BPC Plan MIT EECS, CSAIL, and SCC

Effective dates of plan: 2021 - 2025.   **Revision of plan will begin**: September 2022
Contact: Frédo Durand <fredo@mit.edu> Professor and Equity Officer.

Context

MIT EECS is a top-tier department, which draws students from all around the world. The Computer Science and Artificial Intelligence Laboratory (CSAIL) focuses on research, and the newly-formed Schwarzman College of Computing (SCC) federates computing education and research. Per IPEDS, MIT awarded 1696 bachelor's, 1004 master's, and 259 doctoral degrees in computing between 2016 and 2019. The table below shows the percentages of women, Hispanic and Black recipients for this period. The data in the first two columns is from IPEDS, while the last column was provided by the MIT Registrar's Office.

	Bachelor's			Master's			Doctoral		
	% MIT CS	% National	% MIT	% MIT CS	% National	% MIT	% MIT CS	% National	% MIT
Women	38.8	18.8	46.6	31.3	29.8	28.7	35.4	19.5	29.9
Hispanic	12.3	9.1	13	7.6	1.9	7.4	5.8	1.6	3.5
Black	4.1	4.1	8.3	2.2	1.9	2.9	3	1.3	1.5

MIT CS Faculty (from internal data): 19% identify as women. The numbers for Black and Hispanic faculty are less reliable but appear to be around 5%.

Percentages for students and faculty are well below the national demographics (50% women, 18% Hispanic, 13.5% Black). Furthermore, women, Hispanic, and Black undergraduates are underrepresented relative to the full MIT demographics (this comparison is important because once admitted to MIT, undergraduates are free to choose any major). Representation of women is improving (for example, ⅓ of tenure-track faculty members are women and the percentage of undergraduates who identify as women is steadily increasing), but the low percentage of Black and Hispanic students and faculty remains vexing. Furthermore, on climate and quality of life surveys (e.g. AAU Campus Climate Survey, MIT quality of life survey) women and people from underrepresented groups indicate more stress and less feeling of belonging than others.

Goals

1/ Increase the percentage of faculty and lecturers who identify as women or come from historically underrepresented groups in computing (HUG; i.e., faculty who are American Indian or Alaska Native, Black or African American, Hispanic or Latino, Native Hawaiian or Pacific Islander.)
2/ Increase the percentage of women and HUG graduate students
3/ Increase the percentage of women and HUG undergraduates to match the MIT demographics in 5 years
4/ Improve the sense of belonging among women and HUG students (as measured by AAU and internal climate and quality of life surveys).

Activities

New [Goals 1-4]: Develop a comprehensive **strategic plan** for diversity, equity and inclusion. Lead: F. Durand and L. Kolodziejski.

Existing [Goal 1]: MIT EECS created the **Rising stars in EECS** workshop series to encourage top early-career women to explore life in academia. Lead: S. Gerovitch.

Existing but will be expanded [Goal 2]: **MIT Summer Research Program (MSRP) is** for undergraduates who might benefit from spending a summer at MIT, conducting research with MIT

faculty members. The program's goal is to increase the number of underrepresented and underserved students in the research enterprise. This program has benefits beyond MIT since alumni join PhD programs at many universities. Lead: K. Berggren.

Existing [Goal 2]: The **University Center for Exemplary Mentoring (UCEM)** focuses on the recruitment, retention, and academic success of underrepresented doctoral students. Lead L. Kolodziejski.

Existing [Goal 3]: **Women's Technology Program** for female high school rising seniors who have little or no background in engineering and computer science. Lead C. Skier.

Existing [Goal 3]: **MITES** (Minority Introduction to Engineering and Science) is a six-week science and engineering program at MIT for rising high school seniors, particularly those from underrepresented and underserved communities. Lead C. Warde.

Existing but new target [Goal 3]: **PRIMES**: Program for Research in Mathematics, Engineering and Science for High School Students. It is a year-long after-school program that offers research projects and guided reading to high school students. The new PRIMES Circle will target students from underrepresented groups. Lead S. Devadas.

Existing [Goal 3]: **MIT App Inventor** partners with Black Girls Code in a Hackathon. Lead H. Abelson.

New, [Goals 2, 3 and 4]: We will send MIT undergraduates to **conferences that promote diversity**, such as Tapia and Grace Hopper. We will also expand our conference booth and follow up with contacts made at the conference to get students excited about graduate studies, in particular at MIT. Lead F. Durand and K. Lacurts.

New [Goal 4]: **Community building**. We are hiring a diversity officer, and one of their roles will be to support events, seminar series, and affinity groups to promote diversity, equity and inclusion. Lead F. Durand and L. Kolodziejski.

New [Goal 3]: Evaluate and improve **undergraduate introductory CS courses** to ensure that all students, particularly those with no prior CS background and from HUG, are served. Lead F. Durand.

Existing [Goals 2 and 3]: EECS' **Super UROP** offers a more structured and sustained approach to MIT's traditional Undergraduate Research Opportunity Program. It reduces the reliance on informal personal networks and offers additional mentoring. PIs will seek to work with students from HUG. Lead D. Katabi.

New [Goal 1]: Improve the **faculty search** process to use best equitable practices such as rubric scoring of applications. Lead J. Voldman, A. Torralba, and Arvind.

Evaluation:

We will track our demographics through Institutional Research and internal data. We will develop a new set of metrics and data, including disaggregated retention numbers (target: September 2021.) Improvement to the climate will be assessed through the quality of life and climate surveys run by Institutional Research. For individual activities, we will track the number of participants and their demographics (faculty, student mentors, student participants) and will develop specific metrics and comparisons for the September 2022 revised BPC plan.