Report by the Anti-Racism Task Force to Dean Rashid Bashir, Grainger College of Engineering

The Anti-Racism Task Force (ARTF) of the IDEA Institute

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1 Foreword

Tandy Warnow, ARTF chair

In the wake of the events following George Floyd's death, the IDEA Institute established The Anti-Racism Task Force (ARTF) and charged it with "making recommendations of actions that the Grainger College of Engineering (GCOE) can take with respect to anti-racism. Recommendations that can be implemented or developed in collaboration with other Colleges or Units on campus should also be identified." The 37 students, faculty, and staff who assembled into this ARTF have worked hard together to come up with action items that would be significant, could be implemented, and might really make a difference. Most of us were members of IDEA, and because of this, we had confidence in the capacity and sincere willingness of the GCOE leadership to make a substantial difference for Blacks and African Americans in our community.

The discussions in our meetings (all of us together every week, and subgroups meeting every week as well) have revealed the depth of difficulty that the Black and African American students, faculty, and staff experience, not just in their lives away from campus, but also here on campus. It has also revealed how strongly each of us are committed to finding *positive* ways forward that can lead to the very necessary change. At the same time, it has revealed how complex and difficult this effort will be.

The ARTF is concerned with all manifestations of racism, and more generally with other violations of the principles of the IDEA Institute. However, with the longterm violence against Black and African Americans in our country, and the particularly horrific multiple recent events, we have chosen to focus on addressing racism specifically against Black and African Americans. Black Lives Matter.

The ARTF identified a set of 17 prioritized action items, addressing the different members of the community (faculty, staff, postdocs, and students), and focusing on different types of efforts. Many of these prioritized action items themselves contain multiple action items, addressing different ways of making progress towards the stated objective. In addition, the ARTF also identified other goals and action items that were not prioritized as highly; these are provided in the Appendix.

Within these 17 prioritized action items, we have identified a large number of specific detailed action items that provide examples of how the overall objectives can be accomplished. However, the most important specific recommendation in this report is to greatly increase representation of Black and African American faculty, staff, postdocs, and students within the GCOE. Success in this goal will transform the GCOE: it will enable us to attract and retain strong students, faculty, and staff; it will dramatically improve the climate in the GCOE; and, if done well, it will lead to a future where the GCOE at Illinois is known for being welcoming and supportive to Black and African American students, faculty, and staff.

This report is more than a list of recommended action items: it is also the assertion of values and goals, the affirmation of the importance of all the members of our community, and specifically of our Black and African American students, staff, postdocs, and faculty. It is tempered by the gravity of the problems we address, but inspired by the leadership of the Grainger College of Engineering and the University of Illinois at Urbana-Champaign, who have shown that they understand why this is important and why change is urgently needed. Therefore, we thank the IDEA Institute and Lynford Goddard for inviting us to form this task force and prepare this report, and we look forward to helping the College achieve its vision.

In closing, I want to acknowledge that the members of the ARTF have been extraordinarily open, honest, hard working, thoughtful, and informed. This has been hard work, especially because we all care, and it matters a great deal that we not only identify important directions and objectives, but also that we communicate our suggestions in ways that are helpful to the GCOE in trying to address our objectives. And so I thank the ARTF members for making this effort as fruitful as it has been, and for their generosity.

2 Executive Summary

This week, *Science* reported that "the National Academies of Science, Engineering, and Medicine (NASEM) is gearing up for an in-depth study of racism in academic research" [50], and the Faculty Senate at the University of Illinois voted in favor of EQ.20.04, a "Resolution on University Response to Racism". These events signify the realization that racism is not only throughout the country, but also *within our own academic community*, and this realization calls for serious action and commitment.

The Anti-Racism Task Force (ARTF) was established by the IDEA Institute to propose actions that the Grainger College of Engineering (GCOE) should take to address racism. In developing these action items, we were guided by a set of common *goals:*

- to improve conditions for the entire BIPOC (Black, Indigenous, and People of Color) community within GCOE, with specific focus on Black and African American students, staff, and faculty

- to help the GCOE community understand how racism operates and presents itself within academia, so that collectively we can better support the BIPOC members of the community

- to help the GCOE leadership become a force for change and a strong advocate for anti-racism, so that Grainger Engineering at Illinois becomes known as one of the best examples of an anti-racist engineering school.

These goals thus focus on improving conditions for the BIPOC members of our community, and especially on the Black and African American members. The students and staff are the most vulnerable members of our community, and hence received the most concern. Given this focus, we were aware that our task force needed to draw on a diverse group, including students (both undergraduate and graduate students), staff, and faculty. The membership of the ARTF is therefore very diverse: 8 undergrads, 7 graduate students, 10 staff, and 12 faculty. The ARTF has 28 women and 9 men, with 17 self-identifying as Black or African American, 15 as White, 7 as Asian (3 as Indian, 1 Japanese, 1 Korean, and 1 Chinese), and 2 as LatinX[1]. Thus, ARTF includes a broad set of perspectives with representation spanning most of the departments in Engineering as well as several other Colleges.

The ARTF members have been working together since June 9, 2020, meeting every week towards the goal of proposing "action items" for what can be *done* by the GCOE community members to change the trajectory for our students, faculty, and staff. In addition, the different subgroups have been meeting every week as well, each focused on a different community within the GCOE or on a different cross-cutting activity.

Prioritized Action Items   Taken together, these prioritized action items provide a specific plan towards achieving the core values laid out in the GCOE strategic plan. We are aware that some of the proposed actions may not yet be possible, due to constraints imposed either by the university or by other agents (e.g., by requirements imposed by ABET accreditation). Where possible, we hope that the GCOE leadership will find alternative ways of addressing the desired goal, or will work to relax the constraints that prevent progress.

Final comments.   The recommendations made in this report reflect the overall consensus of the group. In a group as diverse as this, it will not be surprising that there are some differences of opinion, mainly in terms of whether certain recommended action items should be required. Despite these differences, the ARTF very strongly supports the overall objectives, and hopes to work with the GCOE leadership in developing effective strategies towards accomplishing these goals.

The ARTF will dissolve on August 21, 2020. We expect that the GCOE will decide to establish new task force(s) and/or committee(s) that will provide some assistance, evaluation, and oversight for Phase II of this effort. The ARTF makes three further recommendations. First, we recommend that this report be made easily available to the GCOE community. Second, we recommend that the GCOE leadership communicate

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[1] The 37 ARTF members provided race and ethnicity information, and several self-identified as more than one race; each such identification is counted above.

to the GCOE community how they will respond to the suggestions in the report, indicating which specific activities will be addressed in the near future, and how/when those activities will be performed. Third, we recommend that the GCOE establish a new task force to work on the implementation and execution plans for the anti-racism actions that the GCOE will address. We are aware that help will be needed, and we welcome the opportunity to work with the GCOE to achieve these goals.

In moving forward, we note that improving conditions within the GCOE requires the engagement of the Black and African American members of our community *as leaders*. This task force very much depended on its Black and African American members to lead the discussion and selection of objectives and action items, but design and execution were not the responsibility of this task force. We are aware that the GCOE already includes Black and African American people in its leadership team, but additional voices are needed at the table. Therefore, as the GCOE makes plans for which action items to address first, and how to address them, we strongly recommend it include additional Black and African American members of the GCOE community in high-level strategic planning and decision making, and then subsequently in monitoring progress and informing future plans.

3 Prioritized Action Items for the GCOE

3.1 Preliminary comments

All the action items in this list received strong support from the ARTF, and so were selected for prioritization. Within each prioritized action item, there are several individual proposed action items, all of which are relevant to the goal of the overall prioritized action item. Therefore, all are valuable and should be considered "prioritized".

While anti-racism is the overarching goal of these action items, nearly all include components that address *organizational structure*, *climate and culture*, and *data gathering for the purpose of evaluation*. Some of these proposed action items will require substantial resources, but others may be accomplished without significant expense; similarly, some of these proposals will take significant time and effort, but others could be accomplished (or at least started in a significant way) in a very short amount of time.

Among the ones that can be performed quickly, the recommendation that the Dean and GCOE leadership hold meetings with the Black and African American community within the GCOE (Section 3.5) is perhaps the most important to do in the near future. In addition, the recommendation that the GCOE prioritize anti-racism fundraising with Advancement (Section 3.4) is also time-critical, and should be started as soon as feasible. The ARTF recommends the creation of an Office of Anti-Racism (Section 3.2), which would include the creation of one or more Ombuds persons; this would help address many of the concerns raised, especially by the students (Section 3.12) and staff (Section 3.11), and could be achieved in a reasonably short amount of time.

There are also several recommendations that will take much longer, of course, of which changing the culture and climate is one. Many of the recommendations are focused on changing culture and climate (Section 3.9), in some cases through training (Section 3.8), through educational programming and curriculum development (Sections 3.14 and 3.15), through improving support to the Black and African American members of the GCOE community (Sections 3.11 and 3.12), through Town Halls (Section 3.13), and through committed and visible actions by the leadership at the department/unit level (Section 3.10) and college (Section 3.18).

Improving culture and climate is thus a critically important overall recommendation, that informs every recommendation. A necessary part of this overall goal is to hold regular climate surveys (Section 3.7) for each of the communities within the GCOE (undergraduates, graduates, postdocs, faculty, and staff), and to gather and maintain disaggregated data (Section 3.6) to help the GCOE assess its progress towards overall goals. While progress in improving climate will take time (see Section 3.9), we do recommend that the climate surveys begin in the near future (preferably Fall 2020).

The report also includes recommendations that reflect the importance of engagement with the larger community (Sections 3.16 and 3.17). These specific recommendations should be considered in a broader light, in terms of how the GCOE could engage with the Urbana-Champaign community in ways that would be welcoming and productive.

The largest and most important recommendation, however, is to very substantially increase representation of Black and African Americans within the GCOE, at every level: undergraduates, graduate students, postdocs, faculty, and staff (Section 3.3). This will take the most effort and the most time, but–if successful–will transform the GCOE, and establish it as a leader among Colleges of Engineering.

3.2 Establish an office of anti-racism within GCOE

3.2.1 Purpose

Many action items in this report call for accountability and oversight to achieve anti-racism goals. Additionally, the administrative time commitment necessary to oversee the implementation of anti-racism work at all levels will be rigorous and call for dedicated funding and staff support to ensure outlined actions and goals are achieved. Policy making power and collaboration with College leadership will be essential to the accomplishment of the action items outlined in this report. While the College's IDEA institute has been crucial in centering the work of inclusion, diversity, equity, and access, much progress is needed towards anti-racism at all levels in GCOE. The work proposed in this report is beyond the scope of resources currently available. As such, significant administrative resources and personnel must be dedicated specifically to this work. The proposed Office of Anti-Racism would work together with established entities, such as the IDEA institute, to make progress towards the actions recommended in this report.

3.2.2 Action items

1. Create the GCOE Office of Anti-Racism to oversee implementation of anti-racism work at all levels. This office would include dedicated funding/staff support, policy making power, collaboration with college leadership, and implementation and evaluation of actions recommended in this report (especially increasing representation, data collection, collaboration with leadership, climate surveys, training at all levels, incentivizing anti-racism, and retention). This office would be responsible for facilitating and supporting the implementation of action items related to increasing representation, data collection, training, surveys, incentivization of anti-racism activities, mentoring, and coalition building. Positions serving in the GCOE Office of Anti-Racism would include dedicated, full-time administrators including faculty, staff, and student Ombuds persons, program coordinators dedicated to anti-racism training and programming, and data specialists to facilitate collection and tracking. Personnel working within the office should have substantial power to make decisions, formulate policies, and allocate budgets to departments. Personnel should regularly work with a diverse committee of faculty, staff, and student members. Duties of administrators working in the Office of Anti-Racism would include (but are not limited to):

   - Work with college leadership to develop actionable Anti-Racism goals and track/report progress on the Office's work
   - Serve as the point of contact for racism-related complaints and processes
   - Engage College leadership with Anti-Racism work
   - Develop, implement, and analyze climate surveys
   - Oversee anti-racism training programs
   - Develop programs that foster community and support retention
   - Proactively catalyze and help each department do cluster hires (this may leverage the officer's own networking)
   - Participate actively in recruiting (and retention) of named professorships and chairs for Black faculty
   - Oversee collection and analysis of equity data on recruiting, retention, and salary
   - Write grants to support Anti-Racism programming

2. Increase budget and staff resources to IDEA Institute. In addition to dedicated budget and staff resources for the Office of Anti-Racism, we recommend an increase and budget and staffing for the IDEA institute. Anti-Racism work is intersectional, and additional funding and administrative support for the IDEA Institute will provide an even stronger foundational support for Anti-Racism work in the Grainger College of Engineering.

3.2.3   Potential impediments

Financial and staffing.

3.2.4   Accountability

GCOE leadership, with assistance from IDEA.

3.3 Increase representation of Black and African-American students, faculty, and staff

3.3.1 Purpose

The compositional diversity of a University has been shown to affect perceptions of climate, which strongly influences recruitment, performance, and retention of Black students, staff, and faculty. In order to reach its goals of an 'Inclusive Illinois', the college must directly confront the problem of underrepresentation amongst the student body, staff, and faculty while avoiding the pitfalls of tokenism. It should also do so in fulfilling the University's stated mission to 'enhance the lives of citizens in Illinois, across the nation and around the world through our leadership in learning, discovery, engagement and economic development'.

Students: According to a 2019 ASEE report [2], Engineering at Illinois graduated the most B.S. students of any US university in 2018. Illinois, however, did not even rank in the top 20 for the number of Black and African American B.S. graduates, and Black engineers graduate at a rate considerably lower than the national average of 4.2%. These statistics are concerning considering the fact that Illinois is home to the 7th largest Black population in the US. According to the ASEE data, 43 of 2375 (i.e., 1.8%) of B.S. degrees awarded in 2018 went to Black and African American students. As a historical point of reference, participation by Black students in Illinois campus chapters of science and engineering professional societies, such as ASME, ACS, AICE, AIEE, ASCE between 1947 and 1949, was on the order of 1% [25].

While enrollment data is not available from this segregation era period, the data provide a useful reference for the order of magnitude of enrollment statistics. These data are broadly problematic with regard to Illinois' role in providing an Engineering workforce for the nation. Illinois also awarded the most Engineering Ph.D. degrees in 2018 and a large number of M.S. degrees. Issues with the so-called STEM pipeline are often cited for the lack of STEM graduates and faculty, and the GCOE must seriously consider its own role in this problem at the national level. The GCOE should, furthermore, take necessary steps to begin providing leadership in developing the next generation of Black engineers, scientists, and faculty.

Staff: Staff are often the key contact points for students to resolve logistical issues and practical problems related to their education and play a key role in students' success. Having a diverse staff is a key component of having a diverse and inclusive unit. According to the Division of Management Information, the GCOE and its Units have amongst the lowest percentages of so-called 'underrepresented minorities' employed as civil service staff and academic professionals. It should be noted that aggregation of the data in this way is not helpful in understanding racial demographics and the term "underrepresented minorities" has negative connotations [66][2]. For perspective, the University's academic professional and civil service staff were 11.7% and 12.1% underrepresented minorities, respectively, while the GCOE only employs 8.2% and 7.1% underrepresented minorities in these positions.

Underrepresentation of Black staff, relative to the rest of the University, in the GCOE is consistent across all of the Division of Management Information spanning more than a decade. These data are highlighted, because STEM pipeline issues are irrelevant for civil service positions and mostly irrelevant for academic professional positions.

