CEE Diversity, Equity, and Inclusion (DEI) Committee Report

August 2022

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The CEE DEI Committee was established to improve the experience of underrepresented people, to promote equitable practices, and to build a community that reflects the demographic representation of society. The committee has focused on taking tangible actions, particularly in building a pipeline of young talent into and through the academe, supporting persons within and outside of MIT with speaking and career development opportunities, and in curating a more inclusive workspace for all members of our community. Unwavering support (financial and otherwise) has been provided by the department in pursuit of these initiatives.

DEPARTMENTAL RECOMMENDATIONS

1. Establish a Diversity, Equity, and Inclusion (DEI) committee

This committee has a charge (appended) and will meet with the Department Head (DH) regularly to ensure we are on track with meeting our goals. The committee will meet monthly or more as needed.

 a. **CURRENT PROGRESS:** A standing DEI Committee was established in January 2021. An annual report will be released every spring or summer.

 b. **NEXT STEPS:** Construct a dynamic database that renders relevant departmental demographic data through time. Data will be collected and compiled annually and released in the annual report.

2. Create a student and postdoc DEI fellowship

The most direct way to augment representation in our community is to create sponsored mechanisms for supporting those individuals within our unit. Initially, we recommend establishing at least two postdoctoral fellowships for under-represented researchers (following the MLK scholars' model). This should be at least two, and not one, to work against feelings of isolation. Ideally, this will connect to a larger group of diversity fellows at the institute level. The award will go to the postdoctoral fellow, rather than the advisor, but advisor hosts must be identified in advance and the advisor must recommend the fellow to be selected by committee within the department.

 a. **CURRENT PROGRESS:** A School of Engineering-wide postdoctoral fellowship program has been created for roughly 20 postdoctoral fellows with exceptional training and support offered. It is a cross-school initiative. The CEE Department directly contributed funds for one postdoctoral fellow. The CEE Department will host 3 postdoctoral fellows from the cohort. Graduate fellowships to support DEI students have been made available. In AY 21-

22, the department had 1 Inclusive Excellence Tuition fellowship that was allocated. (More offers were made than accepted).
   b. **NEXT STEPS:** Improve recruitment tools for graduate student applicants.

3.   Build a stronger pipeline through MSRP

The MIT Summer Research Program (MSRP) has a successful track record of recruiting undergraduate students and preparing them for a graduate career as researchers. MSRP currently has an annual average of 40 students from universities around the country and will expand to roughly 70 this year. The program is open to students from all departments except for the Biology, Brain and Cognitive Sciences, and Philosophy departments that run their own separate and parallel programs. We propose to increase participation to 8-10 CEE students per year through increased funding, as well as greater recruiting for potential applicants. This proposal comes with the awareness that:

1. There is currently a cap on the number of students per department
2. Very few applicants currently express an interest in doing research at CEE through the MSRP program
3. As of December 2020, very few CEE faculty mentors are advertised on the MSRP website

Because there is a limit to the number of students from MSRP that can come to CEE, a more effective way of achieving the proposed numbers, in the long term, would be by having a CEE specific parallel program administered by the department (separate advertisement, admissions of applicants, and funding).

In the short term, we could join other departments to request that the OGE raise the department cap by at least 1 to 2 students. This will boost our participation to 3 to 4 students per year (close to 50% of our long-term goal). To attract more applicants, we are proposing continuing with the department efforts to reach out to students in peer institutions and HBCUs and advertising faculty mentors and their projects on the CEE website, then linking that to the MSRP website. One reason for the low interest from applicants is the lack of enough visibility of faculty projects on the MSRP website due to delays updating that information on their website. The proposed solution would help to solve this.

   a. **CURRENT PROGRESS:** Efforts have been made to increase faculty participation in MSRP. There are currently 8 CEE faculty listed in the MSRP website.

   b. **NEXT STEPS:** Encourage grant writing or fundraising that can support CEE-centered undergraduate research.

