Using Strategic Planning Processes to Promote Success for Undergraduate CS Students at a Systemic Level

Dr. Jamie Huber Ward, NCWIT

Jamie Huber Ward is a social scientist and Associate Director of Higher Ed for NCWIT at the University of Colorado Boulder. Her research focuses on organizational change in higher education; collaborative pedagogy; curriculum reform; post-secondary student experiences; and the experiences of faculty and staff in academic computing workplaces. Jamie's work includes implementing and analyzing research projects designed to enhance all students' success and sense of belonging post-secondary computing programs, and creating resources based on findings that are accessible to post-secondary computing programs nationwide.

S. Kiersten Ferguson

S. Kiersten Ferguson is a faculty research associate at NCWIT and the College of Engineering & Applied Science at the University of Colorado Boulder. Her scholarly and teaching interests include strategic planning and implementation with a focus on systemic organizational change; recruitment and retention of faculty and students; mixed reality simulations; and pedagogical and curricular choices in higher education. Prior to joining NCWIT in 2023, Kiersten was a clinical associate professor in the Annette Caldwell Simmons School of Education and Human Development at Southern Methodist University teaching graduate-level courses and leading the M.Ed. in Higher Education program.

Dr. Sherri L Sanders,

Sherri Sanders serves as the Director of Higher Education and BridgeUP STEM as well as a Senior Research Associate with NCWIT at the University of Colorado Boulder. She leads a team of social scientists who partner with computing faculty, staff, and administrators to develop and implement strategies which lead to the creation of sustainable environments where all students can succeed and gain the skills and literacy needed for the 21st century tech-driven workforce. Before joining NCWIT in 2017, Dr. Sanders served as a senior administrator at The University of Texas at Austin for twenty-nine years, most recently as the associate vice president for inclusion and equity. While at UT-Austin, Dr. Sanders also served as a clinical associate professor in the Department of Educational Leadership and Policy and taught graduate-level classes on college student development theory. She earned her Ph.D. in Higher Education Administration from The University of Texas at Austin; her M.A. in College Student Personnel from Bowling Green State University; and her B.S. in Psychology from Louisiana State University.