Postdoctoral Fellows Diversity among postdoctoral fellows is crucial due to: a) the vital part they play in the academic research enterprise, b) the postdoc position being an integral step in the pathway to professorship, and c) the postdoc's role in mentoring and training both undergraduate and graduate students. According to the Division of Management Information, the percentage of underrepresented postdocs campuswide has been on the decline since the 2016-2017 academic year. As of this past academic year (2019-2020), the campus total for under-represented postdocs was 17, constituting only 3.3% of the 518 postdocs on campus. For the 2019-2020 academic year, GCOE had 147 postdocs, with only 2 being underrepresented

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[2]The term "underrepresented minority" has harmful and racist connotations, as noted by [66]; however, because it is the current language of GCOE, the University, and STEM in general, we also use it in this report as well. We recommend that the term be replaced.

(1.4%). Independent funding and structured mentorship are fundamental in the successful transition from trainee to junior faculty; therefore, these components should be emphasized alongside increased recruiting of Black/African American postdocs.

Faculty: A diverse faculty is important for developing novel and diverse scholarship. Diverse faculty are also important role models and mentors for our students. According to the same ASEE report, African Americans made up 4.2% of B.S. graduates and 4.2% of Ph.D. graduates, but only 2.4% of tenure-track faculty nationwide in 2018. The same year Black engineering faculty at Illinois was also ∼2.4%. This statistic is exceeded by several peer institutions, such as Georgia Tech, Cornell, U. Michigan, Stanford, and MIT.

The discrepancy between graduating Ph.D. students and tenure-track faculty is the portion of the "leaky" STEM pipeline that Universities are responsible for. The data suggests that, at best, we are not making efforts to actively recruit qualified graduating Ph.D. students and, at worst, have policies and procedures in places that are actively discouraging recruitment.

Diversifying the student body, staff, postdocs, and faculty will require more than just admitting more students and hiring more people. The long-term success of this initiative will rely on well-organized retention and mentorship programs, community building activities, and a commitment to changing campus culture and climate [35, 55, 42]. The GCOE will have to affect culture within the college by providing appropriate incentives and deterrents to foster an inclusive environment that can develop from these efforts.

3.3.2   Action items

The proposed action items below are separated into tasks specific to students, postdocs, staff, and faculty.

Students:

1. The GCOE should create new and additional scholarships and fellowships to recruit and retain Black undergraduate and graduates. The GCOE should be mindful about disaggregating funds targeting racial diversity and gender diversity.

2. The GCOE should review admissions policies to reduce systemic bias inherent in the process. Such a review should be done in coordination with scholars with expertise in Black K-12 education who are knowledgeable about how systemic bias influences factors included in admissions review, such as teacher and guidance counselor recommendations [9], standardized testing [65], or disciplinary records [18].

3. The GCOE should develop an active recruitment effort to target high achieving students in Black communities in Illinois. The GCOE should send representatives to appropriate high schools to promote engineering at Illinois, provide information, and answer questions. The GCOE should be mindful that it will be difficult for some students to attend the events hosted on-campus throughout the year.

4. The GCOE should implement a plan to recruit Black graduate students. The majority of recruitment efforts have historically been at the departmental level. Establishing meaningful relationships with Historically Black Colleges and Universities (HBCUs) and Minority Serving Institutions (MSIs) that are valuable talent pools from which to recruit Black engineers will, however, require more coordinated efforts at the college level.

5. The GCOE should evaluate existing mentoring and retention programs and develop new programs with input from stakeholders. Specific concerns were raised that there are not enough mentoring opportunities for Black and Brown students, particularly with Black and Brown engineers and scientists. Mentoring opportunities were, furthermore, suggested to be less accessible to Black graduate students who do not have access to programs available to undergraduate students. Although graduate students often have a specific research or academic advisor, they could benefit from mentoring that reflects knowledge of systemic racism inherent in their chosen career path.

6. The GCOE should create student awards that reward efforts made by students to promote racial inclusion on campus.

7. We recommend that the GCOE provide additional resources for Grainger faculty to engage, recruit and hire Black graduate students in their research groups. This both helps the College goal of increasing research output and increases the pool of students of color in the College.

Staff:

1. As discussed above, the data regarding diversity in the GCOE staff reflects systemic bias relative to the rest of the University. Furthermore, the staffing of the University does not reflect the broader community, which possibly reflects historical biases in hiring. The GCOE should review HR policies in order to understand the nature of systematic biases in GCOE staff hiring and implement changes that mitigate these biases. This should be done in consultation with scholars that have expertise in racial biases in recruitment and hiring practices. For example, civil service positions require testing that is used to rank candidates. However, the general content of and expectations for those 2–4 hour exams are not publicly available. This unknown represents a large barrier to entry for people not already familiar with the system. This biases hiring towards people that have access to that information via their friends, family, and professional network. The GCOE should be making efforts to educate all potential applicants in how to best prepare for and apply for positions within the GCOE and the University in order to ensure fairness in the system.

2. The GCOE should actively recruit staff from the local community and Illinois in an effort to bring demographics more in line with those of the county. This could be facilitated by providing public information sessions, question and answer activities and public events, and providing information resources to the public regarding best practices for applying for civil service and academic professional positions. The window during which applications for civil service positions are open is sufficiently short that it often practically requires that the applicant already be registered in the system prior to the position becoming available. Additionally, many positions are not advertised publicly outside of the system. The GCOE should be actively recruiting potential candidates to register in the system prior to positions becoming available, and publicly advertising all positions, possibly prior to them becoming open to applications in order to ensure that candidates have sufficient time to apply to those positions.

3. The GCOE should develop training and mentoring programs for Black staff from across the college, and these programs could be coordinated with other colleges and units. This plan should have clear metrics and goals related to job satisfaction, retention, and career development along relevant promotional pathways.

4. The GCOE should introduce awards for staff that work to promote racial diversity and inclusion in the College, on campus, and in the community.

Postdoctoral Fellows:

1. We recommend that the GCOE work to strengthen and extend the DRIVE program (including through additional financial resources) to formulate and achieve ambitious goals regarding postdoctoral recruitment and placement. Examples of activities that would be beneficial include: recruiting from PhD students into DRIVE, recruiting new faculty from among the DRIVE postdoctoral fellows, building and supporting new collaboration opportunities between Illinois faculty and DRIVE postdocs, and providing additional professional development opportunities for the DRIVE postdocs (including travel funds to speak at other universities and attend conferences).

2. Increase funding for GCOE postdoctoral fellowships for which applicants can apply directly and funding would be independent of the faculty mentor. This would also include increased participation in campus or various institute-backed programs. Examples include, but are not limited to:

- The Chancellor's Diversity Postdoctoral Fellows Program and the Illinois Distinguished Postdoctoral and Visiting Scholar (DRIVE) Program (nominations only)

- The Beckman Postdoctoral Fellows Program (direct application)

3. The various postdoctoral fellowship programs within the GCOE (or available through the campus) should be evaluated for efficacy in terms of providing the best training and opportunities for Black and African-American grantees. Those programs found to be ineffective should be revised to address shortcomings.

Faculty:

1. The GCOE should commit to hiring 10–20 Black tenure-track faculty over the next years; this will double or triple the number of black faculty in the college. The goal can be achieved by adding on average 1–2 faculty per department. This growth would make Illinois amongst the most racially diverse engineering programs. One of the ways of hiring is to do cluster hires, i.e., hiring groups of faculty from other institutions perhaps even spread out over multiple departments or units.

2. To improve recruitment success, the GCOE could implement a program that redistributes funds available for start-up packages that incentivizes hiring Black candidates, until the program goals are met.

3. To improve recruitment and also increase the tenure success rates for Black faculty, the GCOE could implement a competitive "junior sabbatical" program, in which junior faculty receive a paid semester off from teaching and service obligations before they come up for tenure, thus enabling these faculty to spend time at other institutions (e.g., the Institute for Advanced Study (`https://ias.edu`), the Radcliffe Institute for Advanced Study (`https://www.radcliffe.harvard.edu`), the Simons Institute for the Theory of Computing (`https://simons.berkeley.edu`), etc.), in order to make major advances in research and scholarship. DEI activities could be included as part of the evaluation process. In some cases, this could be taken as part of a postdoctoral experience before joining Illinois.

4. The GCOE should review existing departmental faculty recruitment activities and develop best practices for recruiting and evaluating Black faculty candidates in a way that helps eliminate systemic biases.

5. The GCOE should make use of existing endowed chairs to target the recruitment of senior Black engineering faculty.

6. The GCOE should create new endowed professorships for recruitment and retention of Black faculty.

7. One of the very prestigious and effective ways for recruiting female faculty in EE and CS departments is the annual "Rising Stars" conference, which brings the top junior women (current PhD students or early career postdocs) seeking academic jobs together for an intensive workshop in which they are mentored, give research talks, and meet other students and faculty at leading institutions. This program began in 2012, and was most recently co-hosted by the ECE and CS departments at Illinois (see `https://publish.illinois.edu/rising-stars/`). Given the success of these conferences at promoting young women in EE and CS, we would recommend that the GCOE plan and host a "Rising Black Stars" conference for Black PhD students and postdocs, and host it annually, starting in 2021.

8. Data should regularly be collected regarding retention, recruitment, and salary equity of faculty members. This data must also be properly analyzed and disseminated where appropriate.

9. Improve retention of Black faculty. Strong social networks should be formed for existing and new faculty members to ensure both retention and that promotion is achieved. This is particularly important for Black and African American faculty, who may be isolated within their departments. Department Heads and other administrators should participate in these networks to help them to grow and become strong. Similarly, it is important to support faculty research interests and activities in diversity,

inclusion, anti-racism, and disparities. However, this work is not always valued, which has unnecessary negative consequences. We recommend that the GCOE acknowledge the value of this type of work, so that it is appropriately credited as scholarly work in promotion, tenure, and annual evaluations [44]. Finally, faculty members who participate in service related to the above topics should also have this work properly credited.

Cross-cutting:

1. With respect to the proposed activities focused on diversifying the student body, staff, and faculty, the GCOE should establish clear goals, criteria for evaluation, timelines, and metrics for success. These items should be publicly available.

2. A College-level committee, with faculty, staff, and student members, should be formed and tasked with implementing the proposed action items, and should be active until the program goals are met. Although there is a standing committee on diversity in the GCOE, this appears to be too broad of an umbrella to allow for the specific focus on racial diversity that the proposed action items require.

3. In relation to retention goals, the GCOE should perform exit interviews of Black students, staff, and faculty leaving the University in order to better understand problems faced by those who decide to leave.

3.3.3 Potential impediments

Financial limitations and competing interests.

3.3.4 Accountability

The College leadership and Executive Officers of the Departments.

3.4 Prioritize anti-racism goals with GCOE Advancement

3.4.1 Purpose

Efforts by the college to mitigate the legacies of historical injustices in accordance with the recommendations proposed in this document will require significant financial investment. The proposed incentives for recruitment, retention activities, training programs, scholarships, awards, and endowed chairs will all require long-term funding stability. Furthermore, discretionary budget allocations for DEI activities are often amongst the first to be cut in times of financial crisis (see `https://www.chronicle.com/article/diversity-takes-a-hit-during-tough-times/`). For these reasons, establishing and growing endowments dedicated to DEI activities in general and anti-racism in particular should be a top priority of the College's advancement activities until strategic goals are met.

3.4.2 Action items

1. The GCOE should actively develop new relationships with potential donors who care about DEI and anti-racism in particular. This is an opportunity now, especially, and so timely action in this regard is best.

2. The GCOE should develop a comprehensive budget to address the prioritized goals outlined in this call to action. It is anticipated that these efforts will require discretionary spending in the short-term, but must transition to a sustainable funding model.

3. The GCOE should

   - predict future annual expenditures associated with each of the newly launched initiatives,
   - develop an endowment goal that will sustain these initiatives,
   - establish an endowment specific to DEI within the GCOE, and
   - prioritize advancement activities promoting this endowment until the specific fundraising goals are met.

4. The GCOE is strongly encouraged to review their investment management, since it is well documented that Black investment managers are under-represented in managing university endowment portfolios despite performing equivalent to their White peers.

3.4.3 Potential impediments

Competing interests for other initiatives.

3.4.4 Accountability

Associate Dean for Advancement

3.5 GCOE leadership meeting with Black and African-American students, staff, and faculty

3.5.1 Purpose

The ARTF has learned about the very significant anxiety experienced by the African-American community at Illinois about the climate locally and nationally, and the inadequacy of the student code to protect students, staff, and faculty from racist and hostile actions.

3.5.2 Action item

The GCOE leadership (Dean, department heads, associate heads, graduate and undergraduate advisors, etc.) should meet with the Black and African-American students, postdoctoral researchers, faculty, and staff, to hear about their concerns, and then respond to their concerns. For this effort to be most productive, we make the following recommendations:

1. The GCOE leadership should begin (and end) with a clear anti-racism statement, show support to the Black and African American community, and make it clear that the expectation is that the GCOE community will behave better than is required by law or the student code.

2. There should be four separate meetings: undergraduate students, graduate students and postdocs, faculty, and staff. This recommendation is based on the realization that while the entire Black and African American GCOE community have common goals and needs, they also have distinct differences, and the best information sharing will occur within the smaller group meetings.

3. These meetings should happen early in the Fall 2020 semester. This will communicate that the GCOE leadership has a deep understanding of the importance of the issues, and is committed to addressing them.

4. The meetings could be facilitated by someone with experience in this capacity. This will help ensure that all attendees are heard, and may also enable some issues to be discussed.

The GCOE leadership should provide a written response to the concerns raised by the students, faculty, and staff. This response should specify concrete actions that the GCOE will take to prevent problems, and then to support the community appropriately should (when) problems occur. The most effective kinds of support that the administration could provide is unclear, but should begin with the following:

- more mental health support for students coupled with specific training of mental health support staff on how to address issues concerning racism.

- engaging with campus police to ensure they are appropriately sensitive and responsive to concerns that are being raised.

3.5.3 Potential impediments

Appropriate responses to the input from the students, faculty, and staff will take some care. However, it will be important to not delay too long in responding. Furthermore, improving mental health support and ensuring that the campus police understand the community concerns will take additional effort and personnel.

3.5.4 Accountability

The Dean of Engineering

3.6 Improve data assembly and access regarding diversity

3.6.1 Purpose

Without data of various types, it is not possible to understand the challenges we face, design mitigation strategies, or evaluate the impact of our actions. Climate survey data is part of this, and is discussed in more detail in Section 3.7. In this section, we focus on comprehensive data on the demographics, retention and advancement of the GCOE community, in particularly on people of color, is essential to (1) quantifying the diversity and success of all members of our community, (2) identifying areas of concern, and (3) evaluating the impact of our diversity, equity and inclusion efforts.

Currently, community data is available through the Division of Management (`http://dmi.illinois.edu/cp/`) and extensive student data is available through the ASEE profiles (`http://profiles.asee.org/`). These data primarily focus on students and faculty, where postdocs and staff information is less comprehensive.

Race and ethnicity data is currently aggregated as "underrepresented groups" instead of split up by category (i.e. White, Asian, Black/African American, Native American/Alaskan Native, Pacific Islander/Native Hawaiian, and Latinx/Hispanic). The experience of these race and ethnicity groups differ greatly on campus, thus division of this data is essential to understanding their experiences within GCOE. Data on undergraduate retention is comprehensive, but information on graduate students, postdocs, faculty and staff retention rates is lacking. Additionally, metrics tracking the success or career paths of faculty and staff by various demographics are missing. Furthermore, much of the available data on racial diversity collected through the Division of Management is presented in a convoluted format, which is largely inaccessible to most students and the general public.