4.   Establish a School of Engineering-wide "Future Leaders" program

This program would serve underrepresented minority (URM) student and postdoctoral scholars. Building on the model of the Rising Stars program, we recommend that the School of Engineering (SoE) establish a Rising Stars Program for URMs in Engineering disciplines.

a. **CURRENT PROGRESS:** Several departments (e.g., CEE, EECS, ChemE, MechE, Biomedical, AeroAstro) in the SoE have established their own "Rising Stars" programs for future academic leaders. Most of the programs are designed for early career womxn. There is a lack of "pipeline" program to identify and mentor outstanding early career URM scholars. Therefore, we propose to build a Rising Stars Program for URMs and provide them opportunities to interact with faculty members as well as their peers.

b. **NEXT STEPS:** Engage with the SoE and other engineering departments to explore the option to create a SoE-wide Rising Stars Program for URMs. Form a workshop/program committee with a healthy representation at all levels for all departments to design the program. CEE's Rising Stars program has been exceptional; it is being hosted by Carnegie Mellon University for 2022.

5. Establish a "Future Leaders" symposium

This is an ongoing effort in the department to showcase URM-derived talent in young scientists in CEE across the country.

a. **CURRENT PROGRESS:** Continue hosting Future Leaders Seminar Series. Maintain the symposium to broaden participation. Currently, we provide guest speakers the opportunities to give in-person presentation and to interact with MIT members of all levels. In AY 21 - 22, the department hosted 5 speakers, online and in-person combined. Women accounted for 4/5 of the total. 2/5 of the speakers were self-identified as Black or African American; 2/5 as Hispanic or Latino or Spanish Origin; 1/5 as Hispanic Black. Other on-going efforts include 1) creating an informal session such as "cookie hour" for discussion with students on issues relevant to navigating academic career, and 2) organizing peer interaction activities such as lunch talks.

b. **NEXT STEPS:** 1) Record seminar talks more systematically. Currently, the previous talks are not recorded in an organized manner and can only be retrieved in the "Event" tab of the departmental website. We propose to create a more accessible way to showcase the previous seminars (maybe under the DEI tab). 2) Improve engagement with the department to diversify the topics covered in the symposium.

6. Create an admissions mentorship program

A lack of familiarity with the graduate admissions process is a major deterrent for first generation students in successfully applying to graduate programs. By connecting current students with prospective applicants who have questions about the process, we can contribute to opening this portion of the "pipeline" not only to prospective students in our department, but also to prospective students in the field in general. This program would build upon the existing graduate admissions webinars, providing a more personal mechanism for prospective applicants to get help throughout the process. Because writing a successful application is closely tied with communication skills, these admissions mentors could be tied with the new CEE

Communications Lab. This program should be specifically advertised to minority serving institutions.

    a. **CURRENT PROGRESS:** We are in the process of creating this program. It will run on a volunteer basis, in which current students can sign up to be on a list of "on call" mentors. The goal would be to cap each current student's mentorship load to 1 or 2 applicants. Applicants will fill out an online form requesting support and their field of interest, and a graduate student program director will pair the interested applicant with a current student. The current student would then meet with the applicant once to discuss the program, and perhaps another time to review application materials. The Comms Lab will not be involved.

7. Other admissions changes

Admissions for graduate students is managed at the department level. We encourage:

1. Continued waiver of the GRE requirement.
2. Augmented evaluation of all files for qualified applicants that may have been overlooked.
3. Better advertising of the admissions fee waiver on the CEE website.

    a. **CURRENT PROGRESS:** These recommendations have been implemented. One issue that has been identified is that additional evaluation of files of interest can often come too late to be helpful for recruiting students. For example, if a candidate has not already spoken to an advisor, admitting them to the program does not help if they then need to scurry to make an advisor match. As such, the Committee recommends developing strategies to improve earlier recruitment of URM students.