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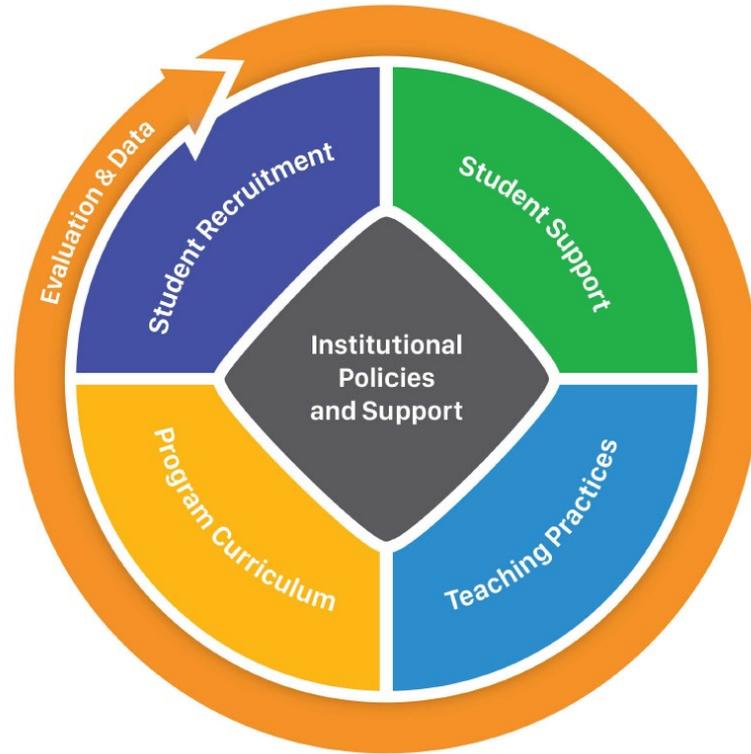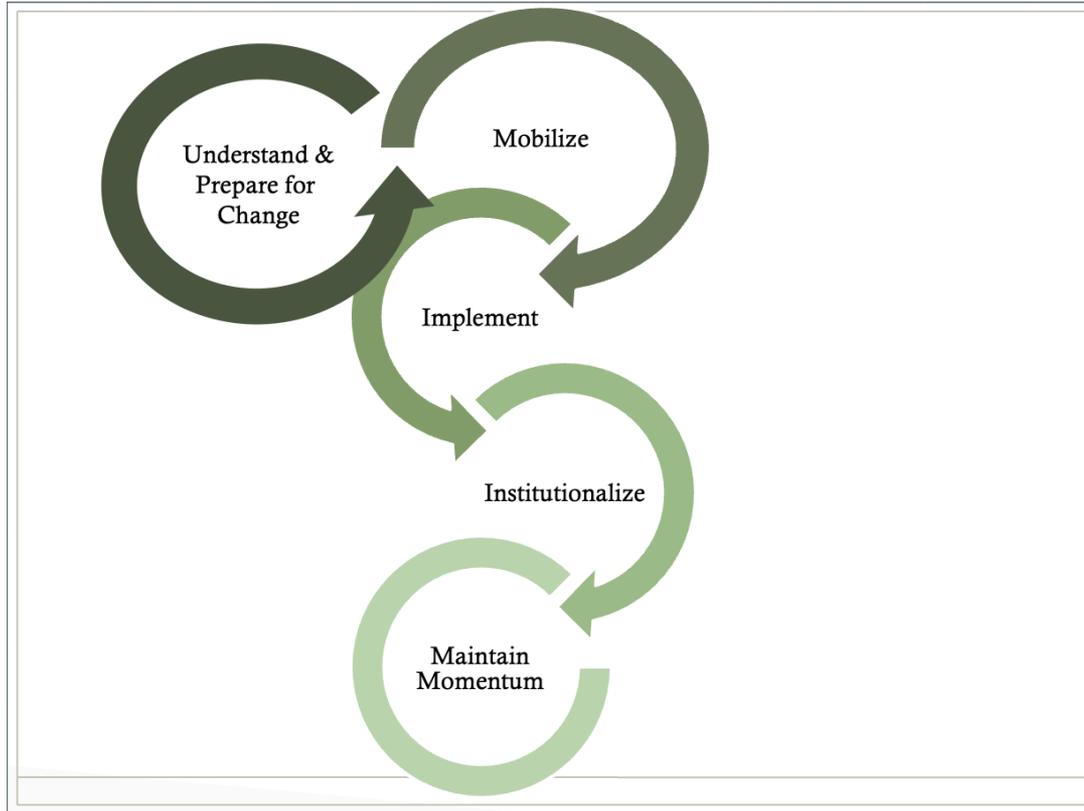
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Overview of NCWIT's Philosophy
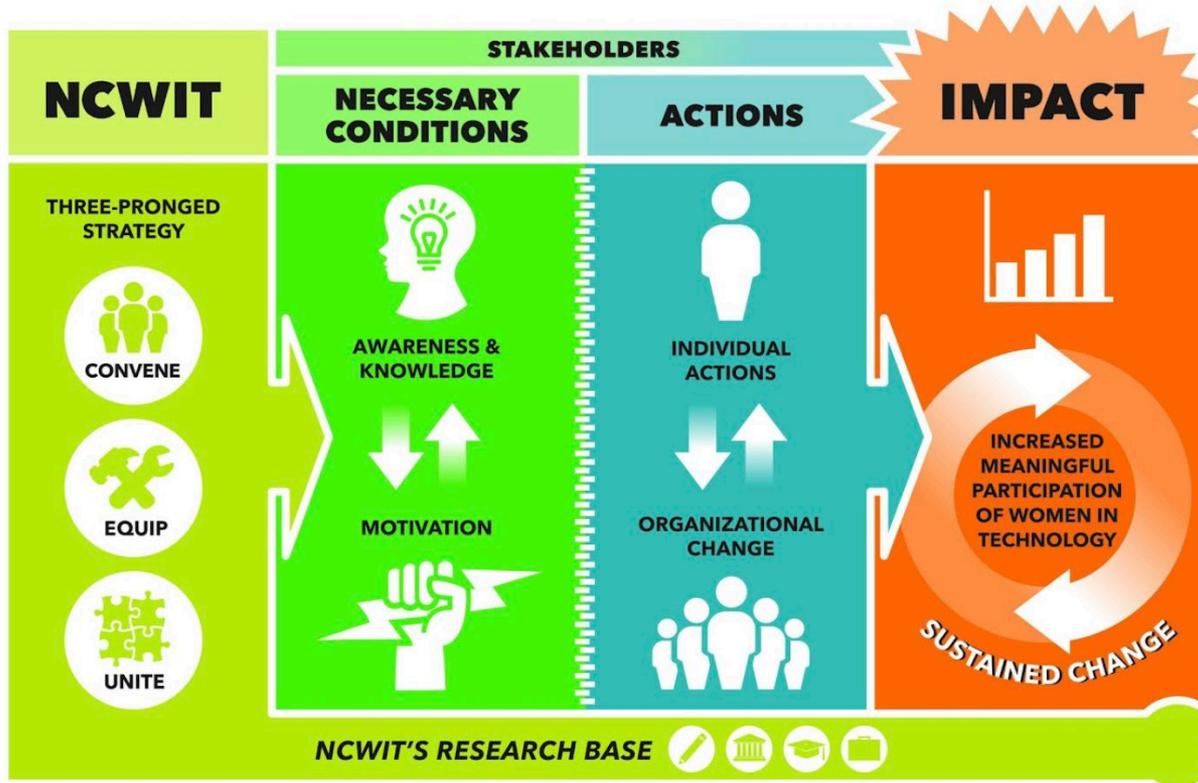
NCWIT Undergraduate System Model