3.6.2 Action items

1. **Establish data collection and analysis pipeline.** Our first recommendation is to establish clear goals, metrics, benchmarks for diversity, equity, and inclusion within the publicly available GCOE Strategic Plan. The strategic plan should guide the data collection and analysis process and will likely include the following approaches:

   - Diversity: Race, ethnicity and gender representation should be disaggregated for all metrics under investigation. Individuals should have the ability to specify more than one race/ethnicity instead of defaulting to the "Other" category which causes their data to be lost in data reports. Intersectionality should also be considered during the analysis.

   - Equity and Access: It is not enough to have a diverse community. We need to ensure our community is being supported and progressing in their careers at the same rate across all demographics. Thus, more investigation is needed into the following factors across relevant roles, especially in the race and ethnicity categories: job offer rate, job acceptance rate, promotion rate, succession rate, length of employment, pay rate, and reasons for leaving. Demographic information should also be collected and published on the composition of the leadership teams within the GCOE, including the Executive Committee and the Dean's Cabinet. More data should be collected on staff particularly due to the essential student-facing roles they play.

   - Inclusion: Measuring the climate within the GCOE community is critical to reach our diversity and retention goals. See Section 3.7 for more details.

2. **Collection and assembly of data.** The annual process of collecting and assembling GCOE data should be organized by a committee led by students, faculty and staff to ensure transparency and fair representation. This committee may be a subgroup of the current GCOE Diversity Committee or a separate entity. A suggested format of the committee's findings could follow a format similar to the Harvard College Open Data Project (`https://hodp.or`) and the NYC Open Data Project. Committee members should be compensated for their time through FTE% or stipend. Assembly of this group should be established by the Spring of 2021.

3. **Transparency of Information.** College data should be made readily available in an easily digestible manner on the GCOE website under its About Diversity website (`https://grainger.illinois.edu/about/diversity`). Department-level data should be disaggregated and published on each department's respective website. The college's Diversity Plan should also be made public with regular reports tracking the college's progress on the Diversity Plan's goals and benchmarks.

3.6.3   Potential impediments

Effort could be substantial.

3.6.4   Accountability

GCOE administration and IDEA

3.7 Prepare, run, and analyze climate survey

3.7.1 Purpose

The GCOE lists being inclusive amongst its core values within its strategic plan (see `https://ws.engr.illinois.edu/sitemanager/getfile.asp?id=690`). An inclusive environment is a reflection of campus climate. Climate relates to students, employees, and participants perceptions of the institution. Climate has been shown to affect the performance, success, and outcomes of Black and Brown students and is central to the GCOE's mission of providing excellence in education. Climate also impacts recruitment and retention of Black and Brown students, staff, and faculty who contribute to the diversity of ideas and perspectives on campus. Delivering on the GCOE's promise of an inclusive climate is, therefore, critical to its educational mission. Perceptions of racial climate in education have been proposed to reflect five broad factors; a) the historical legacy of inclusion or exclusion, b) the compositional diversity of the institution, c) a psychological factor related to perceptions of attitudes, discrimination, and injustice, d) a behavioral climate affected by interactions between races and ethnicities, teaching practices, and the nature of intergroup relationships, and e) a structural dimension that reflects policies such as hiring practices, tenure policy, budget allocations, the definition of merit, policing, or admissions policies [33, 51].

The various recommendations contained within this report all address various aspects of these five factors that influence climate. Culture describes the fundamental ideologies and assumptions inherent in an institution [43]. Culture often reflects historical perceptions regarding what the institution rewards, punishes. Culture and climate are inherently interrelated. Administrators can most directly affect culture with the goal of influencing climate. In order to strategically influence both culture and climate it is important to have high quality supporting data.

A 2011-2012 climate survey conducted by campus found that 39% of students of color felt uncomfortable on campus because of their race, resulting in the 2015 report on microaggressions at the University of Illinois [28]. This high response rate survey also found that in Illinois 51% of the students of color reported stereotyping in the classroom. About 8% of students of color have thought about dropping out of the school because of microaggression. A study of Black and Hispanic Women Engineers in the College found that they experienced statistically higher levels of microaggressions and depression than their female engineering student peers [17]. Although these surveys provide valuable insight into psychological and behavioral aspects of campus climate, the data do not provide comprehensive insights into campus. Campus level studies, while valuable, do not provide insights into GCOE-specific issues and thus the GCOE is strongly encouraged to collect its own data. Furthermore, there is no contemporary data from the perspective of staff and faculty at Illinois. This lack of data, for example, presented challenges in drafting recommendations for this report. An envisioned process of continuous future improvement should collect, analyze, and respond to such data at appropriate intervals.

3.7.2 Action items

- The GCOE should work with stakeholders and social scientists to develop a climate survey that addresses the major factors affecting racial climate. The climate survey should be implemented by a dedicated staff or third-party in order to avoid placing excess burden on GCOE faculty. The survey must ensure strong guarantee of anonymity. In some departments and units, there may be at most 1 or 2 Black staff or faculty, and only a handful of students, graduate students, or postdocs. Being a Black male or female in a particular unit at a particular level may be identifying information, so it is imperative that the data collection and analysis is mindful of this fact.

- Climate surveys should be performed at regular appropriately spaced intervals consistent with a model for continuous improvement. The GCOE should establish a mechanism to ensure this occurs. As an example, the University committed to performing regular climate surveys every two to three years during their 2011 climate survey, but subsequent comprehensive climate surveys were not implemented.

- The GCOE and each of its units should provide responses to the reports addressing how they intend to respond to any major concerns raised by these surveys.

- The climate survey should be implemented and analyzed by an independent third party and the results should be made available to the GCOE community.

3.7.3 Potential impediments

One of the challenges is ensuring sufficient anonymity; standard approaches may not be sufficient. Another challenge is ensuring that the climate survey questions are appropriate (and this will depend on the group in question), and that the interpretation of the surveys is done by appropriately skilled people.

3.7.4 Accountability

GCOE administration

3.8 Train and educate an anti-racist GCOE community

3.8.1 Purpose

Without awareness of racial injustice as well as consistent action to disrupt it, an organization full of smart, caring, and well-intentioned people will still fail to create a supportive, safe, and respectful environment for Black students, faculty and staff. Many non-Black faculty, students, and staff in the GCOE are concerned about perpetuating racial injustices that marginalize their Black colleagues, students, and classmates, and instead want to serve as an "ally" to them. According to [15], allies are individuals who belong to dominant social groups (e.g., whites, males, heterosexuals) and, through their support of nondominant groups (e.g., people of color, women, LGBTQ individuals), actively work toward the eradication of prejudicial practices they witness in both their personal and professional lives. This ally work requires both an awareness of racial justice issues and the skills required to disrupt racist events and policies as they encounter them in their everyday lives. That is, allyship requires both education and action. These actions may be thought of as microinterventions to disrupt racial microaggressions, as proposed by [62]. Furthermore, there is no endpoint to ally work, but it is instead a continuous process. No one can be defined as an "ally", but the actions they engage in can serve that role, when they effectively leverage their privilege in support of and solidarity with marginalized groups. Finally, while it is important for the GCOE to encourage ally training and ally work, it is important to recognize that anyone seeking rewards for "allyship" is most likely not functioning in a true ally capacity. They may be engaging in performative allyship, which harms trust and can also make things even more difficult and dangerous for the marginalized community they are claiming to help. Ally work, then must come from an internal commitment to disrupt racial injustice, and require no validation or glorification.

There are inadequate opportunities for faculty, students, and staff in the GCOE to learn how to be better allies to Black students, colleagues, and classmates, as well as other people of color. To address this, we recommend a training program tailored to each group (faculty, undergraduate students, postdocs, faculty, staff, and other categories as needed). The program would offer introductory and continuing training opportunities and be developed in a "train the trainer" style in order to extend the reach and allow for small, hands-on sessions, which will be more effective. We also recommend better promotion of additional training opportunities available throughout the campus on anti-racism and allyship.

3.8.2 Action items

1. **Develop an anti-racism ally training program, potentially in collaboration with other Colleges or units on campus.** It is important to be aware that building a thorough understanding of racism in all contexts is a life-long (yet worthwhile) endeavor. Participants should be given resources to continue their education beyond the training workshop, and should be encouraged that allyship skills can be developed alongside this reading and intellectual work (there is no need to wait to become an expert on racism to begin acting as an ally).

   - Introductory training mechanisms should be developed that are accessible to all GCOE students, faculty, and staff. In addition, advanced and ongoing training mechanisms should be developed that allow those who are interested to further develop these skills.

   - Trainings should include reading and discussion to provide a greater awareness of racial injustice, specifically as this applies to the oppression faced by Black GCOE faculty, students, and staff.

   - Trainings should include a substantial practical component in which participants have the opportunity to learn and practice new ways of serving as anti-racism allies. As described in [62], one approach is to develop microintervention strategies that will (a) make the invisible visible, (b) disarm the microaggression, (c) educate the perpetrator, and/or (d) seek external reinforcement or support for the individual targeted by the racial microaggression. Furthermore, responding to some microaggressions, such as subtly racist policies, may be challenging, and effective allyship in these instances requires skill and practice.

- The training should be hands-on, small-scale workshops that include plenty of time for role playing in order to practice the allyship practice. One way to achieve this for such a large college like GCOE is to develop a "train the trainer" style workshop, so that trained individuals can lead future training in their units. Experts should be consulted to ensure this can be done without compromising the quality of the training or promoting misinformation.

- Where possible, these trainings should be tailored to the needs and concerns of specific groups, for example graduate students, undergraduates, staff, and faculty.

- Special care should be taken to protect Black students, staff, and faculty, as well as other people of color participating in or leading these training. The IRISE team, when leading their "Talking with Racist Uncle Joe" and other anti-racism workshops with GCOE graduate students, developed strategies in which some workshop co-facilitators could leverage their privilege to support Black co-facilitators, who were more likely to be personally attacked for pointing out racist ideas. Strategies were also developed to protect vulnerable students in these workshops (e.g., the single BIPOC student in a group).

- Venues for these trainings may include existing courses and training programs, such as departmental TA trainings or the Engineering Faculty Leadership Forum.

2. Develop, maintain, and widely distribute throughout the GCOE a listing of current and future training opportunities that will strengthen faculty, staff, and student skills in anti-racism and allyship. Examples include the series "Creating Inclusive Classroom Series" offered by the OVCDEI.

3. The GCOE training and other anti-racism workshops should be encouraged through promotion and recognition of this work by graduate advisors, department heads, etc. This work should be included in annual evaluations and promotions.

3.8.3   Possible Impediments:

Some research has shown that mandatory anti-racism and diversity training can result in unforeseen consequences (e.g., see [39] and link at theconversation.com), especially if not continued over a long period of time. This suggests that the design of these training activities should be ongoing, and revisited, as the best practices are developed and taught. It also suggests the possibility that efforts that focus on developing optional advanced training, especially training that is associated with other benefits (e.g., leadership training or mentoring), may be desirable. However, many on the ARTF are convinced that mandatory training is nevertheless needed and beneficial.

3.8.4   Accountability

Department and unit Executive Officers, GCOE leadership

3.9 Incentivize anti-racism activities

3.9.1 Purpose

The GCOE gives a clear message that diversity, inclusion, and equity are important, valued, and a prerequisite for excellence. Moreover, GCOE is committed to the creation of an anti-racist, inclusive community.

However, in practice, anti-racism efforts are treated as extracurricular activities. GCOE faculty, staff, and students who actively engage in anti-racism work risk career advancement opportunities. For example, faculty who are dedicated to anti-racism and DEI work pay a high "service tax" in comparison to their peers who devote their time and energy to research on their road to tenure and promotion; staff members volunteer or are appointed to anti-racism and DEI committee work without adjustment to their assigned duties; and students serve on student advisory boards to ensure an inclusive community, lead town halls addressing racism on campus, and serve on anti-racism committees while maintaining academic excellence despite bias and microaggressions in the classroom.

Black, Brown, and Indigenous faculty, staff, and students (and their allies) are most likely to engage in anti-racism activities compared with their overrepresented peers. They often feel personal responsibility for anti-racism, while many overrepresented peers show disinterest or even disdain. The extra time and energy required for anti-racism activities is undervalued and invisible in comparison to scholarly activities (e.g., research and teaching) or work that is considered core (e.g., advancement) to the college's mission. Thus, anti-racism work is unlikely to lead to tenure, promotion, scholarships, fellowships, or awards and recognition and hence career advancement.

3.9.2 Action items

Incentivize individuals Incentivize anti-racism activities of GCOE faculty, staff, and students through evaluation and awards.

1. The GCOE should promote and support faculty and staff professional development in DEI and anti-racism.

2. Include anti-racism and DEI activities as a required part of annual evaluation for all faculty and staff.

3. Include anti-racism and DEI activities as part of the P&T process.

4. Provide strong guidelines that ensure that staff performing anti-racism and DEI activities or developing professionally in this space are provided an opportunity to do so as part of their core duties. Staff should not have to take time off for anti-racism and DEI work.

5. Establish annual college level awards for anti-racism and DEI activities for faculty, staff, and students.

   - Some (or all) of these awards would incorporate a monetary reward, which could be a mechanism to increase base pay for staff and faculty members engaged in this important work.
   - A college-level event would be held with GCOE leadership to recognize the importance of anti-racism and DEI work and honor award recipients.
   - At a student level, provide financial support to RSOs that engage in DEI outreach, which is already occurring and largely underrecognized.

6. Increase funding to cultural STEM RSOs including, but not limited, to GEDI (Graduate Engineers Diversifying Illinois), NSBE (National Society of Black Engineers), SHPE (Society of Hispanic Professional Engineers), etc.

7. Provide paid student worker roles (hourly) at each department to develop student-centered anti-racism development programs.

8. Develop internships for students that are interested in researching anti-racism in STEM (potentially for students outside of a STEM department).

9. Require GCOE grant competitions (e.g., SIIP, SRI, IFG) consider DEI and anti-racism when reviewing proposals. For example, they can include "How does the proposed activity promote anti-racism and DEI?" as an evaluation criterion.

Incentivize departments and IRUs Campus and the GCOE may help encourage departments and IRUs in the direction of DEI and anti-racism in various ways. For example, awarding additional staff lines or faculty hires based on excellence in addressing DEI and anti-racism could be very effective.

3.9.3   Potential Impediments

- Successful adoption of these recommendations will require training in how to evaluate these activities, which will require time and thoughtfulness.

- Additional funding will be needed to implement college level awards that incorporate a monetary award, especially if these are added to the staff or faculty member's base pay.

3.9.4   Accountability

GCOE leadership and Department Executive Officers.

3.10 Ensure department-level engagement and commitment to action

3.10.1 Purpose

The individual experience within academia is centered within the academic department or unit, thus making the climate within each such subgroup of tremendous importance to the well being of the campus community. Recognizing the importance of this focus on the academic unit as a social environment, throughout the country, academic programs, departments, and units, have been posting statements of policy, values, and (sometimes) plans for addressing racism within their programs. These statements communicate support and understanding, and the plans provide specific ways the program will attempt to address the damage caused by racism.

A noteworthy example of such a statement and plan is provided by the Illinois Psychology Department, which published a Statement of Diversity, Values and Commitments (`https://psychology.illinois.edu/diversity/commitment-diversity`) and an Anti-Racism Action Plan (`https://psychology.illinois.edu/diversity/psychology-department-anti-racism-action-plan`). Their action plan identifies specific anti-racism changes that support BIPOC students, staff and faculty.