8. Form a student advisory panel

The overarching notion of the panel would be to provide feedback to the department head on topics related to hiring, faculty search, admissions. The suggestions ranged from having panels for each area of feedback with different committee make-up to having one panel with representatives from the undergraduate students, graduate students, and postdocs. The lingering thought from the committee discussions was to indeed have some type of panel that is made up of representatives from the different groups and that the committee and Department Head could iterate on the different options to review and refine the final decision on a panel(s).

    a. **CURRENT PROGRESS:** This has not yet been established, largely due to challenges associated with the pandemic. Further, there has not been a hiring opportunity that requires student input.

    b. **NEXT STEPS:** We will evaluate the utility of this and seek volunteers. A recommendation might be taking student and postdoc representatives from the DEI Committee and allowing annual or semi-annual input to the Department Head.

9. Continue to explore options to hire a DEI Officer (DO)

The DO would oversee DEI initiatives within CEE, garner faculty buy-in, and provide support to URMs in the department.

  a. **CURRENT PROGRESS:** In the period since the Committee took up consideration of this measure, The School of Engineering has hired a DEI Officer to serve as liaison across the SoE. The Committee and the Department will work with this officer to coordinate our efforts to achieve the goals that are specified in this document, and those stated in the Committee's charge (see appendix). This model is favorable because it allows CEE to direct funds that would have been used for a departmental DEI officer to support and expand DEI programming.

  b. **NEXT STEPS:** We will continue to engage with the SoE DEI Officer to ensure the needs of the department are included in the broader objectives and service of that office. Several smaller departments are considering sharing a DEI Officer. CEE is carefully considering this model to determine what additional benefit it would bring to the department and the extent to which it would further our DEI initiatives if CEE were to join.

10. Support a peer mentorship program

Strong mentorship has an important effect on retention in STEM. We recommend formalizing peer-peer mentoring (e.g., pairing post-qualifying exam students with first-year students) and/or post-docs with senior graduate students for informal mentoring. This can be supported with a modest budget ($10/student per semester- for coffee, tea, and the like). This can be optional or "elect-in" and not compulsory.

  a. **CURRENT PROGRESS:** Funds have been approved for this expense. The current plan includes pairing 4th-year (and 3rd-year when needed) graduate students with incoming 1st-year graduate students and encouraging the senior graduate student to reach out once per semester for informal mentoring and discussion. This pairing will be done via the APO, and reimbursement will be processed through the APO.

  b. **NEXT STEPS:** Rolling out the program over the summer and fall.

11. Establish travel funds to reach URM audiences

Sending student representatives of the CEE graduate programs to conferences aimed at URMs, such as SACNAS, ABRCMS, and others, is undeniably a valuable way to recruit talented new students. To encourage current students to participate by attending these conferences to represent the department, specific funds should be made available to cover travel expenses to these conferences. **Here, we note that existing travel funds can be amended to include a required effort to (a) reach URM audiences and (b) track attendance demographics to encourage URM participation and female participation in so much as possible**. Students

and postdocs should not have to choose between using departmental funds to attend a conference in their field or to attend a conference as an ambassador of CEE.

a. **CURRENT PROGRESS:** The CEE Ambassador Award has been created to facilitate the mission stated above. Funds have been allocated to support graduate student and postdoc travel to support DEI outreach activities at professional meetings, universities, and minority-serving institutions. Materials have been prepared and will be disseminated to the community in the near term.

b. **NEXT STEPS:** A department-wide announcement of the Award is forthcoming. The inaugural cohort of recipients are anticipated to be selected in the spring of 2023.

