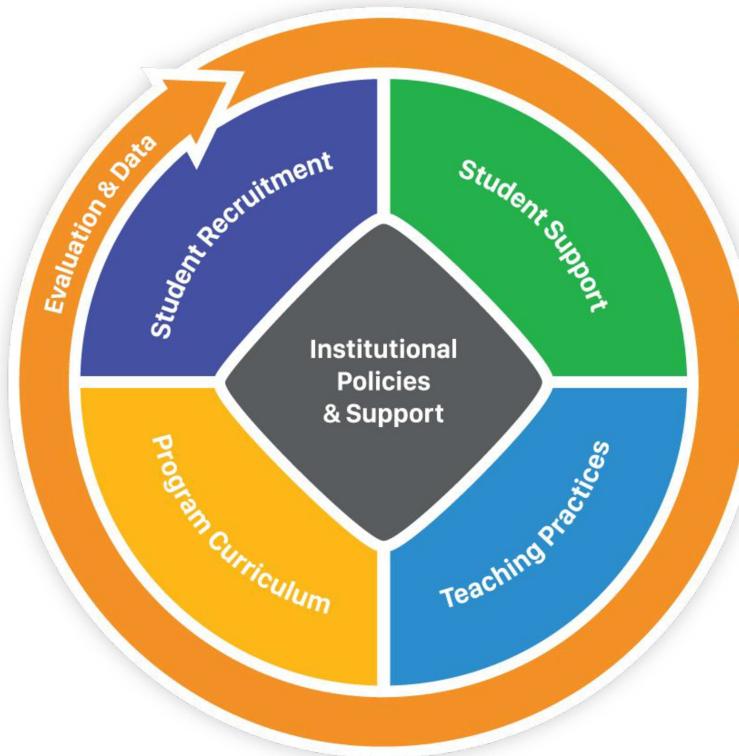


Program Curriculum

Do you identify and mitigate points in the curriculum where students may stumble?

Does your curriculum align with student interests and goals?

Change Model for Undergraduate Programs



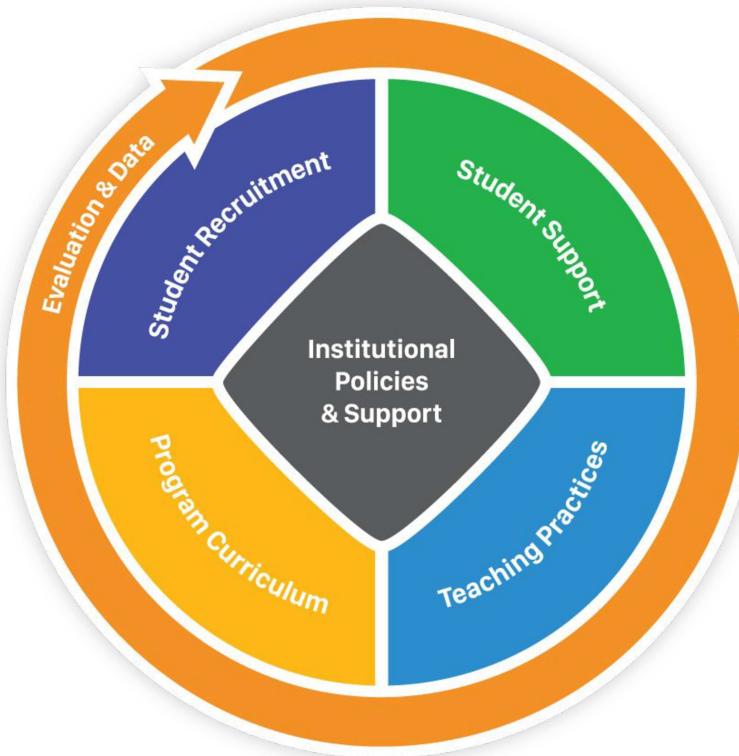
Institutional Policies & Support

Does leadership support your efforts to build an inclusive program?