However, each department and unit has its own culture, demographics, history, policies, and constraints, and so the Statement and Plan that is best suited to one department will not directly translate to another. Therefore, we recommend that each GCOE department and unit articulate its own commitment and approach to creating and maintaining an anti-racism environment. Furthermore, although many GCOE departments have already begun this process, we recommend that these activities continue as the departments develop an improved understanding of what their departmental needs are, and are able to formulate the best approaches.

3.10.2 Action items

Each department should develop their own plan that addresses climate and supports the members of their community, including students, staff, and faculty. The following proposed actions outline suggestions for department/unit statements and action plans.

1. Departments/Units should articulate their responsibility for creating a climate in which all faculty, staff and students can pursue academic excellence and career advancement.

2. Departments/Units should review course syllabi to remove inherently racist terminology (e.g. "master/slave", "white list/black list", etc.), establish clear ground rules for classroom interactions, and integrate inclusive teaching best practices.

3. Departments/Units should acknowledge/encourage efforts by faculty to include scholarship by people of color and to include relevant social justice topics and DEI in their courses.

4. Departments/Units should specify how they will support the College's efforts to collect and report its members' diversity, equity and inclusion data.

5. Departments/Units should evaluate the effectiveness of their recruitment and retention strategies for students, faculty and staff, and develop effective approaches to correct practices that are not succeeding.

6. Departments/Units should promote and organize activities that improve climate and multi-cultural competence, including holding DEI workshops, dialogues, townhalls, social events involving all the members (students, staff, and faculty), and supporting their members professional development in these capabilities. Furthermore, Departments/Units should recognize DEI activities and training by staff and faculty as part of their service to the department, college, and campus.

7. Where feasible, Departments/Units could replace some assigned tasks by DEI and anti-racism responsibilities for selected staff members and student workers. (This would have the added benefit of enabling the GCOE to achieve its DEI goals.)

8. Departments/units should foster an open environment focused on diversity by holding at least two meetings annually to discuss their outreach efforts that are planned or have been implemented.

9. Department/unit action plans should include a timeline for implementation of proposed initiatives.

10. Careful considerations should be made to establish reliable accountability measures for all proposed initiatives in the department/unit action plan.

3.10.3 Potential Impediments

Culture change is difficult.

3.10.4 Accountability

The Department Executive Officers.

3.11 Develop mentoring and advocacy programs for Black and African American staff members

3.11.1 Purpose

The Grainger College of Engineering must retain and promote a diverse staff, including a critical mass of Black and African American staff members in order to create and maintain an anti-racist workplace among an innovative and thriving academic environment. To achieve this, GCOE will need to invest resources that retain and promote Black and African American staff members.

Black and African American staff members on the University of Illinois campus have faced many barriers to retention and promotion, and these are typical of barriers experienced in general by Black and African American people:

1. Lack of safety and sense of belonging, which leaves Black and African American staff members invisible, isolated, and distressed [45],

2. Lack of mentorship and advocacy beyond the direct supervisor results in a lack of connection and support within the unit [30],

3. Power dynamics, racial microaggressions, and other racist interactions between supervisors/faculty members and Black and African American staff members that cause a marginalizing and painful work environment [45],

4. Taking on unseen and unrewarded work of supporting anti-racism initiatives and creating community among fellow staff members with shared experiences [30], and

5. Rising potential for further conflict as GCOE works towards a more diverse workplace.

Many of the action items proposed in this report are related to the issues impacting Black and African American staff raised here, including (1) review of hiring practices, (2) anti-racism and ally training, (3) departmental policy and commitment to action, and (4) incentivization of anti-racism work.

However, the action items proposed in this section seek to directly address fostering community and belonging, implementing advocacy structures that protect and promote the experiences of Black and African American staff members, and tracking progress and improvement towards the retention and promotion of a more diverse GCOE staff. Research has established that community is essential to the safety and well-being of Black and African American staff members in predominantly White institutions, and support systems implemented by the Institution are one of the most essential steps to retain and promote a diverse staff [30]. Furthermore, proposed support systems create a sense of belonging, provide neutral reporting structures other than the supervisor who can advocate for staff members, and establish oversight to ensure implementation and effectiveness of proposed actions.

3.11.2 Action items

1. Hire a Staff Ombudsman. [Addresses items 1, 2, 3, 5]

2. Establish a mentoring program for Black and African American staff members. [Addresses 1,2,3,5]

   - Mentoring program will be developed and overseen by the Office of Anti-racism.
   - Topics include campus resources, career development, wellness, and advocacy groups
   - Metrics include wellness surveys, promotion and retention data

3. Establish a GCOE Staff Anti-Racism Committee. [Addresses items 1-5]

   - Committee Makeup: One staff member from each department in the Grainger College of Engineering. Membership should include a diversity of hiring category (e.g. Civil Service/AP), work experience, and background.

- Department Heads put forth one representative from their department to serve. The Head of the IDEA institute, in consultation with the Dean of the College, reviews the committee membership and approves appointments.
- Ex-Officio members: The Director of the IDEA Institute, two members of the Faculty Senate, Staff Ombuds person
- Work should constitute 10% part of the appointed staff members' workload (3.75-4 hours/week of work).

- Committee Charge:
  - Identify issues faced by Black and African American Staff members.
  - Set and measure progress towards staff anti-racism goals. Progress should be reported annually to the Office of Anti-Racism and be made public for the broad community.
  - Review and Update current hiring and promotion practices to ensure high matriculation and retention rates of Black and African American Staff Members.
  - Develop an Anti-Racism Annual Review reporting rubric and procedure for all staff members.

3.11.3 Potential impediments

Some of the proposals require the creation of the Office of Anti-Racism, which doesn't yet exist, and the appointment of a staff Ombuds person.

3.11.4 Accountability

Department and Unit Executive Officers. GCOE leadership.

3.12 Establish mechanisms to obtain feedback from students

3.12.1 Purpose

Obtaining feedback from students is necessary for improving the environment within the GCOE.

For concerns specific to courses, ICES forms are the primary mechanism for students to provide feedback; however, these surveys do not provide any space for discussing racist behavior and microaggressions which impact the classroom experiences of Black and Brown students. In addition, the aggregated nature of ICES data collection often silences the voices of those students (e.g., Black and African-American) who are in the minority in their classes. Furthermore, providing feedback via ICES presents risks because minority students might be easily identified.

While there are other venues for reporting problems and concerns, many students are hesitant to come forward with their experiences facing racial discrimination because there is a lack of guaranteed protection and support given to students who speak out. Even in situations where students choose to report incidents of race-based discrimination, their concerns are often dismissed and perpetrators are not held accountable [1]. Ultimately students who are most vulnerable, particularly Black, LatinX, and Native-American students, feel caught in a painful cycle of trying to convince GCOE administrators to take their concerns seriously while never actually witnessing progress to address those concerns adequately. Thus, students need better platforms for expressing their ideas and conveying their experiences to administrators who have the power to institute changes on campus.

The process of critiquing and suggesting overarching policies and programs within the college is even less accessible to students. Several departments hold a Town Hall meeting once per semester; however, these meetings rarely lead to substantive change. Due to a lack of structure and organization, concerns are often repeated from one Town Hall to the next with no concrete mechanism for ensuring that progress towards addressing students' problems is being made. Town Halls are often held during weekday evenings and afternoons, which can exclude students who are seeking academic help or working a job shift at that time. In addition, Town Halls, which are solely held at the departmental level, never achieve student-driven structural change across the College of Engineering as a whole.

The students need the College to do more to listen to their voices, believe them, and show them that they have been heard through reforms addressed to their specific needs. Furthermore, any individual, regardless of their background, membership in student organizations, or affiliation with any honor societies, should be able to voice their concerns to college leadership with support and confidentiality. The creation of an effective Ombuds office would be highly beneficial, and good examples of these offices exist [3].

3.12.2 Action items

1. Establish an Ombuds office to serve as a point of contact for students seeking support.

   - Purpose: The establishment of an independent Ombuds office is critical for fair conflict mediation, and many of the concerns raised in this section will be best addressed through such an office. Here we describe aspects of the office that will ensure its effectiveness.

   - Suggested actions:
     - Undergraduate and graduate students should be involved in the hiring process of Ombuds staff, to ensure that they feel comfortable seeking support and consultation from the office.
     - The responsibilities of the Ombuds office in addressing students concerns include, but are not limited to:
       * Collecting data related to harassment and discrimination while maintaining the confidentiality of those involved.
       * Mediating disputes and facilitating conversations regarding racial discrimination and harassment.
       * Listening to student concerns and providing them with resources and next steps to resolve their complaints.

∗ Serving as an independent, impartial, informal, and confidential body for addressing conflict and handling student concerns.

2. Improve the infrastructure for reporting racial bias and discrimination incidents.

   • Purpose: Currently, students who experience racism on campus are directed to the Bias Assessment and Response Team (BART) if they wish to report an incident. According to the latest annual report released by BART [4], their portal received 265 reports of bias-motivated experiences in the 2017-2018 year. In that same year, BART only handled 128 incidents, which is less than 50% of the reports received. In the subsequent fiscal year, the number of reports filed decreased from 265 to 111. We are concerned that these statistics indicate that the system is not working well, and suggest some ways of improving this.

   • Suggested Actions:
     – Ensure confidentiality, and ensure that students understand how their concerns will be addressed.
     – Provide clear additional resources to students who have concerns.
     – Update the GCOE website to provide clarity as to where students should report incidents and whom students should contact in order to discuss concerns related to racial discrimination.
     – Provide a point of contact to escalate allegations if initial efforts fail to address students concerns.

3. Improve communication and transparency surrounding how GCOE is able to support students who are affected by racial discrimination and microaggressions.

   • Purpose: Students are insufficiently informed of their rights and protections when it comes to reporting racial bias and discrimination incidents.

   • Suggested actions:
     – Introductory survey courses such as ENG 100, as well as trainings such as iConnect should discuss what options are available to students if they experience racial discrimination; students should also be given a list of relevant offices and individuals to contact in order to seek more information about racial bias reporting. In addition, students should be made aware of the extent that their confidentiality and anonymity will be maintained if they choose to report and given a point of contact for discussing racial bias incidents. This information should also be publicly available on departmental websites, so that anyone can easily understand the procedures for handling racial discrimination claims at the college and university level.
     – Progress can be evaluated by asking students to take a yearly quiz, demonstrating their knowledge of the policies and procedures in place for reporting racial bias incidents as a victim and as a bystander.

4. Involve students in the development and implementation of college policies.

   • Purpose: involving students in these decisions will improve the outcomes, and will also improve student wellbeing.

   • Suggested Actions:
     – We propose that Administrative Committee meetings and Senate faculty meetings invite representatives from engineering-related student organizations to express the needs of the student body on a regular basis. In addition to involving students from general engineering organizations such as the Engineering Council, administrators must make a concerted effort to include the voices of focused groups such as NSBE, SHPE, GEDI, and BAAC. Departmental and college leadership must make a longstanding commitment to addressing student concerns by routinely engaging with these organizations and obtaining feedback through surveys as well as dialogue in meetings.

5. Collect data regarding student experiences with racism and discrimination in the classroom

   - Purpose: The data gathered regarding student experiences can be used to inform policy development, DEI and anti-racism training of course staff and faculty, and lead to a more inclusive classroom.
   - Suggested actions:
     - Develop mechanisms beyond ICES forms for students to provide feedback regarding classroom experiences.
       Students must be given the opportunity to provide feedback regarding their experiences with racism and microaggressions in the classroom.
       Because of the problems with relying on ICES for this feedback (described above), we ask the GCOE to develop other mechanisms that enable students to communicate concerns in a safe environment, and for the concerns to be responded to and communicated to the faculty.
       One possibility is to create an Ombuds office (see above) dedicated to student concerns, with clear communication regarding how to report concerns, and how the concerns will be handled. Information regarding racism in the classroom might also be collected independently via the Ombuds office, which could conduct surveys and discussions to gauge what extent Black and Brown students felt included and supported in their courses. This feedback should be conveyed to faculty members, and faculty members should be asked to respond with ways in which they will improve their classroom environment.

6. Conduct regular anonymous surveys to gauge student well-being and satisfaction (discussed more in Section 3.7).

7. Improve and expand upon the Town Hall organizational structure (discussed more in Section 3.13).

3.12.3 Potential impediments

Some of this depends on the establishment of an Ombuds office that will respond to student concerns.

3.12.4 Accountability

Undergraduate programs office (UPO), graduate programs office (GPO), and IDEA

3.13 Establish regular Town Halls with students

3.13.1 Purpose

Students who take issue with policies within their department and the GCOE as a whole are encouraged to voice their opinions at departmental Town Hall meetings, which are typically held each semester. However, too often Town Halls are structured in a manner that hinders meaningful change and excludes marginalized voices, thus failing the student body in several ways:

1. There is no mechanism in place for making sure that concerns brought up in Town Halls are actually addressed. When students speak out about problematic practices within their departments, no specific person is identified as having the responsibility or accountability to make sure that work is done to address those issues. As a result, the concerns raised during one Town Hall are likely to be repeated in subsequent semesters. Action is typically only taken when individuals who have power within the student body are invested in pursuing change. This system puts minority voices at a disadvantage and places an undue burden upon students' shoulders to solve systemic problems with little to no collaborative effort from administrators.

2. Town Halls are held in a manner that is inaccessible to students who are working jobs during weekday afternoons and evenings. To avoid conflicting with classes, Town Halls are typically held during afternoons on weekdays. For students who must work during college to support themselves and their families, this timing is not accessible. Although it is impossible to schedule a gathering that suits everyone's schedule, we must make sure that any individual who has a concern about departmental and college-wide policies is able to express their opinion and be heard. We must commit to ensuring that low-income, Black, and Brown students are able to contribute to the dialogue that takes place in Town Hall meetings.

3. There are no accessible forums or Town Hall discussions in place to address student concerns at the college level. Town Halls are typically siloed between departments and attended by students within the same major. This structure fails to account for the fact that problems within one GCOE department may often affect students in other departments. In addition, students majoring in one subject will often take courses in several other departments and should be given the opportunity to share their perspectives. In addition to departmental Town Halls, it is imperative that the college creates an open discussion space for students of any background to share their concerns.

4. There are no archives or consolidated documentation of what occurs during Town Hall procedures. Although meeting notes are often taken and shared at Town Hall meetings, there is no accessible consolidated archive that details the content discussed during all prior Town Hall meetings. This contributes to the repetition of material between Town Hall meetings, which in turn stifles progress.

5. Town Halls fail to create a collaborative environment between both undergraduate and graduate students.

3.13.2 Proposed actions

The GCOE and its departments and units should hold regular Town Halls that enable the students to communicate concerns, and these concerns should then be explicitly addressed in subsequent Town Halls.

1. At the beginning of each Town Hall meeting, progress on previously raised student concerns must be presented. Students should also be given points of contact who are primarily responsible for instituting the necessary changes to resolve each complaint.

2. Students should be given access to a form or portal for voicing their concerns a week before the Town Hall to ensure that those who cannot be physically present still have a chance to contribute. Town Hall organizers should ensure that representatives from each RSO centered around marginalized voices in

the college (NSBE, LCS, BAAC, GEDI etc.) are given the opportunity to share concerns and feedback either prior to or during the meeting.