12. Communications efforts to improve recruitment and retention

We recommend several easy-to-execute and impactful initiatives:

- **Promote Story Telling.** Storytelling is a very powerful tool of communication. Establishing a regular storytelling mechanism to celebrate our alums, students, postdocs, faculty, and staff can be a very powerful vehicle to spread the message of the inclusive and supportive culture of CEE at MIT and beyond. We believe that featuring compelling success stories of CEE URM alumni and students, postdocs, faculty, and staff in all possible communication channels can raise awareness of differences and break the stigma that MIT and CEE are "out of reach" to certain demographic categories (URM, females, people with different abilities, people with different socio-economic backgrounds). A suggested URM candidate sourcing approach related to storytelling is the implementation of CEE roadshows/webinars to HBCUs and Hispanic serving institutions to review the structure, research, culture, and admission processes in CEE and to share personal experiences of students, postdocs, and faculty through storytelling.
- **Utilize our "Socials"**. We recommend graduate student "selfie" videos that describe who they are, where they are from, and on what they are working. These can be "produced" with the Communications Officer and shared on our social media accounts to achieve the tandem goals of increasing understanding of our disciplinary pursuits and removing barriers to participation or entry into our community (i.e., showcasing our diversity as it exists and seeking to augment it).
- **Update the department aesthetic.** The aesthetic in the department includes many celebratory photographs that are dated in appearance and tend to reflect a history that lacks in representation of diverse individuals, and this can lead to an exclusionary feeling for those visiting MIT and our department in particular. For CEE, this exacerbates the perception that the discipline is old and antiquated. We recommend removing these photos and replacing them with more contemporary installations that showcase the diversity of topics on which we work and people who do the work.

- **Encourage faculty to update their department-affiliated websites.** Specifically, we encourage the faculty to add diversity statements, include pictures of their students, and utilize the institute's diversity graphic.
- **Strategically curate the DEI content on the department website.** In particular, the DEI resources should be easier to find, a reporting structure should be highlighted, and an ideas repository should be created. The DEI statement will be updated and iterated.

a. **CURRENT PROGRESS:** Progress has been made in most of these initiatives. First, the new department communications strategist has been writing and posting stories about or diverse community. These are going out on our social media channels. The Department DEI content is now easier to find and follow up on.

b. **NEXT STEPS:** A review of faculty webpages and support relating to those could be helpful. The overall in-person department aesthetic still needs to be addressed. Students and postdocs should be encouraged to help write and disseminate their own stories to push out on social channels related to CEE; this could be supported by the Comms Lab.

13. Establish avenues for accountability and recognition

Seminar Speaker Demographic Reported publicly. This will be done through a voluntary and automatic survey of all speakers to help us evaluate our efforts to include URM and other diverse persons in our seminars. This would be evaluated yearly and published (in anonymized form). **Modify CEE Awards to specifically acknowledge efforts in DEI**.

a. **CURRENT PROGRESS:** The CEE Awards have been modified to acknowledge efforts in DEI. It was decided that a survey of seminar speakers would be potentially offensive to the speakers and/or contribute to their imposter syndrome. Instead, seminar organizers will be asked to report the demographics of their speakers at the end of each year.

b. **NEXT STEPS:** Create a facile way for departmental seminar organizers to report speaker demographics and a way for those to be viewed internally.

14. Improve engagement with high schools

Graduate students, postdocs, and faculty are encouraged to access existing and create novel initiatives to engage with local and national high school audiences. This will help augment the STEM pipeline, and in particular the CEE pipeline. There are many opportunities around MIT that would allow CEE to have an increased engagement with high school students. **Here, we note that either a committee of graduate students could be established to oversee this effort or DEI Fellows (described above) could be appointed to oversee these efforts. A goal of at least 10-12 engagements per year across the department would be a modest but meaningful start.** Example resources include:

- Office of Government and Community outreach. Pipeline for Cambridge schools and Organizations, e.g. hosting young women from grade 8 YWCA (https://ogcr.mit.edu/MITinCambridge/CommunityEngagement)
- Office of Engineering Outreach programs (https://oeop.mit.edu/about-oeop)
- Course 18 program (https://math.mit.edu/research/highschool/primes/index.php)
- SoS outreach plan (https://science.mit.edu/diversity-and-inclusion/outreach-programs/)

Would also encourage faculty to encourage student leaders (CEESA and GradCom) to increase engagement in SPLASH and other student run opportunities to connect with High School students.