Are these efforts backed by policy and sufficiently resourced?

Is this work valued and formally recognized?

Change Model for Undergraduate Programs



Evaluation & Data

Do you know your baseline(s)?

Do you collect data to determine whether initiatives are effective?

Do you use data to make the case for change and to guide strategic planning?

NCWIT Extension Services Program:

A Consulting Process for Postsecondary Computing Programs

- guided by systemic change models
- 12+ years experience
- >100 universities and colleges (clients)
- 1:1 and group models
- focus on strategic planning and systemic change

Recent impact data

Extension Services consulted with 37 departments from 2012-2017. After their two-year consulting periods, clients:

- ❑ increased women's portion of total degrees awarded by **5%** from 2012 to 2017
- ❑ awarded degrees to **3.1** times as many women in 2017 as in 2012 compared to 2.2 times as many men in the same period

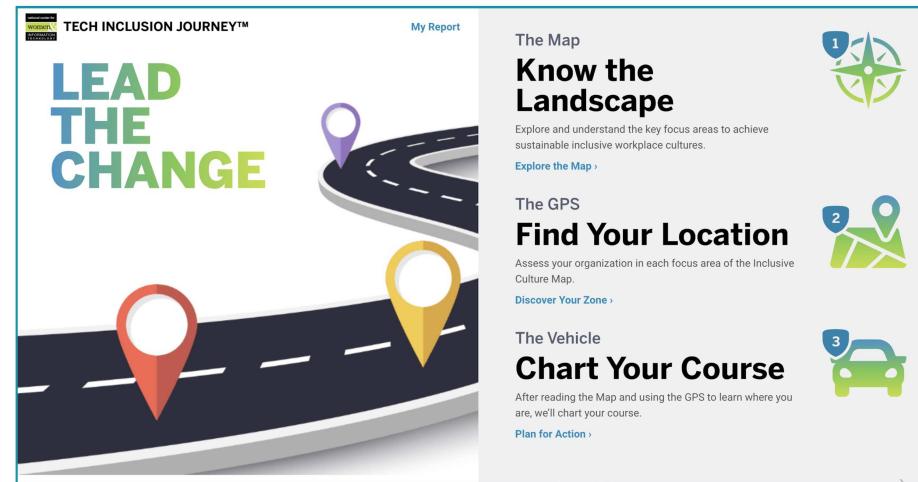
What we've learned

1. **The team matters** → get the right people to the table
2. **The process matters** → build shared learning & vision; get buy-in
3. **Strategy and planning matter** → use resources wisely & take advantage of opportunities, use data to guide
4. **Persistence matters** → iterative & continuous process

How do we scale?

How can we empower our members to engage with this process ***without a consultant?***

Scaling through technology:
The Tech Inclusion Journey™
online tool



An Online Tool to Support a Team Process



A Tour of the Tool

 TECH INCLUSION JOURNEY™

LEAD THE CHANGE



My Report

The Map

Know the Landscape



Explore and understand the key focus areas to achieve sustainable inclusive workplace cultures.

[Explore the Map >](#)

The GPS

Find Your Location



Assess your organization in each focus area of the Inclusive Culture Map.

[Discover Your Zone >](#)