3. In addition to departmental Town Halls, we recommend that the GCOE organize a college-wide forum to address overarching issues affecting both undergraduate and graduate students. The forum should ideally be moderated by an independent staff member of the Ombuds office or an administrative staff member from the college. At least one administrator from each department should be present to listen and address student concerns. Attendees may consist of elected representatives from the student body, but every student should be given the opportunity to state their concerns through an online form prior to the meeting.

4. Town Hall meeting notes should be documented in an accessible manner and made easily available to all Illinois students in a consistent location.

5. Students should be given the opportunity to provide anonymous feedback at the end of each Town Hall meeting. This ensures that we have a mechanism for gauging the effectiveness of the Town Hall meeting structure and that students have the chance to openly discuss their thoughts and ideas without fearing the repercussions of stating constructive criticisms.

3.13.3 Potential impediments

Organization of these townhalls will take effort. Furthermore, the benefits of townhalls will depend on engagement by both faculty and students, as well as thoughtful responses to input.

3.13.4 Accountability

College-held townhalls: GCOE leadership with IDEA facilitating. Department-held townhalls: Department Executive Officers.

3.14 Create new student programming

3.14.1 Purpose

The ARTF makes several recommendations regarding undergraduate and graduate programming to specifically improve the experience of Black and African-American students in GCOE. Studies show that the success of Black students in STEM depends on the university's commitment to provide them with social and academic integration [37].

The Meyerhoff Scholars (`https://meyerhoff.umbc.edu/`) and Meyerhoff Graduate Fellows (`https://meyerhoffgrad.umbc.edu/`) programs at the University of Maryland Baltimore County (UMBC) are celebrated programs that have greatly advanced BIPOC careers [50], for undergraduates and for graduate students, respectively. The Meyerhoff Scholars program, which is focused on undergraduate students interested in PhDs, has been very successful according to multiple metrics, including retention and graduation rates, grades, etc. Due to its success, the Meyerhoff Scholars program has been replicated at several leading public universities (e.g., Penn State and the University of North Carolina at Chapel Hill), and studies on Meyerhoff Scholars and its derivatives report high success [49, 48, 20].

BRAID (Building, Recruiting and Inclusion for Diversity) is a multi-university initiative funded by NSF (see `https://anitab.org/braid-building-recruiting-and-inclusion-for-diversity/`), which aims to improve representation of women and underrepresented minority students among computer science departments. BRAID has been highly successful in its goals [13]; for example, using this approach, the undergraduate enrollment in computer science at Harvey Mudd, one of the founders of this initiative, grew to more than 50% women students. Although computer science, as a field, presents specific challenges for diversity, the approach in BRAID is likely to be generally applicable beyond computer science, and so merits consideration by GCOE.

There are also other programs that have been deployed at other institutions to great success, and should be examined and potentially replicated. Examples include:

- The NSF Louis Stokes Alliances for Minority Participation (LSAMP) program, `https://www.nsf.gov/funding/pgm_summ.jsp?pims_id=13646`

- The Posse Model, `https://www.possefoundation.org/about-posse`

- Early Research Scholars Program, pioneered by Christine Alvarado (previously Harvey Mudd, now UCSD), `https://ersp.eng.ucsd.edu/`

- The Affinity Research Group Model, pioneered by Ann Gates (UTEP) and adopted/promoted by CAHSI, `https://cahsi.utep.edu/ARG/`

Here, we focus on recommendations that are modeled on Meyerhoff, given its recognition specifically for Black and African American students.

3.14.2 Action items

1. **Develop new undergraduate programs modeled on the Meyerhoff Scholars program**. The Meyerhoff Scholars program at the University of Maryland Baltimore County (UMBC) has been highly effective at producing cohorts of undergraduate students who go on to PhD programs in STEM and Medicine, many of whom are Black and African American. We recommend the Meyerhoff Scholars program be adapted to the GCOE. We also recommend that the approach be designed so as to synergistically build on the existing programs at Illinois with similar and compatible aims (e.g., MEP, SURGE, ARISE).

   The success of the Meyerhoff Scholars program is attributed to its guiding philosophy, which emphasizes collaboration rather than competition and the importance of aspiration towards a research-based PhD. The program has provided a template to achieve the goal [20], based on 13 different "key components" (see `https://meyerhoff.umbc.edu/13-key-components/`), which are: (1) Recruitment, (2) Financial

Aid, (3) Summer Bridge, (4) Program Values, (5) Study Groups, (6) Program Community, (7) Personal Advising and Mentoring, (8) Tutoring, (9) Summer Research Internships, (10) Mentors, (11) Faculty Involvement, (12) Administrative Involvement and Public Support, and (13) Family Involvement. All of these key components are important to the success, and we recommend that the GCOE study the specific recommendations and studies about the Meyerhoff Scholars program to best develop versions of this program that will likely be highly successful in the GCOE.

2. **Develop effective Retention Programs for both undergraduate and graduate students.** While recruitment is essential, without effective support, success and satisfaction is unlikely. Therefore, careful attention to retention is also important. We therefore recommend that an effective and expanded retention program be developed, and made available to all interested Black students (whether undergraduate or graduate).

3. **Create course-based undergraduate research opportunities that engage undergraduate students in research during their first year(s) within the GCOE.** This practice is shown to increase persistence in STEM programs [59].

4. **Improve the social environment for Black students.** Black students have the potential to be socially isolated due to their low representation in the GCOE, potentially affecting their success and opportunities compared to other students [40]. Each department should host periodic mixers among faculty, undergraduate students, and graduate students to encourage social integration, as research shows that outside-class relationships are a major component in student success and retention [34]. While such mixers have already been organized by registered student organizations (RSOs) such as GEDI, NSBE, and SHPE, the ARTF believes that the university should either assist these organizations in funding their mixers or that the GCOE should host additional events.

3.14.3 Potential impediments

Substantial effort and some funding is needed to create a program modeled after the Meyerhoff Scholars program.

3.14.4 Accountability

College-centered programs: undergraduate programs office (UPO), graduate programs office (GPO), and IDEA. Department-centered programs: Department Executive Officers.

3.15 Curriculum development

3.15.1 Purpose

The composition of the curriculum, the topics we incorporate into courses, and the way in which we choose to teach them, are key indicators of GCOE's stance on anti-racism. We as a Task Force recognize that curriculum can be a valuable medium for educating our student body about anti-racism and breaking down systemic racism. Rich literature exists on the problems affecting performance and retention of Black students and Black researchers in engineering and broadly in academia (some of this literature is written by Illinois faculty!). We find that these issues are both prevalent at Illinois and consistent with student experiences inside GCOE. By adopting the following recommendations, GCOE can serve as a leader and a beacon for how a curriculum can be adapted to become anti-racist.

The recommendations in this section tackle five key problems:

I Current GCOE courses do not explicitly acknowledge racism present in Engineering and the specific discipline, both over the years and currently (e.g., terms like "master-slave architecture", "white list/black list") [34, 61].

II Current GCOE courses do not set expectations for anti-racist and anti-biased behavior among students [34].

III Research shows Black undergraduate students hit a "wall" in their junior year, leading to dropouts [27]. Similar issues apply to Black Grad students in mid-career, and has also been observed in other groups, such as female students.

IV Black students have the potential to be socially isolated due to their low representation in the GCOE, with the result that they may not have the same success or opportunities as other students [40].

V Technologies the engineering community creates to benefit society, are also disrupting Black communities through the proliferation of racial profiling and other biases [46].

3.15.2 Action items

1. College-level curriculum development. (Persons Responsible and Accountable: Dean and Dean's office)

   - An Anti-Racism and Diversity statement should be a required part of all course syllabi within the GCOE. (Addresses: Problems I and II above)
   - GCOE should teach both its undergraduate and graduate students how to promote DEI, both through the development of new courses and through the integration of materials and activities into key existing courses. (Addresses: Problems I, II, III, IV above)
     - Graduate students should be encouraged to take courses or attend seminars that help them to understand DEI and racism. This is particularly important, given the large population of international graduate students in GCOE who may not be familiar with American-specific race issues.
   - A possible direction is the development of an Honors program for students who are BIPOC or are interested in working with BIPOC students. This program could be part of a collaboration with industry partnerships, and could offer an interdisciplinary, Project-Based Honors program designed to equip students, especially BIPOC students, with the skills, experience and network to achieve success in academia and/or industry. The program should be open to all high-achieving students who are interested in pursuing a career in engineering, and in the advancement of BIPOC students in the sciences and related fields. Students will develop the skills and knowledge to tackle international multidisciplinary problems, and be provided opportunities to creatively leverage STEAM/STEM methodologies to solve problems adversely impacting communities with high

BIPOC representation. This will also give them a deeper understanding of the entrepreneurship-workforce performance relationship, and build the professional network needed to achieve their career goals. A good model is The Institute for Student Success, Louis Stokes Alliance for Minority Participation at UCONN [7]. It is possible the Hoeft Technology and Management Program at UIUC could potentially be augmented for this purpose, or used as a model. (Addresses: Problems III, IV, V above)

- GCOE should join nationwide consortia that explore research for underclassmen. One example is the Vertically Integrated Projects (VIP) consortium, which has been adopted by 37 institutions (including Georgia Tech, Howard University, and the University of Michigan) and implements a model that has been studied for over 20 years [5]. (Addresses: Problems I, II, III above)

- An anti-racism module should be developed for the AE3 Collins Scholars program to equip new faculty to create an inclusive environment in their courses.

2. Department-level curriculum development. (Persons Responsible and Accountable: Respective Department Heads and their office.)

- It is an ABET requirement that students develop the ability to recognize ethical and professional responsibilities in their engineering profession and that they be prepared to thrive in diverse and inclusive environments [8]. Therefore, each department should ensure DEI and social justice topics are more explicitly incorporated into its courses [34, 61]. (Addresses: Problems I and II above) Examples of approaches that could achieve this include:

  – Introductory survey courses for freshmen, such as ENG 100, could incorporate discussions about DEI, ethics, and racial justice.
  – Since design courses cover ethics topics, departments could require that design courses be expanded to include a module on racial bias in design.
  – If a program requires students to take a designated ethics course as a graduation requirement, we strongly encourage that these courses address DEI issues and how these issues connect to the work that students are doing to ensure that Grainger Engineering graduates are adequately prepared to work compassionately in diverse environments.

- Current courses and related course materials (e.g., textbooks) should be reviewed and archaic, racist language in the curriculum should be removed; examples of such terms include "master-slave" and "blacklist/whitelist". Alternatives exist and should be preferred (e.g., "leader-follower", "redlist-greenlist", etc.) [34, 61]. Examples of how industry has responded to this issue include that both Apache web server and Python have removed or replaced the above offensive terms from their code bases during summer 2020. (Addresses: Problem II above)

- Increasing the number of Black faculty would be beneficial for improving climate and the pipeline. To improve this, GCOE departments (or the GCOE at large) should create a "How to be a Professor" course for all PhD students–this can help Black students, as well as make all students aware of social injustices related to racism. In addition, the Diversity and Inclusion section of the existing Engineering TA course for graduate students should be extended. Specifically, these preparation should explicitly embed anti-racism lesson modules and research into their curriculum and provide clear guidelines as to how TAs, faculty, and course assistants can facilitate inclusive classrooms. These courses must include explicit sections on anti-racism, bias (against women, Black communities, Native American/Indigenous communities, etc.), prejudice, and microassaults/insults/aggressions. (Addresses: Problems I, II, III above)

- Engaging undergraduates early in their career in research can lead to improved outcomes, especially for Black students [27]. Hence, each department should create a research course for freshmen and sophomores. The successful Early Research Scholars Program at UCSD [6] is one example of a model undergraduate research course that we could follow. (Addresses: Problems I, II, III above)

- Many modern technologies have been documented to have bias and racism (e.g., AI facial recognition). Courses that discuss these technologies provide opportunities for faculty to engage students in thoughtful discussion of the ramifications of such technologies, ways to address them, and open problems. Faculty should be supported in including these discussions and investigations in their courses. (Addresses Problem V above.)

3.15.3 Possible Impediments

1. Compliance with ABET accreditation may present obstacles, but we believe it would be unfortunate for accreditation requirements to prevent anti-racism steps!

2. Lack of personnel and expertise in some departments to teach DEI material. This can be addressed with help and guest lectures from expert faculty in non-GCOE departments.

3. Existing vs. new courses: There is an overhead associated with creating new curriculum material. Where possible, we recommend that existing courses within departments (and in college) be updated to address the above items. Where such appropriate "fit" courses do not already exist, new courses can be created. Furthermore, each department has unique needs and so should create courses that are best for their students; however, some existing GCOE courses (e.g., for women) may serve as good templates. The Harvard EthiCS model of using guest researchers is another possibility.

4. The design of metrics for evaluation purposes presents challenges. Regular surveys, data gathering, and data analysis are crucial in calibrating how effective these metrics are, and in modifying them to optimize goals.

3.15.4 Accountability

Dean's office (for college-level actions) and Department Executive Officers (for department-level curriculum development).

3.16 Re-examine the relationship between GCOE and law enforcement

3.16.1 Purpose

In "The New Jim Crow: Mass Incarceration in the Age of Colorblindness" [10], Michele Alexander provided a critical examination of the impact of the criminal justice system on African Americans that is influencing policy throughout the country. Her work revealed race-dependent inequities caused and maintained by the criminal justice system. Her work revealed that a disproportionately large number of Black and African American people in the United States are arrested, charged, and convicted of felonies each year, and that the use of past involvement with the criminal justice system as a factor in employment, access to federal assistance (food stamps, housing, student aid) as well as participation in society at large (voting, jury service, census) creates a permanent caste system, which, under the guise of "the war on drugs," has legalized systemic racism across a wide swath of American life.

This is particularly troubling given that many Black men are incarcerated for non-violent crimes, such as drug possession; indeed, as Alexander points out, "just 992 black men received a bachelor's degree from Illinois state universities in 1999, while roughly 7000 black men were released from the state prison system the following year just for drug offenses" [10]. While some types of criminal histories may understandably cause concern, others need not.

As President Obama [63, 56] (and many others) have noted, higher education is an important vehicle by which people with criminal records can contribute to society; however, applicants with criminal records face obstacles in admission [22] due to concerns about safety that have been found to be unfounded [24]. Addressing these problems is complex, especially given the longstanding problems between the African American communities and police departments. These problems exist here in Champaign-Urbana as well.

3.16.2 Action items

The GCOE at the University of Illinois has an opportunity to help rectify these inequities through helping (where appropriate and feasible) to reduce the barriers to full participation in the University of Illinois for ex-offenders, including admission to educational programs, staff positions, etc. The GCOE can also use its influence with the campus and local police to help protect its students, staff, and faculty. This section outlines several actions towards these related goals.

1. Ensure that the current policies of the GCOE and the University are communicated clearly; many of these policies are more welcoming than applicants realize, and this will address some of these concerns.

2. Remove the perception among members of our community that they may not be welcome at the College or University events if they have had a criminal conviction or other past experiences with law enforcement. Develop messaging and advocacy that makes college programs welcoming to everyone in the community, regardless of past experiences with law enforcement.

3. Re-evaluate the practice of using criminal background checks in hiring in the GCOE: understand when it is needed, and why and the impact our language and messaging in job ads has on applicants (or potential applicants) who have had negative experiences with law enforcement.

4. Re-evaluate the practice of using past interaction with the criminal justice system in the recruitment and admissions processes for undergraduate and graduate students in the GCOE: understand when and why is it necessary to ask for this information and the impact on the potential student applicant pool in doing so.