Approach PTSOs (Parent Teacher Student Organizations) of targeted high schools; they all have programming committees for the high school students; way to promote STEM and MIT to high schoolers.

a. **CURRENT PROGRESS:** New Professors Michael Howland and Darcy McRose are spearheading a program to help coordinate outreach efforts from graduate students and postdocs in CEE with local high-school audiences. Elements of the program will include strategic coaching on teaching and lesson curation, regular programming, graduate student/postdoc partnering to lower burden and improve experience for the trainee presenters, and a mechanism to share or "publish" the demonstration activities. In this way, the program is meant to be supportive of the early careers of grad student/postdoc presenters as well as the high school audience members.

b. **NEXT STEPS:** Funding the program is a priority for the department and organizers. Strategizing about recruitment of student/postdoc mentors will be critical to grow and strengthen the program for launch in 2023.

15. Transparency, accountability, and feedback mechanisms

We strongly support measures to keep the broader CEE community involved and up to date on DEI efforts in the department. We recommend the following measures:

- **Transparency and accountability.** The CEE DEI Committee unanimously agreed to publish an action plan and an end-of-year report with updates on the completion and status of the plan. We request to provide and publish regular updates on our initiatives and other DEI topics in the form of a departmental newsletter. We propose publication of our meeting agendas, schedules, and short summaries of topics discussed are made available to the department. Ideally, all this information would be made available on the departmental website (restricted to MIT users). **Additionally, the departmental website should have a more accessible DEI statement and DEI action tab** that is readily findable and regularly updated. The current statement is dated and lacks action statements.

- **Track and report data on URMs within the department.** In particular, to protect individual privacy, we will direct people to MIT's Diversity Dashboard. Importantly, the DEI committee will review this information with the Department head on an annual basis.
- **Establish feedback mechanisms.** The CEE DEI Committee should hold regular meetings with stakeholder groups' faculty, staff, postdocs, and students. **First,** we also request the Department Head meet with these stakeholder groups in order to present the committee's report. The CEE DEI Committee will seek focused feedback from these groups on the report during these meetings and afterwards using a Google form (with an anonymous option). The Committee will continue holding meetings on a regular basis in order to update the community on our progress. **Second, we will hold regular listening sessions starting in the fall semester, in order to hear from community members about their experiences of the climate of the department, and enable them to raise issues, suggestions, and new initiatives**. For these meetings, we request to invite an external facilitator from the Ombuds Office (Nick Diehl), especially for the first meetings, to help lead the discussion in a productive manner. **Lastly,** we seek to maintain a mechanism on the DEI website in which we can receive written feedback anonymously.

a. **CURRENT PROGRESS:** The DEI Committee is working with the Department Communications Specialist to make the DEI reports and plan more accessible on the website. We have already established feedback mechanisms on the website to help with the curation of DEI ideas and to facilitate resource-finding for those visiting the CEE DEI webpage. We have been hosting listening sessions in the late spring/early summer and plan to continue to do so.

b. **NEXT STEPS:** We are in the process of establishing a more dynamic URM diversity dashboard for our department. This data will be held internally, because CEE is small in number and individual information would be identifiable. Nonetheless, internal review of this data and quantitative benchmarks for success will be undertaken with the Department Head and DEI committee annually.

16. Include bias topics in the current Professional Development course

In the context of the CEE Professional Skills course, we encourage a professional development course open to all trainees and particularly a section devoted to navigating bias in STEM.

a. **CURRENT PROGRESS:** One lecture on navigating bias in publishing and the implications to career success was held.

b. **NEXT STEPS:** Continue this as the schedule allows.