The Vehicle

Chart Your Course

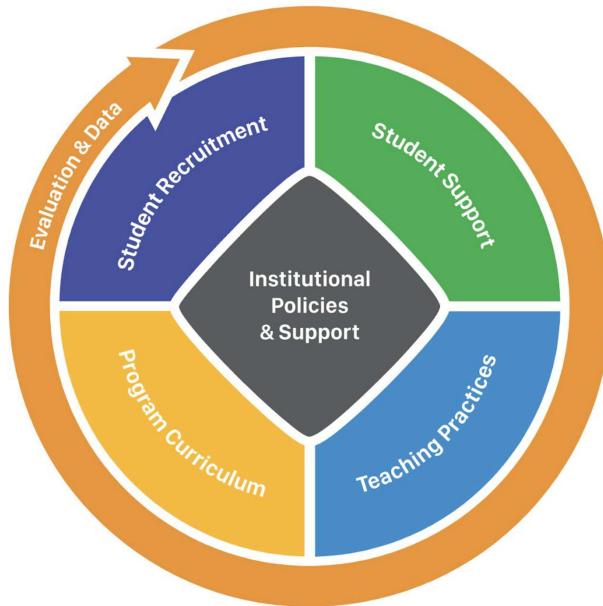


After reading the Map and using the GPS to learn where you are, we'll chart your course.

[Plan for Action >](#)



Interact with the map by selecting any Focus Area



The GPS

Take the Survey

Where is your institution on the inclusive culture landscape? The GPS Assessment is a diagnostic tool designed to reveal your institution's current location in each focus and foundational area of the Change Model. When complete, you'll have a summary report of where you are in each area as well as a vision for where you want your journey to take you.

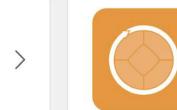
Individual Session

Consensus Session

Foundational Components



Institutional
Policies &
Support



Evaluation &
Data

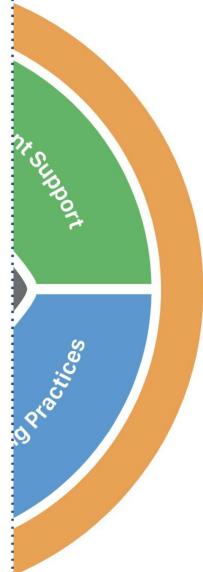
Focus Areas



Student
Recruitment



Program
Curriculum



QUESTION 1 of 3

How common is a clear understanding of the following key concepts?

Below are some sample concepts for this focus area. Take notes about which of these concepts you think are generally understood, which are not, and other concepts that might be addressed but are not listed here. Use these notes to select the answer that best fits your institution.

- Stereotypes about computing
- Implicit (or unconscious) bias
- Bias in admissions processes
- Awareness of myths of 1) meritocracy 2) "it's a pipeline problem" 3) increasing diversity leads to lowering standards

Not common but some individuals are familiar with these concepts

We have isolated (e.g., online or one-shot) training efforts or faculty/staff resource groups dealing with these concepts

Getting more common; we have coordinated training efforts to develop shared understanding and language of these concepts

Very common; we have a shared understanding and language and we discuss regularly

We have a robust system in place for educating new and existing faculty and staff about inclusive practices, resources, research, and culture

Next**My Notes**

Tap to add notes about why you answered the way you did.



Normalizing / Sustaining

A system is in place for educating new faculty and staff about inclusive culture, new initiatives, research, and resources; all processes and practices in the selected focus area have been implemented and a system is in place for sustaining them; a codified system is in place for collecting, analyzing, and using metrics to maintain inclusive cultures.

Operationalizing

Unit-wide, shared language and understanding are in place; faculty, staff, and administrators recognize and discuss diversity and inclusion issues on a regular basis; examination and codification of most of the key processes and practices in the selected focus area are happening throughout the academic unit; description and measurement of implementation and impact are being collected, analyzed and used to inform action.

MY ZONE Grounding

Ongoing, coordinated efforts (e.g., learning conversations) are underway to develop a shared academic unit-wide understanding and language pertaining to key concepts and research; pilot efforts to address bias and codify one or more processes or practices in the selected focus area are being implemented; some description and measurement of implementation and impact is in the process of being collected.

Emerging

May have isolated efforts (e.g., one-off trainings) where individuals are beginning to learn key concepts and research associated with the selected focus area; isolated but uncoordinated efforts to implement or improve key processes and practices exist; methods and tools for description and measurement of implementation and impact are being developed.

Preparing

Little shared language or understanding of key concepts exists for this focus area; few if any of the key processes and practices in this focus area are regularly implemented, codified, or transparent; little or no description and measurement of impact.