5. Develop approaches to reduce or eliminate conscious and unconscious bias against people with past criminal justice history in the hiring processes of the college.

6. Recognize that many potential GCOE students may not have access to public aid, financial aid, or other resources because of a past conviction or other interaction with law enforcement and work to create/provide funds and other resources for students who are otherwise left out of the opportunities available to other students.

7. Inform GCOE students about their rights in interactions with law enforcement.

8. Reduce the reliance on police for GCOE activities that are better handled by professionals with the proper training in crisis management, mental health, disability services, and medical emergencies. De-escalation of crises should be our first priority and appropriate professionally trained responders should be engaged.

9. Understand the relationship between our students, faculty, and staff on our campus and law enforcement and other authority figures (including members of facilities and services or other campus staff). Ensure that Black students, faculty, and staff are welcome in our community and not assumed to be second-class members due to race.

10. Understand the impact that racial profiling and historical redlining (Champaign's segregated north end) has had on the local community, their trust of the University, and their feeling of being welcomed on our campus and at our events.

11. Create a dialogue with the NAACP and other civil rights organizations about the impact of the criminal justice system and other stigmatizing and ostracizing criminal justice experiences that impact the availability of higher education on Black and African American people.

12. Help interested faculty find opportunities to engage with people at various stages of the criminal justice system. Faculty should be given an opportunity to participate in programs allowing for the education of those who are presently incarcerated, on parole, or have other impediments to accessing higher education.

13. Take the Fair Chance Higher Education Pledge [63].

3.16.3   Potential impediments

Improving the relationship with the local police will require long term engagement and education, but should be feasible. Changes to the processing of job applicants or student admission decisions with respect to criminal records will require careful examination, and consideration of legal issues, but should be informed by relevant research. Finally, change in this regard may require a campus-wide policy change, which thus will depend on engagement with leaders outside the GCOE.

3.16.4   Accountability

GCOE HR and administrative offices

3.17 Evaluate companies with respect to anti-racism history

3.17.1 Purpose

Students on campus deserve to engage in current company recruitment activities organized by GCOE with the expectation that they will not encounter any company on campus that is not committed to anti-racist hiring practices and an anti-racist workplace environment. Currently, partner companies are only expected to comply with EEO and affirmative action principles when it comes to recruiting, interviewing, and hiring by disregarding race and respecting cultural differences and diversity (`http://hireillini.com/recruitment-policies/#section1`). In terms of accountability, GCOE relies only on complaints of companies that do not follow these guidelines.

This approach has proven ineffective, and there is a concern that certain businesses or industries locally are discriminatory and the GCOE should not be patronizing them when this is the case. Furthermore, the businesses that the GCOE and its unit choose to patronize can influence racist hiring practices amongst companies especially within the local community. Therefore, more thorough approaches are needed to inform the choice of companies with which GCOE does business.

3.17.2 Action items

1. Those companies that are considered for contracts with the GCOE should be evaluated with respect to their histories (e.g., reported hostile climates, legal actions, representation of Black and African-Americans among the leadership, etc.). However, the GCOE should investigate effective holistic ways of evaluating whether a company is truly non-discriminatory. Examples of such approaches include reviewing their hiring procedures, including any potentially racist software tools that are used, what diversity training is given to their employees, the racial diversity of employees (especially in upper-level positions), and any involvement with prison labor or the development of racist products (such as facial recognition technology). This is also relevant when deciding which companies to patronize when their services do not follow a standard procurement process, such as in dining, catering, hospitality, etc.

2. Employers who want to participate in the GCOE Career Fair should sign an Anti-racism commitment form as part of their registration process, and returning employers should provide information related to how they have fulfilled their commitment to anti-racism, inclusion, and diversity. The information provided should be reviewed along with their registration for participation in future GCOE Career Fairs.

3.17.3 Potential impediments

The effort required for evaluating companies more completely for their anti-racism and DEI qualities may be significant. In addition, it is likely that some popular companies that are considered desirable employers by many students will participate in some of the technologies, such as facial recognition, that have racist consequences.

3.17.4 Accountability

GCOE Corporate Relations and ECS offices; Department and Unit Executive Officers.

3.18 Ensure GCOE leadership engagement with anti-racism

3.18.1 Purpose

Improvement in anti-racism efforts within the GCOE may begin with student-driven activities, but the best success is most likely to occur if the leadership of the university shows depth of understanding, commitment, and engagement in anti-racism efforts. Furthermore, the leadership of the university has the strongest opportunities to intervene on the behalf of these efforts in the campus at large, and in the national arena. As a national leader in engineering education, the GCOE has an opportunity as well as a responsibility to be known for leadership in anti-racism and diversity, equity and inclusion (DEI) in engineering. At an individual level, the GCOE leadership should be recognized as allies for anti-racism activities and must become sufficiently educated and active to become leaders in this area. Therefore, this action item addresses the activities that the GCOE leadership (Dean, Dean's cabinet, Executive Committee, IRU directors, and department heads) can engage in, and identifies some specific opportunities for impact.

3.18.2 Action items

1. Engagement with ABET.

   - Purpose: Meeting ABET requirements presents substantial limitations to efforts to enhance the undergraduate curriculum. In particular, the number of credit hours required of undergraduate students in core engineering, mathematics, and science courses makes it difficult to include new courses or activities that would enable students to become more aware of racism and its impact, and hence to become responsible members of society. These requirements also inhibit the GCOE from enhancements to existing courses, such as adding required reading that would increase awareness of racism and other social issues.

   - Suggested actions:
     - The GCOE leadership should work with ABET to modify its requirements so that Engineering departments and colleges are better able to educate their students to become responsible members of society. Examples of modifications could be: (i) reduction in number of required courses so as to allow students to take more courses outside of Engineering, or (ii) enabling course content related to racism and social justice to be included into existing courses.
     - The GCOE leadership should work with ABET to revise ABET's Criterion 3 (Student Outcomes (link to ABET GC3)). Examples of possible revisions include: (a) update (5) to say "...environment, incorporate diverse viewpoints, ...", (b) add (8): "an ability to understand current and historical societal issues (and the impacts engineering has on these issues)".

2. Personal engagement with anti-racism activities.

   - Purpose: Designing effective anti-racism policies and actions requires a personal understanding of racism, and improved skill in handling stressful situations.

   - Suggested action: GCOE leadership should participate in activities that enable them to improve their personal understanding of racism and its impact on the college community. Examples of such activities include (1) a program modeled after EFLF (Engineering Faculty Leadership Forum) that is designed to address racism, (2) providing personal mentoring to Black and African-American students, staff, and faculty (and other BIPOC members of the GCOE community), (3) participating in activities with the NAACP or other civil rights organizations, (4) hosting researchers who are speaking at GCOE events on anti-racism, and (5) participating in panel discussions within GCOE courses where anti-racism is discussed.

3. Include anti-racism in evaluating GCOE leadership.

- Purpose: Including anti-racism in annual evaluations of GCOE leadership will increase the probability that these activities will take place, and that GCOE leadership will learn to do these effectively.
- Suggested action: GCOE leaders should be evaluated annually and during re-appointment with respect to anti-racism activities. This evaluation could be performed not only by the usual people(s) (e.g., Dean in the case of department heads, Provost in the case of the Dean, and re-appointment committees) but also by people with expertise in these activities (e.g., possibly the VCDEI), and should include feedback on how to improve the effectiveness of the activities.

4. Teach the GCOE community "Best Practices".

   - Purpose: As the GCOE leadership engages more fully in anti-racism efforts, it will be able to help the rest of the college learn how to do these activities effectively
   - Suggested action: Each year, the GCOE leadership could prepare educational materials (e.g., a seminar series or a document) that provides insight into what has been learned over the previous year(s) about anti-racism activities.

5. Respond to racism in the community.

   - Purpose: An important component of campus climate is the confidence and trust that the students have in the leadership and in the seriousness with which the College embraces the values of an "Inclusive Illinois".
   - Suggested actions. Ensure GCOE leadership remains aware of and responds in a timely and helpful fashion to instances of racism, especially as they occur in Champaign-Urbana or in communities where GCOE has strong ties, such as the Chicago suburbs where many of GCOE undergraduates are from. The GCOE leadership should make clear that these acts of racism are inconsistent with the mission of the College.

     A particular example that is relevant is the racial profiling and police violence occurring in Champaign and Urbana; these include recent cases, such as the harassment by Urbana PD of Aleyah Lewis, and older cases, such as the killing of Kiwane Carrington by Champaign PD. Many GCOE students, faculty, and staff have direct experiences with racial profiling and harassment by Champaign, Urbana, and University Police.

6. Develop strong ties with civil rights organizations, such as the NAACP, Black Lives Matter, and the ACLU.

   - Purpose: The connections to civil rights organizations will ensure that the GCOE leadership is aware of events and concerns, and will help inform GCOE policy and decision making.
   - Suggested actions:
     - The College could host an annual summit between the GCOE leadership and civil rights organizations.
     - Members of local chapters of civil rights organizations could be invited to join the IDEA institute and to provide feedback on GCOE policies and practices.

3.18.3 Potential impediments

Working with ABET will present challenges, as change is likely to be slow.

3.18.4 Accountability

GCOE leadership.

4   Proposed Action Items for Campus

Each of the activities proposed for the GCOE have natural extensions for other colleges and campus-wide. For example, we recommend that the Chancellor, Provost, and possibly other members of the upper administration, hold a meeting with the Black and African-American students, faculty, and staff, to learn of their concerns, and to respond to their concerns; this would follow the same recommendation we have made for the Dean of the GCOE. We also recommend campus-wide climate surveys (not just for students), anti-racism training, the inclusion of DEI activities in annual evaluations of faculty and staff and for P&T committees, etc.

In addition, we have the following specific recommendation for campus:

- Increase the proportions of Black and African American students, postdocs, faculty, and staff, and ensure that the climate within the University is welcoming and supportive. Set specific goals and develop mechanisms that support these goals. Evaluate progress towards the goals, and adjust mechanisms as appropriate.

- Actively encourage, support, and reward DEI and anti-racism activities.

- Ensure that the different anti-racism task forces (and related efforts) across campus have regular meetings, and that they also are consulted by campus leadership for long term oversight and ensure commitment.

- Hold Faculty Senate meetings dedicated to racism and climate, and ensure that the campus members (including students and staff) are able to participate in the meetings. These meetings should begin in Fall 2020, and occur at least once a year (and preferably more often).

5 Selected Literature

This section includes suggested articles and books that are relevant to understanding racism and its impact, especially within academia. Some of these recommendations are for faculty, and some are for students.

5.1 Reading list for faculty

- Anderson, JD (1993). Race, meritocracy, and the American academy during the immediate post-World War II era. History of Education Quarterly 33.2: 151-175 [11].

- Bertrand, M and Mullainathan, S (2004). Are Emily and Greg more employable than Lakisha and Jamal? A field experiment on labor market discrimination. American Economic Review, 94(4), pp.991-1013 [12]. (link)

- De la Luz Reyes M and Halcón J (1988). Racism in Academia: The Old Wolf Revisited. Harvard Educational Review: Vol. 58, No. 3, pp. 299-315 [19]. (link)

- Eaton AA, Saunders JF, Jacobson RK, West K. How gender and race stereotypes impact the advancement of scholars in STEM: Professors' biased evaluations of physics and biology post-doctoral candidates. Sex Roles. 2020 Feb 1;82(3-4):127-41 [21].

- Fletcher, T and Ross, M and Tolbert, D and Holly, J and Cardella, M and Godwin, A and DeBoer, J (2017). Ignored potential: A collaborative roadmap for increasing African American women in engineering. National Society of Black Engineers [23]. (link)

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- Museus SD, Ledesma MC, and Parker TL (2015). Racism and Racial Equity in Higher Education: AEHE Volume 42, Number 1. John Wiley & Sons [52].

- Palmer RT, Davis RJ, and Thompson T (2010). Theory meets practice: HBCU initiatives that promote academic success among African Americans in STEM. Journal of College Student Development. 51(4):440-3 [54].

- Reid, L. D. (2010). The role of perceived race and gender in the evaluation of college teaching on RateMyProfessors.Com. Journal of Diversity in Higher Education, 3(3), 137–152 [57]. (link)

- Riegle-Crumb C, King B, Irizarry Y. Does STEM stand out? Examining racial/ethnic gaps in persistence across postsecondary fields. Educational Researcher. 2019 Apr;48(3):133-44 [58].

- Schell CJ, Guy C, Shelton DS, Campbell-Staton SC, Sealey BA, Lee DN, and Harris NC (2020). Recreating Wakanda by promoting Black excellence in ecology and evolution. Nature Ecology & Evolution: 1-3 [60]. (link)

Reports and news articles specific to UIUC

- Harwood SA, Choi S, Orozco M, Browne Huntt, M, and Mendenhall, R (2015). Racial microaggressions at the University of Illinois at Urbana-Champaign: Voices of students of color in the classroom. University of Illinois at Urbana-Champaign [28]. (link)

- Franke C. Injustice sheltered: race relations at the University of Illinois and Champaign-Urbana, 1945-1962 (Doctoral dissertation, University of Illinois at Urbana-Champaign) [25]. (link)

5.2 List for students

The materials provided here could be used to help students learn about racism. Some of these are peer-reviewed, but some are blogs, videos, etc.

5.2.1 Undergraduates

Videos: Murray, R. (2018). 14 Must Watch YouTube Videos on Diversity, Equity, and Inclusion. Retrieved from `https://shegeeksout.com/14-must-watch-youtube-videos-diversity-equity-inclusion/`

Books, articles, and blogs:

- Bertrand, M and Mullainathan, S (2004). Are Emily and Greg more employable than Lakisha and Jamal? A field experiment on labor market discrimination. American Economic Review, 94(4), pp.991-1013 [12]. (link)

- Bogost, I (2020). The Problem With Diversity in Computing. The Atlantic, 25 June 2020. (link)

- Brown AC. I'm still here: black dignity in a world made for whiteness. Convergent Books; 2018 May 15 [14].

- Coates TN (2015). Between the world and me. Penguin Random House [16].

- Harwood SA, Choi S, Orozco M, Browne Huntt, M, and Mendenhall, R (2015). Racial microaggressions at the University of Illinois at Urbana-Champaign: Voices of students of color in the classroom. University of Illinois at Urbana-Champaign (video link) (report link)

- Hrabowski III, FA and Henderson, PH (2019). How to Actually Promote Diversity in STEM. The Atlantic, published Nov. 29, 2019. (link)

- Johnson IR, Pietri ES, Fullilove F, Mowrer S (2019). Exploring identity-safety cues and allyship among black women students in STEM environments. Psychology of Women Quarterly. 2019 Jun;43(2):131-50 [36]. (link)

- Marchitello, M and Aldeman, C (2018). We Could Have More Black Teachers If We Removed These Barriers. Education Post. (link)

- Minor, C (2019). Why #BlackLivesMatter in Your Classroom Too. Medium (link)

- Rowe, SW (2020). Healing Racial Trauma: The Road to Resilience. `https://sheilawiserowe.com/books-and-resources`

- Span CM (2015). Post-Slavery? Post-Segregation? Post-Racial? A History of the Impact of Slavery, Segregation, and Racism on the Education of African Americans. Teachers College Record. 2015;117(14):53-74 [61]

- Sue DW, Alsaidi S, Awad MN, Glaeser E, Calle CZ, Mendez N (2019). Disarming racial microaggressions: Microintervention strategies for targets, White allies, and bystanders. American Psychologist. 2019 Jan;74(1):128 [62]. (link)

- Turner, C (2019). Bias Isn't Just A Police Problem, It's A Preschool Problem. NPR (National Public Radio) (link)

- Williams, TL (2020). 'Underrepresented Minority' Considered Harmful, Racist Language. Communications of the ACM, 19 June 2020. (link)

- Wilson V, Rodgers III WM (2016). Black-white wage gaps expand with rising wage inequality. Economic Policy Institute. 2016 Sep 20;20:17. (link)

5.2.2 Graduate students

Graduate Students can read any of the articles above, and also:

1. Graham MJ, Frederick J, Byars-Winston A, Hunter AB, Handelsman J (2013). Increasing persistence of college students in STEM. Science. 2013 Sep 27;341(6153):1455-6 [27]. (link)

2. Kendi IX (2019). How to be an antiracist. One World; 2019 Aug 13 [38]

3. O'Neil C. Weapons of math destruction: How big data increases inequality and threatens democracy. Broadway Books; 2016 [53].