17. Encourage and support research and teaching avenues related to environmental justice, sustainability, and collaborations with Native American communities

CEE is uniquely suited within MIT to spearhead research and collaborations related to environmental justice and sustainability, as well as collaborations with Native American communities. Such research already exists in the department in many forms, and it will be an ongoing effort to continue to amplify and encourage more projects that address social inequalities. As a start, we recommend the following actions:

- **Help faculty interested in engaging with local communities and environmental justice communities contact community leaders and understand best practices of engagement.** This could be a way for CEE researchers to use their scientific expertise to work with local communities. Modest departmental funding might incentivize this or be used to support a series of talks on how to engage in such research via strategic collaborations, given by local MIT faculty (e.g., from SHASS) or external experts.

- **As a department, we can review course lists and curricula in order to incorporate topics related to social justice where appropriate.** (e.g., case studies showcasing unintended effects of environmental engineering on Native American communities, or racial discrimination in access to healthcare). It is particularly important to consider such content when travel to an off-campus location is considered. This represents both an opportunity and, in some cases, an obligation to understand the local and cultural implications of our work and study.

a. **CURRENT PROGRESS:** There are some institute-wide initiatives to achieve this goal. However, none of them have had a direct connection to CEE that is particularly helpful to the mission of CEE's DEI and Research Efforts.

b. **NEXT STEPS:** Consider curating a list of departmental initiatives that relate to environmental justice or social equity. Much of the research in the department does have implications for these thrusts, but they are not directly devoted to them (e.g., we do not necessarily study social justice implications, but do work on topics that relate to social equity). Researchers may be reticent to cite their work as relevant because of this. Efforts to discuss the implications of such reporting should be brought up at faculty meeting**.**

New in 2022

18. **Establish education and professional development opportunities for staff**

Create meaningful ways for staff to engage in the topic of DEI in CEE. Empower the staff with knowledge and tools to be allies and change-makers. Invest in cultivating a staff that reflects the diversity and ideals that we want to see in the department. Provide staff with training, opportunities, and information to allow them to further their careers and better serve the department and the DEI mission.

- **Develop a more comprehensive onboarding process for staff.** Presently, staff receive the Institute-mandated "Sexual Misconduct Prevention & Awareness" training but there are many other existing trainings that could also be required upon onboarding. The goal would be to work with the CEE HR Administrator to select one or two additional mandatory trainings focused on diversity and inclusion.
- **Provide opportunities for continued DEI training.** Staff have monthly "lunch and learn" training opportunities. We propose that at least once per year the department will offer a DEI-related training (ex. Unconscious bias training, You Are Welcome Here, etc.)
- **Establish more transparency in the hiring process and provide more opportunities for URM groups to engage with employment opportunities in CEE.** The hiring process at MIT can be a bit nebulous and it is difficult to get your foot in the door. The goal of the committee is to develop programs that will cultivate a pipeline of diverse job candidates for staff and support staff positions in the department.
  - **Create a Rising Stars program for staff.** The Rising Stars program has been well received and helped to cultivate a pipeline of female PhDs seeking faculty positions; we propose doing something similar on the staff level, targeting URM groups.
  - **Offer short term staff internships or summer jobs.** These could be short term, funded projects designed to give prospective staff members MIT experience and skills to be successful here.
- **Foster retention and upward mobility for staff.** CEE should be a place where staff can build their careers, not a steppingstone to another department.

19. **UCEM Participation**

CEE is committed to supporting up to 3 students in the UCEM program. (https://ucem.mit.edu/about/)

APPENDIX I

MIT CEE DEI Committee
Established: July 1, 2021

Charge
The charge of the MIT CEE DEI Committee is to improve the culture and representation of underrepresented persons within the department, including racial and ethnic minorities, women, LBGTQA+ persons, and disabled individuals. It is recommended that the United States national statistics on the proportional representation of these groups is sought as a target goal for representation. Inclusivity measures should persist irrespective of these metrics.

DEI Committee Composition and Structure
The MIT CEE DEI Committee should include at least 2 faculty, 2 staff, 1 postdoctoral representative, 1 graduate representative, and 1 undergraduate representative. One faculty member will serve as director of the group. The group will report to the CEE Department Head.

