

The NCWIT Tech Inclusion Journey^{*}

Tools to Strategically Move Your Undergraduate Computing Program Towards an Inclusive Culture

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ABSTRACT

In this online workshop, participants will actively explore the new NCWIT Tech Inclusion Journey for Undergraduate Programs™ (TIJ-UP), a tool developed by the National Center for Women and Information Technology (NCWIT) to assist change leader teams with building the inclusive culture needed to attract and retain a more diverse range of students to their undergraduate computing programs [4]. The goal of the session is to empower participants to take the TIJ-UP back to their departments and use it effectively and efficiently. This workshop is appropriate for any post-secondary computing program faculty or staff member working on broadening participation in computing. It is especially useful for department leadership and those developing departmental NSF BPC plans.

CCS CONCEPTS

- Social and professional topics → Professional topics → Computing education → Computing education programs

KEYWORDS

Broadening participation in computing, student recruitment, student retention, strategic planning, women in computing

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1 Overall objective of the session

The Tech Inclusion Journey for Undergraduate Programs™ (TIJ-UP), developed by the National Center for Women and

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Information Technology (NCWIT), is an online tool that assists change leader teams with building the inclusive culture needed to attract and retain a more diverse range of students to their undergraduate computing programs. It is part of a set of tools NCWIT is developing to assist our member organizations to build inclusive cultures across the computing ecosystem. The self-guided process introduces teams to NCWIT's "map" for systemic change, which lays out the six areas of reform that research suggests are necessary for realizing improvements in the representation of women undergraduate computing [1,2]. Teams then engage in a process of self-assessment and consensus building to determine their program's current "location" within each of the six areas. The insights gained enable teams to narrow their focus to those areas and activities that are most appropriate and most feasible for their particular situation. The TIJ-UP then connects teams to actionable steps and research-based resources to assist them on their "journey" to a more inclusive culture.

The TIJ-UP is supported by a comprehensive facilitator's guide, strategic planning documents, and NCWIT's large collection of research-based resources. Its development was informed by the work of NCWIT's Extension Services for Undergraduate Programs (ES-UP) [3]. ES-UP trains and supports undergraduate computing programs in developing multicomponent strategic plans for recruiting and retaining women that are tailored to local conditions. Over the past 14 years, Extension Services has worked with over 130 undergraduate computing departments across the nation.

This online session will be interactive and include a hands-on introduction to the TIJ-UP online tool. Participants will be introduced to NCWIT's systemic change framework and to the recommended processes for using the TIJ-UP with a departmental team of change leaders. Participants will then be given the opportunity to actively explore a portion of the TIJ-UP and to ask questions. The session will finish with discussion of team formation and incorporation of the TIJ-UP into participants' work in broadening participation. This session will empower participants to take the tool back to their departments and use it effectively and efficiently.

The TIJ-UP is highly relevant to SIGCSE attendees, given the persistent underrepresentation of women and other groups in computing fields and the current emphasis on broadening participation in computing (BPC). It is a valuable tool for

departmental BPC work because it facilitates teamwork, guides and informs strategic planning, and focuses efforts on systemic change. The TIJ-UP can be used by a broad range of institutions and types of undergraduate computing programs and is available for free to non-profit post-secondary institutions.

1.1 Outline of the session

1. (5 min.) **Introduction.** Presenters introduce themselves and NCWIT and provide a brief review of goals and agenda for the workshop.
2. (10 min.) **The Problem.** Drawing on NCWIT's extensive work with computing departments from across the nation, we will explore organizational challenges that can make broadening participation efforts ineffectual or unsustainable. Participants will be encouraged (in the chat) to share their experiences to round out the discussion.
3. (15 min.) **NCWIT's Tech Inclusion Journey (TIJ).** Participants will be led through a demonstration of the TIJ process, including use of the online tool and supporting materials.
4. (15 min.) **Participant Exploration.** Each participant will log on to the TIJ-UP tool to explore on their own. The workshop will remain “live” on video conferencing and the presenters will monitor chat to respond to questions and assist with troubleshooting.
5. (10 min.) **Experience Discussion.** Presenters will answer questions and lead participants in a discussion of how the process would work their own programs. Presenters will use polls to get quick impressions of the tool from participants, followed by a Q/A period.
6. (10 min.) **A Conversation about Team and Process.** Presenters will provide some final guidance on logistics and process, including how to put the right team together and how participants can serve as TIJ-UP facilitators with their own teams.
7. (10 min.) **Final Q/A.** Includes a short evaluation poll on the session.

1.2 Expectations

This session is appropriate for any post-secondary computing program faculty or staff member working on broadening participation in computing. It is especially useful for departmental leaders and those developing NSF BPC plans.

Learning Objectives

- Participants will be able to explain the elements of NCWITs Systemic Change Model for Undergraduate Programs (<https://www.ncwit.org/systemsmodels>) and how it maps the multidimensional nature of building inclusive undergraduate computing cultures.
- Participants will be able to articulate to others the importance of strategic planning around BPC and how the TIJ-UP tool can help with that process.
- Participants will be able to access, use, and facilitate use of the tool by others with the goal of using the TIJ-UP with colleagues in their computing program for BPC strategic planning.

1.3 Suitability for a special session

A special session is the ideal format for introducing the NCWIT Tech Inclusion Journey for Undergraduate Programs™ to SIGCSE attendees, who represent the intended users of this tool. The session will enable participants to not only hear about, but also try out the tool for themselves, in a setting where they can ask questions and discuss how they could implement it in their own department. The opportunity to engage in active learning is crucial for meeting the learning objectives. For this reason, neither a regular paper session nor simple demonstration would be sufficient.

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