4. Palmer RT, Davis RJ, and Thompson T (2010). Theory meets practice: HBCU initiatives that promote academic success among African Americans in STEM. Journal of College Student Development. 51(4):440-3 [54]. (link)

5. Walker-Barnes C (2019). I Bring the Voices of My People: A Womanist Vision for Racial Reconciliation. Wm. B. Eerdmans Publishing [64].

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7 Appendix

7.1 ARTF Charge Letter

UNIVERSITY OF ILLINOIS
AT URBANA - CHAMPAIGN

Micro and Nanotechnology Laboratory
Prof. Lynford Goddard
2254 Micro and Nanotechnology Laboratory
208 North Wright Street
Urbana, IL 61801-2355

June 14, 2020
Subject: Charge to the Anti-Racism Task Force, organized by the IDEA Institute

The Anti-Racism Task Force (ARTF) is hereby charged with making recommendations of actions that the Grainger College of Engineering (GCOE) can take with respect to anti-racism. Recommendations that can be implemented or developed in collaboration with other Colleges or Units on campus should also be identified.

- The recommendations should identify specific activities that could be started immediately, and some longer term activities, and identify one or more ARTF members who are willing to help work on the proposed activities.
- The areas of concern that the recommendations will address should include but are not limited to:
  - GCOE undergraduates
  - GCOE graduate students and postdocs
  - GCOE faculty (tenure-track and specialized)
  - GCOE staff
  - engaging with the rest of campus
  - engaging with the local Urbana-Champaign community
- Where appropriate, departmental, college, or campus policies and procedures that need revision or development with respect to anti-racism may also be identified
- An initial draft of the recommendation document will be submitted by July 24 to Prof. Lynford Goddard, Director of IDEA, and the final version of the document must be submitted no later than August 21, 2020, at which time the ARTF will be dissolved.
- Prof. Goddard will discuss the document with Dean Rashid Bashir, and work with Dean Bashir to develop an Anti-Racism action plan for GCOE.
- Recommendations that need action or implementation prior to these dates may be submitted electronically by the ARTF to Prof. Goddard at any time.

Sincerely,

Lynford Goddard

Lynford Goddard
Professor of Electrical and Computer Engineering
Director of the Institute for Inclusion, Diversity, Equity, and Access

7.2 ARTF Member Biographies

- Nancy M. Amato is Head of the Department of Computer Science and Abel Bliss Professor of Engineering at the University of Illinois at Urbana-Champaign, and an elected fellow of AAAI, AAAS, ACM and IEEE. Amato has been actively involved in diversity and outreach, including being co-Chair of CRA-WP (2014-2017) and co-chair of the NCWIT Academic Alliance (2009-2011). In recognition for her diversity work, Amato received the 2014 CRA Habermann Award.

- Aron Barbey is Professor of Psychology, Neuroscience, and Bioengineering and director of the Decision Neuroscience Laboratory at the Beckman Institute.

- Beleicia Bullock is a Master's student and GEM Fellow studying Computer Science in the Grainger College of Engineering. Through her work in the Social Spaces lab led by Dr. Karrie Karahalios, Beleicia leverages computer science ethics and human-computer interaction to explore preventive measures that protect the autonomy, opportunities, and access of marginalized communities.

- Victor Cervantes, Assistant Director of the Morrill Engineering Program, is a student affairs professional committed to increasing the number of underrepresented students earning engineering degrees. When advising students, in and out of the classroom, he draws on his experience as an engineering professional in both the public and private sectors to help students better understand where they are and where they can go.

- Jamie Clark is a doctoral candidate in the Department of Civil and Environmental Engineering at the University of Illinois. She is a Sloan UCEM scholar and currently serves on the executive board of Graduate Engineers Diversifying Illinois (GEDI) and as a member of the Grainger College of Engineering Diversity Committee.

- Ollie Watts Davis is the Suzanne and William Allen Distinguished Professor in Music; Music Director and Conductor of the Black Chorus; and has an affiliate appointment with the Department of African American Studies at the University of Illinois. She is a current Provost Fellow, and her awards include the 2018 Outstanding Faculty Leadership Award, Campus Awards for Excellence in Teaching, and the University Scholar designation at Illinois.

- Sharlene Denos is the Associate Director for Education and Inclusivity in the Center for the Physics of Living Cells where she develops and leads programming to support diversity in science at every stage of the pipeline, K-12, undergraduate, graduate, postdoc, and faculty. She is a first-generation college student and a successful product of the foster care system in California.

- Shen Dillon is an Associate Professor in Materials Science and Engineering. He received the DOE Early Career Award, the NSF CAREER Award, and the American Ceramic Society's R.L. Coble Award for Young Scholars.

- Aishani Dutta is a sophomore studying Computer Science in the Grainger College of Engineering. She serves as a Technical Team Director on the Society of Women Engineers (SWE) Officer Board.

- Lonna Edwards is a PhD student in the Electrical and Computer Engineering department. She is president of Graduate Engineers Diversifying Illinois (GEDI), an RSO that focuses on retention of underrepresented students in STEM at UIUC. She consistently works and/or volunteers for programs that focus on sparking interest in STEM for children, adolescents, and undergraduates in the local community who are often underserved. Some of the programs that she has worked with include GLEE camp, ISA camp, ASCEND, MERGE, SROP, and SPI.

- Kelly Foster is an MBA graduate and program coordinator at the University of Illinois. She enjoys being actively engaged with her community and regularly volunteers with various organizations around the Champaign-Urbana community.

- Jaden Gladden is a junior in the College of ACES studying Technical Systems Management. He is the 2020-2021 president of NSBE-UIUC.

- Holly Golecki is a Teaching Assistant Professor in Bioengineering and affiliate faculty at the Carle Illinois College of Medicine. Her research focuses on biomaterials and biomedical applications of soft robotics. She also studies impacts of undergraduate and secondary school research programs in these areas.

- Ying Guan is a senior studying Mechanical Engineering in The Grainger College of Engineering with a minor in The Hoeft Technology and Management Program. She is Engineering Council's Diversity and Inclusion Committee Chair, E-Week's Marketing Director, and UIUC Women in Mechanical Science and Engineering's Publicity Chair.

- Indranil Gupta (Indy) is a Professor of Computer Science at the University of Illinois at Urbana-Champaign. He is an ACM Distinguished Member and IEEE Senior Member. He hosts a weekly radio show on WEFT 90.1 FM.

- Ramez Hajj is an Assistant Professor of Civil and Environmental Engineering at the University of Illinois at Urbana-Champaign. He is also a member of the IDEA Institute in the Grainger College of Engineering.

- Jancie Harris is the Broadening Participation in Computing Coordinator for the Department of Computer Science. She facilitates a variety of workshops and programs that benefit the CS academic and research communities and make computing opportunities accessible to everyone. She is also a member of several professional orchestras in Central Illinois, and has a DMA (Doctorate of Musical Arts).

- Ilalee Harrison James is the Associate Director of The Hoeft Technology & Management Program. She serves as course instructor in addition to leading the strategic plan for the program's co-curricular outcomes. She is a first generation college graduate who is passionate about improving career outcomes for underrepresented students in STEM.

- Kathleen Isenegger is a PhD student in Computer Science at the University of Illinois. Outside of her research, she is regularly involved with volunteering for activist organizations.

- Katrina Jones was recently promoted to Senior Academic Advisor in the department of Computer Science. She holds a M.S. Ed. in Higher Education with a concentration on College Student Personnel from SIUC; and is currently pursuing an Ed.D in EPOL with a focus area in Equity and Diversity in Education at UIUC.

- Fantah Kabba is an incoming sophomore majoring in Computer Science + Anthropology and the Programs Chair for the National Society of Black Engineers. She has been an advocate for Black lives for several years with a passion for increasing Black representation in tech. She is incredibly proud to be a part of what can be a wonderful change.

- Mickeal Key is a PhD student in the Neuroscience Program at the University of Illinois. She currently serves as Vice President of Graduate Engineers Diversifying Illinois (GEDI), a registered student organization on campus. Mickeal also consistently serves as a mentor and GRE prep instructor for the summer sessions of the McNair Scholars Program through the Office of Minority Student Affairs.

- Sooah Kim is a law student at the UIUC College of Law. She is president of the Asian Law Student Association. Although she is racially Asian, she grew up in Ecuador for 18 years. This year, Sooah's goal is to address implicit biases and racism in the law school amongst students and professors.

- Olena Kindratenko is the Senior Education and Outreach Coordinator at NCSA. Olena is a program coordinator for the Students Pushing Innovation (SPIN) internship program and REU INCLUSION site at NCSA. Olena has an M.S. in Educational Psychology with a concentration in teaching STEM and M.Ed. in Education Policy and Organization Leadership from UIUC.

- Eleftheria Kontou is an Assistant Professor in the transportation systems group of the Department of Civil and Environmental Engineering. Her research focuses on modeling of sustainable transportation systems such as electric vehicles operations and their charging infrastructure deployment.

- Hongye Liu is a Teaching Assistant Professor in Computer Science. She is interested in mentoring undergraduate students and especially interested in helping students with disabilities. She also wants

to help undergraduate students do research in data science and Bioinformatics and encourage the participation of women in research.

- Teagan Mathur is a senior at UIUC studying Engineering Physics with a concentration in Mechanical Engineering. She has stayed involved in NSBE since her freshmen year and has had roles such as Programs Chair, Internal Vice President, and currently Chapter Advisor. Before college, she danced ballet six days a week and in her free time at college she enjoys dancing contemporary/jazz as the captain of the Oskees Illini Dance Company.

- Jessica Perez is the Associate Director of Education and Inclusivity for the Center for Power Optimization of Electro-Thermal Systems (POETS). She manages several pre-college, undergraduate and graduate STEM programs for the center as well as leads the center's diversity and inclusion strategic plan. She is a first generation college graduate who is passionate about supporting STEM students through their education journey.

- Taliah Ray, a senior from Chicago, Illinois, is majoring in Psychology in the College of LAS and minoring in Criminology. She is a member of Delta Sigma Theta Sorority, Inc., where she serves as the Physical and Mental Health Committee Chair. She is also a Counseling Center Paraprofessional, the Black Greek Council President, and an OMSA Ambassador. Currently, Taliah is a McNair Scholar preparing for graduate school while simultaneously conducting research in the Race Advocacy Civic Engagement Lab. Upon graduation, Taliah plans on obtaining a PhD in Psychology and using her degrees to provide underserved communities with diagnostics and treatment.

- Andrew Singer is Fox Family Professor of Electrical and Computer Engineering and the Associate Dean for Innovation and Entrepreneurship in the Grainger College of Engineering. His research is in the areas of signal processing and communication systems. He is a Fellow of the IEEE.

- Angela Slates is the Education Outreach and Training Coordinator for the Data and Informatics Graduate Intern-traineeship: Materials at the Atomic Scale (DIGI-MAT) Program at NCSA. Angela has a PhD in Education Policy and Organization Leadership from UIUC, and she has a background in education leadership with a particular focus on issues of diversity, equity and access in STEM.

- Yvonne Smith is an undergraduate student in the Electrical and Computer Engineering department.

- Vongai Tizora is a junior in the Grainger College of Engineering studying Bioengineering with a minor in Chemistry on the pre-med track. She is the Internal Vice-President of the National Society of Black Engineers (NSBE) at UIUC.

- Tandy Warnow is the Founder Professor of Engineering in the Department of Computer Science, and has affiliate appointments in several departments at the University of Illinois. Her awards include a Guggenheim Fellowship, David and Lucile Packard Fellowship, and a Radcliffe Fellowship. She is a Fellow of the ACM and the ISCB.

- Jewell White is Assistant Dean, Access and Multicultural Engagement, in the Gies College of Business. He is responsible for building community and academic structures that lead to academic success for all students.

- Tiffani Williams is a Teaching Professor in the Department of Computer Science at the University of Illinois. She is the director of the Illinois Computing Accelerator for Non-specialists (iCAN) program. Her honors include a Sloan Postdoctoral Fellowship, Radcliffe Fellowship, and Denice Denton Emerging Leader ABIE Award.

- Sasha Yamada is a PhD student and NSF Graduate Research Fellow in the Department of Electrical and Computer Engineering at the University of Illinois. Outside of her research, she enjoys working with the other members of the Graduate Engineers Diversifying Illinois (GEDI) executive board.

7.3 ARTF Faculty Subgroup Report

Authors: Shen Dillon, Ramez Hajj (lead), Tandy Warnow
Member List alphabetized: Aaron Barbey, Shen Dillon, Indralil (Indy) Gupta, Ramez Hajj (lead), Andy Singer, Tandy Warnow, Tiffani Williams

Preamble: Many of the recommendations made by the ARTF Faculty Subgroup appear in the set of prioritized recommendations. Here we provide some additional discussion of these prioritized recommendations, as well as some additional recommendations.

A more diverse Grainger faculty   The faculty subgroup strongly supports the stated goals of Section 3.3, which recommends that the Grainger College hires and retains faculty with the aim of creating proper representation of both the state of Illinois and the Champaign-Urbana community. Here we describe some additional mechanisms that would support this goal:

1. Strong social networks should be formed for existing and new faculty members to ensure both retention and that promotion is achieved. This is particularly important for Black and African American faculty, who may be isolated within their departments. Department Heads and other administrators should participate in these networks to help them to grow and become strong.

2. It is important to support faculty research interests and activities in diversity, inclusion, anti-racism, and disparities. However, this work is not always valued, which has unnecessary negative consequences. We strongly recommend that the GCOE acknowledge the value of this type of work, so that it is appropriately credited as scholarly work in promotion, tenure, and annual evaluations [44].

3. Faculty members who participate in service related to the above topics should also have this work properly credited. This must be enforced by the College and Department heads.

In the classroom: To ensure an inclusive and diverse Grainger College, the faculty subgroup has the following suggestions related to teaching:

1. Black and African American students can feel isolated in courses, and this sense of isolation is especially strong when issues impacting them are ignored. In particular, the avoidance of discussing racism and its impact on BIPOC students adds to the sense of isolation. For these reasons, as well as others, faculty should be both encouraged and supported to talk about institutional racism in the classroom.