Recommended responsibilities
- Conduct annual evaluation and presentation of demographics to the Department Head and CEE Faculty (early to mid-Fall). Reflect on progress and challenges from the past 1, 5, and 10 years. Use the School of Engineering and U.S. Statistics as benchmarks.
- Coordinate and host annual town hall to communicate commitment and listen to concerns of the CEE community
- Coordinate an annual DEI training opportunity that is hosted by professionals. This should precede the accepted student's weekend (circa February)
- Hold semesterly meetings with the Department Head on DEI initiatives and progress
- Make recommendations for community engagement, particularly with the Department Communications Director and with trainees (undergrad, graduate, and postdoctoral) seeking to reach out to local area high schools.
- Serve as the admissions and organizing committee for a URM Rising Stars in Civil and Environmental Engineering program and/or appoint another set of individuals to manage this important initiative
- Encourage and track participation with the MSRP or other undergraduate engagement programs
- Reflect on current departmental policies for faculty hiring, research staff and postdoc hiring, graduate admissions, and tenure evaluations, and create recommendations for DEI-related improvements and best practices

APPENDIX II

Other Discussions Among the Committee in 2020-2021

Creation of small, supplementary fellowships for students and postdocs who lead DEI initiatives in the department. This would require fundraising to support the initiative, and represents a long-term goal. The fellowships would be for professional development and training in DEI, and the fellows would then disseminate their knowledge to the CEE community. This might include for example organizing a seminar series, mentorship program, or conference, leading discussion groups, or acting as a social media ambassador. The rationale for emphasizing paid fellowships is succinctly described in the following RISE article: "*Students are at MIT to be students, but some minority students suffer from a phenomenon known as the Minority Tax in which URM students and allies disproportionately devote time away from their research towards greater DEI advocacy efforts, often putting them in academically and professionally challenging positions without any protections… MIT must take action to value the labor of students engaged in the ideation and execution of DEI efforts either through hourly pay or partial graduate fellowships.*" **DEI fellowships and reimbursements exist in MIT already:** for example the Graduate Community Fellows program, as well as on the new institute-wide DEI@MIT Strategic Planning Initiative, which has committed to pay all students serving on the steering committee. Additionally, AeroAstro has recently committed to creating two annual Diversity Fellowships for department-specific DEI activities. We suggest eventually creating a CEE DEI fellowship program following a model similar to that of the new CEE Communication Lab, which provides small supplemental fellowships for the Comm Fellows (approx. $2500 for a 4 hr/week work commitment, on average), as do other Comm Labs in the SoE. Other relevant models include Sustainability Fellows and Teaching Development Fellows. Some restrictions exist for foreign students on visa types which limit work hours; we will work together with the International Students Office to ensure that this Fellowship is accessible to both domestic and international students.

Increase student and postdoc participation in graduate admissions, hiring committees, and tenure decisions

The committee discussed increasing student and postdoc participation in departmental committees, including search committees, graduate admissions, and promotion and tenure decisions. In general, there was not a consensus on this topic within the committee. We acknowledge that this is something that will not happen in the near term, and requires departmental and institutional reflection on the legal and other ramifications.

The student and postdoc committee representatives feel strongly that it is crucial to include a diversity of voices and perspectives in key departmental decisions such as these, in order to give students and postdocs a seat at the table and a role in shaping departmental culture. Additionally, the student and postdoc communities could bring fresh perspectives to these discussions, as well as more diverse demographic representation. However, the faculty and staff committee members are divided—while some committee members are in favor, others are not, raising concerns about privacy and confidentiality, as well as potential conflicts of interest. There was also a concern raised that just as student course evaluations have been repeatedly shown to exhibit racial, ethnic, and gender-based biases; as such, the inclusion of students and postdocs on committees could unintentionally magnify biases in committees.

