

Departmental BPC Plan
Ying Wu College of Computing
New Jersey Institute of Technology



Effective Dates of Plan: 02/22/2023- 02/22/2025

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1. Context

NJIT: New Jersey Institute of Technology (NJIT) is a public R1 Polytechnic University. Diversity is a main pillar of NJIT's 2025 strategic plan. In 2021, first-year undergraduate NJIT students identified as¹: (10%-Bl , 25%-Hi), up from (7.2%-Bl, 17.5%-Hi) in 2016. The number of women undergraduates has also been steadily rising, up to 27% in 2022. NJIT appointed its first Chief Diversity Officer (CDO), David E. Jones, in Fall 2022.

Computing at NJIT: The Ying Wu College of Computing (YWCC) consists of three departments: Computer Science (CS), Informatics (IS), and Data Science (DS). YWCC enrolls 2543 undergraduates (92.4% domestic); They identify as (18%-Wo, 9%-Bl, 22%-Hi). YWCC enrolls 1540 graduate students (32% domestic) that identify as (30%-Wo, 3%-Bl, 4%-Hi). In YWCC, 21.5% of the tenure-track faculty and 32% of lecturers identify as women. Recent hiring trends reflect NJIT's and YWCC's active efforts to improve gender balance in its faculty.

Location: NJIT is located in Newark. A satellite facility offering graduate computing degrees operates in Jersey City. Newark is NJ's most populous city (52%-Bl, 33%-Hi). Jersey City is NJ's second most populous city (25%-Bl, 33%-Hi). YWCC's reach to women and URGs have to be understood in context of the area's higher education ecosystem. In a 20 mile radius around NJIT there are nine (including five public) notable Universities/Colleges. Demographics are more balanced in some of these other Universities, reflecting long-standing perceptions and affiliation of various communities with these institutions.

Existing Mechanisms for BPC: CS has supported women student participation in Grace Hopper conferences. CS is a member of NCWIT and it has founded WiCS and G-WiCS (clubs for Women in Computing), an ACM-W Chapter, and an outreach program to local high schools by women students and staff. YWCC has experience with funding to support students from URGs. The outcome includes curriculum redesign, at the introductory level. Existing BPC experience at YWCC can largely be attributed to individual efforts, notably including Pr. Geller's activity (formerly in CS, now Interim Chair in DS). NJIT recently activated an information system for monitoring admission patterns (*MAP*), at the high-school level, enabling focused outreach.

2. Goals

G1: *College-Level BPC Awareness:* Track and increase annual faculty exposure to BPC at the institutional YWCC level.

G2: *Improved Data Collection:* Annually collect statistics on women's and students from URGs' interaction with YWCC at all levels: applications, admissions, conversion, retention, honors

¹ Adopted Abbreviations: Blacks (Bl), Hispanics (Hi), Women (Wo), URG: Blacks and Hispanics, the two underrepresented groups with high population density in NJIT's area.

college, graduate programs.

G3: *YWCC-NJIT enrollment of women:* The percentage of undergraduate women in other NJIT colleges is around 31%. We aim at closing the gap by half in the span of four years, targeting a 25% female enrollment for YWCC.

G4: *Research Participation:* Annually, measure and increase the number of women and students from URGs in MS options that include research (Project and Thesis).

G5: *BPC of URG's:* Increase YWCC enrollment of URGs at all levels each year.

3. Activities and [Measurements]

A1-[G1,G2]: Designation of a college-level committee for coordinating BPC activities. Know-how and experience will be transferred by Dr. Geller, over the first year of this BPC plan.

[Number of students in student clubs for women, number of BPC-related departmental events, number of faculty participating in BPC-related conferences]

A2-[G1]: Scheduled discussions of progress in BPC efforts in yearly departmental retreats.

Yearly setting of goals and updates of the Faculty Engagement with Activities.

[Yearly 'State of BPC Plan' document with action recommendations]

A3-[G1]: A biannual YWCC newsletter on recent BPC activities and funding opportunities for BPC support. *[Collected history of newsletters, tracking of related proposals and grants]*

A4-[G2]: Collect demographic data on teaching assistants, research assistants, graders, and other YWCC-paid positions, in coordination with NJIT's OIE and the CDO's office. *[Data]*

A5-[G3,G5]: Design special promotional materials that appeal to women and students from URGs. Ensure the participation of women faculty and faculty from URGs at Open House events for prospective students. *[Brochures, Videos, Attendance of events, Role Model participations]*

A6-[G3,G5]: Outreach activities to NJ High Schools, attended by staff from URGs and planned using MAP. *[Attendance by prospective students, and 'conversion' statistics]*

A7-[G3]: Recruit more women student tutors for YWCC's tutoring program, for grader positions, and research-assistant positions at the MS level *[% of women]*

A8-[G4]: Encourage faculty to offer (pro bono) MS Projects and Theses courses with women and students from URGs' *[Demographics of students in related courses 700B and 701B]*

A9-[G5]: Organize outreach and promotional activities recruiting graduate students from URGs from nearby institutions, using demographics of those institutions' computing degrees to select institutions of focus. Consider expanding to Historically Black Colleges and Universities

[Number of students attending these activities, 'conversion' statistics]

A10-[G5]: Organize social/information events at NJIT, on 'Computing Trends and Education' for the area's HS teachers and Community College instructors, where a majority of students are from URGs. Present and promote YWCC's Certificates that are designed for people with non-computing STEM backgrounds. *[Attendance]*

Initial Faculty Contacts²: [A1 - Geller, Hoover, Koutis], [A2 - Department Associate Chairs], [A3 - CC], [A4 - Curtmola, Kellogg], [A5, Hoover, Li], [A6 - Borcea], [A7 - Mili], [A8 - G. Wang, Li], [A9 - Oria], [A10 - Li]

² Abbreviations: CC - Current Committee Members from A1,