2. It is important to ensure that student concerns are heard and responded to, especially when the concerns involve faculty behavior. We recommend that the GCOE leadership make a significant effort to find new ways for students to communicate concerns in safe ways, that nevertheless enable problems to be addressed. One approach that has been raised is to use ICES forms (i.e., teaching evaluations). While the inclusion of questions related to DEI and racism may be appropriate for the ICES form, the faculty subgroup has multiple concerns about this approach; in particular, although ICES forms are provided anonymously, if there is only one BIPOC student in the class, then a complaint about White racism may lead the faculty to assume (perhaps not correctly) that they know who wrote the complaint. Similarly, a complaint against a faculty member for discussing racism could also occur, and discourage faculty from bringing up these difficult issues. In general, we have concerns about using ICES, and recommend that alternative approaches be developed to address this important issue.

3. Student well being is enhanced by positive connection with their faculty out of classroom time. These connections often take place during office hours, and (pre-COVID) were done in person. Now, extra effort must be made to ensure personal connections with students. Therefore, we strongly encourage faculty to find ways to engage well with students outside of the classroom, especially with groups like NSBE, etc.

Other faculty needs In addition to the above ideas, the faculty subgroup has put together a miscellaneous list of needs. These are described below:

1. An important recommendation in this report is for GCOE to increase participation in students, faculty and staff. Therefore, we recommend that the GCOE provide additional resources for Grainger faculty to engage, recruit and hire Black graduate students in their research groups. This both helps the College goal of increasing research output and increases the pool of students of color in the College.

2. One of the best ways to address racism and inequalities in research is to form strong collaborations with faculty of color. We recommend that the GCOE assist faculty in developing new collaborations with such faculty, whether here at UIUC or at other institutions. This assistance could be provided by GCOE staff, or through the development of new online resources.

3. The Grainger College should help interested faculty find opportunities to engage with people at various stages of the criminal justice system. Faculty should be given an opportunity to participate in programs allowing for the education of those who are presently incarcerated, on parole, or have other impediments to accessing higher education.

Campus Leadership This task force was primarily charged with making recommendations that can be implemented by the GCOE. However, considerable discussion was held regarding what campus could or should be doing to incentivize DEI and anti-racism activities. This subgroup felt strongly that the GCOE should be lobbying the University to make structural changes that could positively impact DEI. One particular example relates to the new budget model developed by the University, which the subgroup felt does not adequately incentivize DEI in how funds are distributed. The budget model implicitly sets the priorities of the University and should promote DEI if this is a priority of both the GCOE and the University more generally.

7.4   ARTF Student Subgroup Report

Authors: Beleicia Bullock, Aishani Dutta (Co-Lead), Lonna Edwards, Ying Guan, Ilalee Harrison James (Co-Lead), Kathleen Isenegger, Mickeal Key, Vongai Tizora, Sasha Yamada
Member List alphabetized: Beleicia Bullock, Aishani Dutta, Lonna Edwards, Jaden E.J. Gladden, Ying Guan, Scarlett Hoffer, Kathleen Isenegger, Ilalee Harrison James, Fantah Kabba, Mickeal Key, Taliah Ray, Yvonne Smith, Vongai Tizora, Sasha Yamada

Preamble: In addition to the propositions listed in the primary report published by the Anti-Racism Task Force, we–as a group of fifteen undergraduate and graduate students–would like to underscore and expound upon six recommendations that we believe are most critical in creating an anti-racist environment within the Grainger College of Engineering.

Report: The ARTF Students Subcommittee presents the following recommendations:

1. **Ombuds office creation for student concerns:**   Student perspectives are important in fostering a more inclusive and anti-racist classroom space. Currently we feel that there are limited opportunities for students to comfortably voice their feedback regarding racist classroom behavior. Furthermore, existing systems to report such behavior (namely BART and ICES forms) fail to adequately address the issues at hand, often adversely impacting gender minorities, Black students, and students of color. As a result, we feel that it is necessary for the college to investigate ways for students to communicate their feedback regarding micro-aggressive and racist incidences more effectively, and ensure that action is taken to address the concerns which arise. One such method of accomplishing this would be the establishment of an Ombuds office.

2. **Anti-Racism Policy– accountability for faculty, staff, and TAs who engage in microaggressive behavior:**

   We propose a Diversity, Equity, & Inclusion and Anti-Racism Commitment from UIUC leadership as well as each College and within each Department to change the culture and climate. This multilevel approach should include the following:

   The University's commitment should address the racist culture and climate on campus. Our recommendations include the establishment of an Ombuds Office, improving representation and success rates (graduation/promotion) of underrepresented minorities and revising all policies and governing practices to be anti-racist and equitable. As such, metrics should be publicly reported by race and gender for leadership (University, Colleges, Departments), faculty, staff, graduates and undergraduate students at the university, college and program levels with a commitment to improving each to at least align with representation metrics for the state of Illinois. Furthermore, all policies should be reviewed and where necessary amended to be anti-racist and equitable to all students, staff and faculty.

   The College's commitments should be aimed at three main areas. The first is to ensure all classrooms are inclusive in its culture and course materials. The second is to require that all guest speaker series be diverse in its representation. Lastly, the College must review and amend all policies that are not currently anti-racist/equitable.

   The Departmental commitment should address the role faculty and staff play in the current climate students are forced to work and learn in. At the staff level, departments should commit to hiring at least one additional staff member dedicated to supporting black students, as well as those from under-represented backgrounds. Faculty can be held accountable for upholding this departmental commitment through the use of DEI/Anti-Racism questions added to ICES forms, which must be reported to the ARTF/IDEA Institute to ensure opportunities for improvement are actively pursued.

3. **Training– TA Trainings/Course Staff Trainings:** We propose that robust bias training be included in existing training and courses for graduate teaching assistants and undergraduate course

assistants. Currently, all first time teaching assistants in engineering are required to take ENG598: Teaching and Leadership. While this course provides a foundational overview for creating rubrics, hosting office hours, and leadership skills, it skims the surface of the inclusion and does not even mention the word racism. Students are taught about the benefits of having different voices on teams and the dangers of stereotypes, but are currently not given the tools to actively recognize and confront racism in classrooms, course staff or departments at large. Furthermore, it is unclear if undergraduate course aides even receive this level of training.

Given these gaps in critical training, we propose the following:

- **Intergroup-dialogue (IGD) facilitation training embedded into existing curricula:** Teaching assistants and course aides are naturally placed into roles of facilitation as they cultivate conversations with classrooms. As such, intergroup dialogue facilitation training should be embedded into the existing course curriculum for all teaching assistants and course aides.

- **Ombuds office for student concerns:** The development of an Ombuds office dedicated to student concerns would enable students to communicate concerns about their experiences in classes and more treatment by course staff (faculty, teaching assistants, and course assistants).

4. **Mentorship & Pathways Program:** We propose that the College implement a Mentorship & Pathways Program using the Meyerhoff Scholars Program at the University of Maryland, Baltimore County as a model. Research has shown that this program has been successfully replicated at other predominantly white, land-grant, public research universities [20].

- Mentees will consist of underrepresented minority students as defined by the National Institutes of Health in their Notice of NIH's Interest in Diversity (Notice Number: NOT-OD-20-031). Mentees will apply to either the undergraduate or graduate arm of the program.

- Students will be assigned two mentors, a Faculty Mentor and a Peer Mentor. Faculty Mentors will be represented by each department and Peer Mentors will be upperclassmen. Both Faculty and Peer Mentors will receive training related to mentorship of underrepresented minority students. Faculty Mentor participation will be recognized by the College and count towards either their teaching requirement or their service to the University and will be acknowledged in promotion and tenure documentation. Peer Mentor participation will also be recognized by the College as service to the university and will be accompanied by a fellowship stipend.

Evaluation must be incorporated into the program to ensure program goals are met and to track student and faculty mentor progress.

5. **Anti-Racism Recruiting Practices:** The College has an ethical responsibility to confront partner companies that perpetuate racism through discriminatory practices. This includes having serious consequences for companies that treat BIPOC workers unfairly. To address these concerns we propose that the following steps be taken:

- Engage our Engineering Career Services and the Career Center in examining recruiting practices amongst the companies who attend our career fairs and provide corporate funding for research efforts.

  - Ensure that any of our partner corporations and Research Park companies put an end to utilizing racist and biased AI hiring tools such as HireVue to select candidates for positions.

  - Companies who participate in GCOE Career Fairs should sign a commitment statement agreeing to support diversity and inclusion efforts. The core values and ethical track records of these corporations should be evaluated to ensure that substantial efforts to create a diverse and inclusive environment are being made by company leadership. GCOE partner organizations should also be responsible for reporting their plan for supporting these efforts and the subsequent outcome of implementing the stated plan to the College. This information

should be part of the review process to consider whether a company is allowed to participate in future GCOE Career Fairs.

- Acknowledge that several of the companies who attend GCOE career fairs and sponsor events in the department are actively perpetuating anti-Blackness by failing to hire qualified Black employees and Black leadership. Demand that the companies which work with the GCOE put an end to developing racist products, such as facial recognition software and predictive policing tools, among other harmful technologies which further systemic segregation. Educate students about the implications of these products.

- Collect demographic data on the individuals who attend career fairs/workshops and their outcomes (e.g., who is hired out of these events). Commit to resolve racial discrepancies between the demographics of students on campus and those who are ultimately able to secure employment.

6. **Anti-Racist Curriculum:** We propose that the College implement the following curriculum-based initiatives:

- Current courses should be reviewed and archaic, racist language in the curriculum should be removed. Faculty should incorporate ethics/anti-racist themes as they relate to course content.

- A new research/internship course (2 year sequence) should be created as a required course for GCOE undergraduates. This course will allow students to explore their interests in research and industry, cultivate professional development competencies, and incorporate an ethic/social justice curriculum to train an engineering workforce that understands how to cultivate inclusive and equitable work environments

    – The first semester of the first year will be a survey course to expose freshman students to the different engineering disciplines
    – The second semester of the first year will be dedicated to a major-specific ethics, social justice, and professional development competencies
    – The second year (both semesters) students will be placed on a research or industry "track" and will complete a laboratory rotation or an internship based on their chosen track.

- A new ethics and social justice course for graduate students should be developed as a graduation requirement. This course should be department-specific to ensure that it addresses the unique combination of issues and disparities that exist in each field.

- Currently required ethics courses (like those mandated by ABET) should include DEI topics to adequately prepare GCOE graduates to work effectively and compassionately in diverse environments.

7. **Support a UIUC Open Data Project led by students and faculty:** We propose that the College support a University-wide initiative for an open data project

- This will be a student and faculty lead initiative to support transparency and aid in campus-led problem solving with a data-driven approach.

- We suggest following the models of the Harvard Open Data Project and the NYC Open Data Project.

Please note: *we are moving forward with the UIUC Coalition for Black Lives, and we are in communication with sister organizations at Cornell University and Harvard Law. We have not included the new student organization as a recommendation because we do not believe administrative support/approval is needed at this time.*

7.5 ARTF Staff Subgroup Report

Authors Kelly Foster, Jancie Harris, Ilalee Harrison, and Jessica Perez (lead)

Preamble: Staff members are a key element to the success of the University of Illinois as they play a critical role in every aspect of the university's activities, including human resources, janitorial services, grant administration, and career services. However, the Black experience at the University of Illinois campus and within the local Champaign-Urbana community has been substandard and requires a deep reflection. A 2011-2012 climate survey [29] found that 39% of students of color felt uncomfortable on campus because of their race, resulting in the 2015 report on microaggressions at the University of Illinois [28].

Additionally, there has been a history of heavily policing of Black bodies in predominately White campus spaces, including Black students and staff members (see `https://www.youtube.com/watch?v=zqGCqKy-aHQ`). The lack of racial diversity on campus further worsens this problem as is typical when diverse groups make up a low percentage of the workforce [47]. As of 2019, the University's academic professional and civil service staff were 11.7% and 12.1% underrepresented minorities, respectively, while the GCOE employs 8.2% and 7.1% underrepresented minorities in these positions (`https://www.dmi.illinois.edu`).

To achieve the GCOE's mission of delivering excellent and innovation engineering education as well as discovering fundamental knowledge and engineering cutting-edge technological advances, we need to bring in the best and brightest to our campus. This means creating an inclusive environment that welcomes diversity and an equitable system that allows all staff members to thrive.

We believe this is possible if two critical issues are addressed: (1) Current employee/supervisor power imbalances lead to reduced support and/or advocacy for staff members [30] and (2) Lack of uniform commitment to diversity, equity and inclusion at all staff levels reduces the campus' ability to dismantle racist policies, practices and procedures. The following recommendations seek to address these two issues.

Recommendations

1. **Diversify the Grainger College of Engineering Staff.** The Grainger College of Engineering must recruit and retain a diverse staff, including a substantial proportion of Black and Latinx members, in order to remain an exemplar research and teaching institution. A critical mass of racial diversity is required to create and maintain an anti-racist climate as well as an innovative and thriving academic environment. At this time, clear and accurate staff data is not publicly available, therefore accurate data collection, tracking, and public release of staff demographic data will serve as the metric for the following action items:

   - Review of hiring and promotion practices to ensure diverse applicant pools and promotion rates of Black and African American staff members, especially into high-level College leadership roles.
   - Implement innovative training to address intercultural dynamics, as well as updated HR policies to mitigate potential conflicts that may arise.
   - Develop a mentorship program for new and current Black and African American staff members.

2. **Educate an Anti-Racism Staff Workforce.** Staff have a tremendous influence on the quality of student and faculty life and must be informed and equipped to progress the institution towards becoming anti-racist. It is imperative that all staff undergo training, similar to students and faculty, to develop anti-racism practices in their work. Institutions should provide funding and work release time for staff to participate in focused professional development aimed at these goals. Progress in efforts should be tracked over time to inform success and/or changes required in training and professional development.

3. **Hold All Staff Accountable for Anti-Racism.** Incorporate the evaluation of efforts to promote anti-black racism into the processes for determining raises and promotion of staff members. Every staff member should be evaluated based upon what they have specifically done to promote inclusion

and work against racism. If staff members are not engaged in anti-racism and DEI work, supervisors should work with staff members on how to engage and include this in their plan of work. Engagement in anti-racism and DEI work should be included as part of the annual review process.

4. **Create a Staff Affairs Committee at the College Level.** The previous three recommendations call for accurate data collection, tracking and public release of staff demographic data (including matriculation and promotion) to improve hiring practices, training programs to educate staff on how to engage in anti-racism in their work as well as to protect Black staff members from conflicts that will arise from a diversifying workforce, and updating the annual review process to address staff accountability in anti-racism work. To oversee the implementation and progress of these recommendations a college level Staff Affairs committee is essential. The committee should:

   - Have one staff member from each department in the Grainger College of Engineering. Membership should include a diversity of hiring category (e.g., Civil Service/AP), work experience, and background.
     - Department Heads put forth one representative from their department to serve.
     - The Director of the IDEA Institute, in consultation with the Dean of the College, reviews the committee membership and approves appointments.
   - Have the following Ex-Officio members: The Director of the IDEA Institute, 2 Members of the Faculty Senate
   - Be a 10% part of the appointed staff members' workload. (3.75-4 hours/week of work).

The Grainger College of Engineering Staff Affairs committee would have the following charge:

   - Set and measure progress towards staff anti-racism goals.
   - Procure and track current staff demographic data. Work with members of the IDEA Institute to include in Grainger College of Engineering Strategic Plan and other publicly available data sources.
   - Review and update current hiring and promotion practices to ensure high matriculation and retention rates of Black and African American Staff Members
   - Develop and implement a Black and African American Staff mentorship program
   - Develop an anti-racism annual review reporting rubric and procedure for all staff members.
   - Develop and implement a staff anti-racism education program.
   - Hear and address staff grievances related to racism in the Grainger College of Engineering.