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Title: Broadening Participation in Computing: The Critical Role of Community Colleges

Abstract: Community colleges are inherently diverse spaces. They serve populations of all genders, ages, educational backgrounds, and experiences. Yet they are not considered a critical partner in the conversation on broadening participation in computing (BPC). In the meantime, computer Science & information technology remains a primarily white and male dominated field lacking diversity in both gender and color. There is an urgent need for diversity, in large part, due to a looming shortage of workforce in this field. Both universities and community colleges must come together for building strategies to diversify the student body starting at the community college and building pathways to the university. Building a diverse faculty is equally critical for attracting a more diverse set of students and for faculty to serve as role models for the students.

Significance and Relevance of the Topic: Data from the National Center for Women & Information Technology (NCWIT) show that by the year 2026, the number of computing related job openings in the US are expected to be 3.5 million. Yet, only 19% of these jobs will be filled by students graduating with a bachelor's degree—leaving a large gap. The computer science & information technology job sector is growing fast yet institutions of higher education have been unable to produce enough graduates to meet this growing demand. The lack of women and other underrepresented minorities reduces an already diminished workforce much further. Institutions of higher education—both universities and community colleges—can work to bridge the diversity and workforce gap through collaborative efforts. In this BOF, the discussions will include strategies to build a more diverse student body and resources to attract more women to computer science/information technology at community colleges while building pathways to the university. In addition, the BOF attendees will discuss resources that can be utilized by institutions of higher education—in particular community colleges—while designing and developing curriculum, spaces, and activities to draw more minorities and women into the field. Lastly, the attendees will discuss strategies to recruit, hire, and retain female faculty as well as faculty of color to build a diverse faculty body to recruit, retain, and motivate diverse students.

Expected Audience: The audience is expected to consist of members of both universities and community colleges who are interested in broadening participation in computing.

Discussion Leader(s) and Expertise of Discussion Leaders: Amardeep Kahlon is a Professor of Computer Science at Austin Community College and is a community college co-leader for the Academic Alliance of NCWIT. Lynne Grewe is a Professor in Computer Science at California State University East Bay. Lynne is actively working with CRA-W(P), SPIE and is co-leader of the current engagement team for the Academic Alliance of NCWIT. Beth Quinn is a senior research scientist at the National Center for Women & Information Technology (NCWIT) at the University of Colorado at Boulder. Beth is the founding director of the EngageCSEdu platform (www.engage-csedu.org) and the NCWIT Engagement Practices Framework. Deborah Boisvert is the Executive Director of the BATEC Center for CS Education, headquartered at University of Massachusetts, Boston. She is focused on broadening participation in computing from K-12 to community college to university. Lisa Sandoval is a Director in the STEM division at Seattle Central College. She has developed the IT Instructional Programs with a focus on broadening participation in the field and now serves to do so for the STEM-B division more broadly through mentoring programs, industry relationships, and changing hiring practices toward diversifying the faculty demographic.