Organizational Change Process

Communicating for Change

Evidence-based tools help establish credibility by explaining a vision of change and how it is grounded in theories, best practices, and resources.
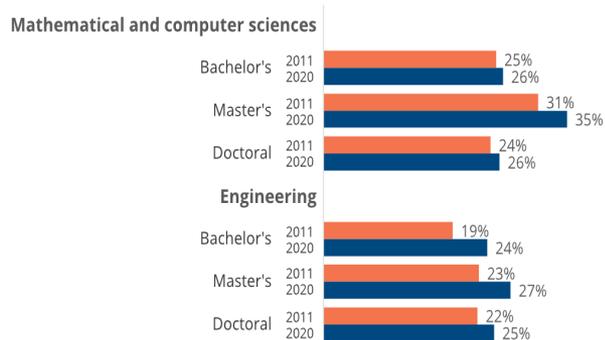

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Use Compelling Evidence

National Center for Science and Engineering Statistics | NSF 23-315

Figure 7-3

S&E degrees awarded to women, by field and degree level: 2011 and 2020

Mathematical and computer sciences

Bachelor's — 2011: 25%, 2020: 26%
Master's — 2011: 31%, 2020: 35%
Doctoral — 2011: 24%, 2020: 26%

Engineering

Bachelor's — 2011: 19%, 2020: 24%
Master's — 2011: 23%, 2020: 27%
Doctoral — 2011: 22%, 2020: 25%

S&E = science and engineering.

Note(s):
Data are based on degree-granting, primarily postsecondary institutions eligible to participate in Title IV federal financial aid programs.

Source(s):
National Center for Science and Engineering Statistics, special tabulations (2022, Table Builder) of the National Center for Education Statistics, Integrated Postsecondary Education Data System, Completions Survey, provisional release data.

"[I have met] an incredible group of similarly driven young women who are always there to support me with opportunities, resources, and just general affirmations."

--NCWIT Aspirations in Computing Award Winner

Communicating throughout the Change Process

Tailor communication strategies as you move through the organizational change process

For example:

- In the **initial stages** of the process, the communication focus might be on building buy-in and conveying the shared vision with the department.

- When **institutionalizing** the changes, the communication might shift to center around impact and data.

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Stakeholder Activity:
Communicate for Change across Audiences

Audiences/Stakeholders	Communication Messages	Communication Medium

Making Change Happen

NCWIT provides evidence-based resources, strategic planning and action guides, and overall support as you lay the foundation for your vision of change & establish a clear roadmap for how to get there.

Supporting Systemic, Sustainable Change Efforts

for attending