BPC Plan: Department of Computer Science at the University of Maryland

Effective dates of plan: December 2020-December 2023 with an annual review and update each summer
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Context:

The Department of Computer Science (CMSC) is top-ranked for research and teaching where the undergraduate and graduate computer science programs are both currently ranked 16th by U.S. News & World Report.

UMD Computer Science demographics are as follows for Fall 2020:

- 3,086 undergraduate students (20.7% women, and 12% BIPOC[1])
- 454 graduate students (25.6% women, 2.86% BIPOC)
- 42 CS Department TTK Appointments (11.9% women, 7.14% BIPOC)
- 66 CS Department Faculty Appointments (10.60% women, 6.06% BIPOC)
- 98 CS Department and Affiliate Department Appointments (17.34% women, 4.08% BIPOC)

The **University of Maryland, College Park** (UMD) is the state's flagship university and one of the nation's preeminent public research universities. *UMD demographics are as follows for Fall 2020:*

- 250 academic programs
- 30,875 undergraduate students (48% women, 22% BIPOC)
- 9834 graduate students (49.7% women, 14.2% BIPOC)
- 4,870 Faculty at the University of Maryland (42.87% women, 10.8% BIPOC)

The state of **Maryland**, from the latest census data, has 6,045,680 people (51.6% women, 42.4% BIPOC).

CMSC at UMD has made a number of strides related to diversity and inclusion over the past several years, including contributing financial and staffing support for the Iribe Initiative for Inclusion and Diversity in Computing (I4C) and Maryland Center for Women in Computing (MCWIC) and sustaining a Diversity and Inclusion Committee to develop and implement data-driven and scientifically proven strategies for increasing and maintaining diversity across all constituencies leading to a truly inclusive climate. These groups serve as liaisons to other diversity and inclusion-related activities across campus, including the CMNS Diversity Council and the Office of Diversity and Inclusion. MCWIC created in Fall 2014, aligns with a significant increase of women: from Fall 2012 to Fall 2020, CS undergraduate women enrollment grew from 13.72% to 20.7%. In Summer 2019, I4C was created to broaden programs to include all underrepresented populations in computing. The goal of this effort is to expand the impact and growth for these additional populations similar to the previous impact with women.

To increase faculty participation in and valuing of D&I efforts, we will work towards enforcing the following expectations for our department: requiring all faculty to report their personal BPC plans and activities in their annual reports, with their outcomes included in promotion and tenure evaluations; and having at least 75% of the faculty identify changes they will make in their teaching to improve student outcomes and/or expand the use of effective pedagogical strategies shown to have a positive impact for students underrepresented in computing.

In support of existing initiatives, such as MCWIC and I4C, and in response to observed disparities, we, as a department, plan to increase the quality and diversity of our students, postdocs, faculty, scientists, and staff through recruitment and retention by:

1. **Training:** Establish and refine inclusive teaching pedagogy and classroom culture training for all instructors and teaching assistants.
2. **Measuring:** Understand the impact of the department climate and outreach efforts on recruitment and retention of undergraduate and graduate students and faculty hiring efforts.
3. **Representing:** Aspire to match the University's racial, ethnic, and gender demographics for undergraduates, graduate students, and faculty.
4. **Engaging:** Engage and support students by promoting career, professional development, research, and community building programs for our BIPOC and women students to improve retention efforts.

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[1] BIPOC=Black,Indigenous, and People of Color

Goals for 2021-2023

1. Increase the percentage of women and BIPOC **students who apply**, **enroll,** and **graduate** in UMD CS so that undergraduate enrollment increases by at least 5% for BIPOC and women by the year 2024.
2. Achieve equal representation for women and BIPOC students in **participation in undergraduate research, department employment, competitions, and other department activities**.
3. Track and increase the number of women and BIPOC **faculty with whom our students engage** by at least 5% in 2023**,** both those who are internal to our department and who are invited for specific student focused events.
4. Increase the **percentage of women and BIPOC faculty** candidates who apply to UMD CMSC to 15% by 2023.

Specific Activities Faculty Can Participate In to Advance Our Department Goals (Contact- I4C Director):

- G1: Participate in an admitted undergraduate student efforts for BIPOC and women students. (E)
- G1/G2: Lead a weekend research project for BIPOC and women undergraduates. (E)
- G1: Lead a summer research project for high-school women and BIPOC students through the AI4ALL Summer program or for undergraduate students through the Summer REU program. (O)
- G1/G2: Support outreach to K-12 and college level programs as a guest speaker with the I4C programs. (O)
- G1/G2:Lead diversity efforts by committing to leading, supporting, and incentivizing annual diversity, inclusion and belonging training for all faculty, students, and staff, including modules for new student CS courses, TA Training, and student organization leaders. (E)
- G3: Recruit a speaker from an underrepresented group in computing to participate in the Inclusion Speaker Series for Undergraduates. (E)
- G3: Participate in the Fearless Teaching: Tools for BPC program: an incentive based DEI effort. (N)
- G3/G4: Attend a Diversity-Based Conference with current students (Tapia, Grace Hopper, oSTEM, Afrotech) and support recruiting efforts for faculty and graduate students at the conference. (O)
- G4: Be a liaison between the Department and the UMD Presidential Postdocs program, contribute to the Rising Stars workshop(s), or work with the UMD ADVANCE office. (N)

Specific Opportunities to Contribute to Larger Department Efforts (Contact- Diversity Committee Chair):

- G1: Formalize inclusive teaching practices, pedagogy, and training for instructors and teaching assistants. (N)
- G1: Centralize retention and recruitment data for the department. (E)
- G1: Assess the impact of the Limited Admissions program for undergraduates on underrepresented student admission and on retention in the introductory courses. (N)
- G1/G2/G3: Maintain the Diversity & Inclusion tab on the main UMD CS webpage, populated with specific race and gender statistics, diversity reports, and inclusive and identity-based resources. (O)
- G2: Launch the Undergraduate Research Connection, a mechanism for connecting BIPOC and women students with funded faculty research projects, and ensure that these student voices are included. (N)
- G4: Draft concrete best practices and guidelines for making the hiring, promotion, and tenure processes more inclusive and supportive of women and BIPOC candidates by Spring 2021. (N)
- G1/G2/G3/G4: Ensure that an inclusive topic is addressed at each monthly faculty meeting. (O)
- G1/G2/G3/G4: Launch the Fearless Teaching: Tools for BPC by Spring 2021 with at least 50% faculty and staff participation rate. (N)

Key: (N) new effort, (E) expanding effort, or (O) ongoing effort

Summary and Evaluation

CMSC aims to create a climate of inclusion for all members of the department regardless of age, experience, nationality, race, ethnicity, gender and gender identity, philosophy and viewpoint, religion, sexual orientation, and disabilities. The data that informs our plan is collected through several channels: we submit yearly NCWIT Tracking Tool Data, BRAID Data, and CMD-IT Award Data; administer the Data Buddies survey with targeted marketing efforts and a department with a goal of at least 50% of respondents. We administer and evaluate an Entry-Level Survey each semester and map the retention of first year students. Additionally, all programs that are ongoing have a program evaluation component with most connected to formal IRB approved research studies including surveys, statistical tracking and/or focus groups.