Given the lack of consensus on this topic, the committee will continue to discuss it next semester, as well as consult with other departments who are implementing similar measures. This is especially relevant for graduate admissions, as in CEE, many graduate students are accepted through other programs such as Microbiology, Transportation, or MechE, and so efforts would ideally be coordinated with these other departments. In the meantime, we recommend the following actions:

1) In order to receive guidance on issues of privacy and confidentiality, we recommend that in early 2021, committee representatives together with the department head meet with the MIT Office of the General Counsel, which has offered to advise departments on this issue.

2) *Search committees:* Students and postdocs can offer fresh and different insights on candidates, especially regarding mentoring, teaching, and DEI, issues which are sometimes de-emphasized in search committees in favor of focusing primarily on research. Currently, students and postdocs usually are given an opportunity to meet with candidates during the interview process and are asked for feedback following candidate seminars.

   The committee recommends formalizing this process and creating a small student and postdoc advisory group to work with the search committee. This group would attend the seminars of all shortlist candidates and meet with them afterwards, and ask them to share their perspectives and experiences with DEI work, mentoring, and teaching. These questions would be provided beforehand to the candidates, and the advisory group would be provided with their teaching statements and other relevant, non-confidential information. After meeting with all candidates, the advisory group will meet with the search committee to present their recommendations. We recommend including this group already in the current search.

3) *Tenure committees:* Mentorship will soon be an official component of the tenure evaluation process institute-wide. Currently, we recommend adding a requirement of numerous (~20) letters from current and former students and postdocs who have been taught or mentored by the candidate. Half of the letter writers will be chosen by the candidate and the other half solicited through a public call for letters within the department. The committee will further discuss the guidelines for letter writers, as well as how best to evaluate the letters and mitigate issues of potential bias or conflicts of interest.

APPENDIX III

Institute-Level Recommendations from 2021 Report

The committee will reach out to Institute DEI officers and encourage the following:

1. **Track non-U.S. persons**
   Tracking non-US persons is important for maintaining realistic URM data for MIT and CEE student and postdoc populations. Data shows that 75% of the MIT postdoctoral population is international which means that regardless of origin, 75% of the postdoctoral population cannot be counted towards traditional U.S. affirmative action statistics and reporting efforts. We note here that minority persons can still serve as important examples to younger generations of scientists and engineers, irrespective of their citizenship. Thus, we should track and acknowledge these people even if they cannot be reported in our US reporting documents.

2. **Improved access to Implicit Bias Training and Inclusion Training for Mentors**

3. **Create an institute-wide or SoE-wide postdoctoral fellows program**

4. **Improve the hiring process and oversight, especially as it relates to postdoctoral scholars**

   MIT already has a well-established admissions process which allows for self-identification and data reporting. However, there is a lack of consistent staffing process for postdoctoral positions which does not allow for efficient self-identification data capture and reporting. We propose that all Postdoctoral Associate/Staff/Faculty opportunities are advertised broadly to relevant professional URM venues and organizational web sites and are posted on the MIT web site for at least two weeks. This will allow for broad exposure of CEE job opportunities and will allow for capturing applicant self-identification data through one consistent channel to allow for correct affirmative action reporting. Such reporting capability will help us identify areas to target in our sourcing and recruitment efforts and will provide us with information to enhance and customize our URM hiring efforts. Such consistent sourcing, recruiting and hiring process already exists for exempt staff positions at MIT and will be easy to replicate and customize to academic positions (i.e. all postdoc openings). It will also increase the levels of faculty accountability to conduct broad and fair postdoc associate searches to ensure that underrepresented minorities and female applicants are not at a disadvantage in academic searches.

APPENDIX IV

Authors of This Report

	2021-2022
John Ochsendorf	Faculty
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Historic Record of Participants

	2020-2021
Kiley Clapper	Staff
Tal Cohen	Faculty
Elfatih Eltahir	Faculty
Rachel Gregor	Postdoc
Annika Gomez	Graduate student
Magreth Kakoko	Undergraduate student
John Ochsendorf	Faculty
Desiree Plata	Faculty
Borislava Stoyanova	Staff