Next Steps



ACCESS AND CULTURE

1 of 8 Completed
View results of completed Focus Areas.

[View Summary](#) [Download](#)

FOCUS AREA

Student Recruitment
GROUNDED

[Access T1J Planning Guides and Templates](#)

Yet To Be Completed
Assess a new Focus Area.

FOUNDATIONAL COMPONENTS

FOUNDATIONAL COMPONENT

Institutional Policies & Support
FIND YOUR ZONE 4 Questions >

FOUNDATIONAL COMPONENT

Evaluation & Data
FIND YOUR ZONE 5 Questions >

FOCUS AREAS

FOCUS AREA

Program Curriculum
FIND YOUR ZONE 3 Questions >

FOCUS AREA

Teaching Practices
FIND YOUR ZONE 3 Questions >

FOCUS AREA

Student Support
FIND YOUR ZONE 3 Questions >

The Vehicle

Create Your Action Plan

Now that you've explored the Change Model and completed the Assessment to learn where you are, it's time to use the Action Planning Tools to get started on your journey.

Foundational Components



Institutional Policies & Support >



Evaluation & Data >

Focus Areas



Student Recruitment >



Program Curriculum >



Teaching Practices >



Student Support >

Tips for Action Planning

[Download](#) the Action Planning Guide and the Action Planning Template

Identify the top 2 or 3 Focus Areas you plan to work on

Set specific goals in terms of moving from your current zone to a higher one

Actionable Steps and Practices

Actionable practices you can take as well as NCWIT resources and programs to help.

Focus recruiting efforts on women with the appropriate aptitude and interest who can enroll in your program within the next one to three years.

Use effective messaging. Emphasize computing's real world, socially relevant applications, and show that diversity of people belong in it.

Use well-taught and engaging introductory courses to recruit undecided students. Explicitly encourage underrepresented students who may be candidates for the major.

Collaborate with individuals and offices both on and off campus who reach potential majors, such as admissions, advising, marketing, introductory course instructors, high school teachers, and guidance counselors. Consider providing "talking points" to ensure that messaging about computing and your program is accurate.

Develop a strategic plan for recruiting (and retaining) underrepresented students, and use evaluation to shape initiatives and monitor progress

Related NCWIT Resources

[Access TIJ Planning Guides and Templates](#)

My Notes

Recruiting Strategic Plan Actionable Practices: 2

Use effective messaging. Emphasize computing's real world, socially relevant applications, and show that a diversity of people belong in it.



Communicating Research-based Interventions to Change Agents

This Guide was created to support the use of evidence-based interventions by change leaders. It can help researchers to avoid jargon and communicate effectively. This resource is intended to help readers design an overall communication strategy. Steps include identifying goals and philosophy, deciding whether to translate at all, carefully analyzing specific audiences, and based on these, developing a user-centered communication strategy.



Computing: Get the Most Out of Your College Degree

Computing offers high quality jobs and is one of the fastest growing occupations in the United States. This resource compares computing to other occupations on quality of life issues such as pay, educational requirements, and work hours, to assist young women and their advisors in deciding whether computing is right for them.

The Power of the NCWIT Tech Inclusion Journey

An Online Tool for Building Inclusive Environments in Undergraduate Programs

- ❑ guides the overall process
- ❑ structures & informs both individual reflection & team discussions
- ❑ keeps the focus on systemic change (“fix the lake”)
- ❑ helps with prioritization & planning
- ❑ mark progress by engaging in the process iteratively

<https://undergraduate-tij.ncwit.org/>

username: NCWITTIJ / password: Undergraduate



Contact Us



Gretchen Achenbach
gretchen.achenbach@ncwit.org



Beth Quinn
beth.quinn@ncwit.org



Learn more at ncwit.org

LIFETIME PARTNER



STRATEGIC PARTNERS



INVESTMENT PARTNERS

