Supplementary Information

Past as prologue: Lessons from the Lamont-Doherty Earth Observatory Diversity, Equity, and Inclusion Task Force

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Lamont Diversity, Equity, and Inclusion Task Force Report

LDEI TASK FORCE REPORT

January 26, 2021

DEDICATION

We thank the Lamont Directorate for creating and supporting the valuable mission of this Task Force. We also thank the leadership of the Earth Institute for making diversity, equity, inclusion, and antiracism core pillars of their mission and of that of the Climate School. Our work would not have been possible without your vision. We acknowledge the contributions of two dozen people as part of the Task Force itself, plus countless other community members and colleagues who provided their feedback, insight, and expertise over the last six months.

This Report envisions Lamont as a lighthouse in science and DEI, where we commit to creating new foundations for a diverse, equitable, and inclusive community and campus.

We dedicate this Report to the past, present, and future of Lamont:

First, to the robust network of Lamonters who have been and remain committed to bringing a greater measure of diversity, equity, inclusion, and justice into our discipline and onto our campus. We have intentionally not referenced individuals in this Report but we recognize and build upon the values of your programs and efforts, and hope that everyone can find in this Report sparks that ignite bold ways forward for your work.

Second, to everyone that left Lamont behind – or never considered that it could be the scientific playground of their dreams – because they were alienated, unsupported, gaslit, overlooked, taunted, or harassed.
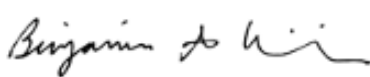
Third, to the next generation. If, by the time you arrive, this Report seems redundant or antiquated, then our work will have been successful.

The full potential of this Report can only be achieved when viewed in its entirety. The 15 Priorities in the Executive Summary are derived from 34 Specific, Measurable, Actionable, Realistic, and Timely (SMART) goals. Progress toward these can be made by implementing more than 100 individual recommendations found in the individual Working Group chapters. We have structured the Report to support the Directorate in preparing its Diversity, Equity, Inclusion, and Antiracism Action Plan for the Earth Institute. In addition, individuals, groups, and divisions will find that many of our recommendations can inform their own personalized strategies for achieving a greater measure of justice in their communities.

In solidarity,

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Executive Summary

In July 2020, the Lamont-Doherty Earth Observatory (LDEO) Directorate established the Lamont Diversity, Equity, and Inclusion (LDEI) Task Force charged with developing actionable recommendations around three themes: (1) supporting the inclusion and success of historically underrepresented groups in geoscience including Black, Indigenous, and people of color (BIPOC); (2) ensuring a research and teaching environment free from explicit and implicit discrimination and bias; and (3) creating a safe and welcoming campus where everyone thrives and is respected. The Task Force consisted of twenty-one voting and four *ex officio* members, including students, postdocs, research scientists, faculty, administrative staff, and support staff (see page iii). Together we developed a holistic, research-based approach resulting in 15 *Priorities* that will enable Lamont to recruit, retain, and cultivate the next generation of BIPOC geoscientists; ensure Lamont is welcoming and inclusive by supporting careers and fostering a strong community; and promote coordination and accountability.

Lamont has unintentionally and/or intentionally excluded Black, Indigenous, and people of color from our ranks. By upholding a culture that rewards and maintains homogeneity, we have neglected our role as leaders in the geoscience community. To address diversity, equity, and inclusion, we must take a more active role – and we know we can achieve this. Over the last two decades, concerted efforts to diversify Lamont have predominantly benefited white women, a demographic group that is historically underrepresented in geoscience (Dutt, 2015; Bernard and Cooperdock, 2018). However, over this same period, our performance in recruitment and retention of historically marginalized racial and ethnic groups has been inadequate and is egregiously low for groups designated as "underrepresented minorities" (URMs) by the National Science Foundation (Black, Indigenous, and Hispanic people of any gender).

The obstacles and barriers to achieving progress in diversity, equity, and inclusion at Lamont are numerous and interwoven, as are the actions we must take to overcome them. Each of the Task Force's four Working Groups identifies these friction points and develops actionable solutions. **Inclusive Culture** addresses the interactions and processes at Lamont that lead to an environment that endangers people or makes them feel unwelcome by developing recommendations that ensure campus culture is open, inclusive, transparent, and intolerant of harassment, bullying, and other forms of discrimination. **Supporting Success** examines ways that personal and professional growth are inhibited or restricted at Lamont, in order to recommend tools and structures to enhance mentoring for all career tracks and value and reward diverse contributions from the community. **Recruitment, Retention, and Promotion** considers the barriers at various stages of hiring and promotion that limit diversity at Lamont, and recommends procedures and incentives to increase diversity among the campus community and leadership at Lamont. **Building Bridges** examines opportunities for improving pathways for URMs into (and out of) academic, administrative, and other positions on the Lamont campus and makes recommendations for broadening our sense of community beyond the borders of our campus. The Task Force recommendations are organized into 15 Priorities for action on DEI at Lamont:

THE PRIORITIES

The following priorities (P1.1−P3.5) serve to organize the Task Force recommendations. Priorities are grouped to directly respond to the three main elements of the Charge. The numbers in parentheses following each priority refer to associated SMART Goals (pg. 12). Each SMART goal encompasses multiple individual recommendations, which can be found in the associated Working Group chapters.

Key

Inclusive Culture	Supporting Success	Recruitment, Retention, and Promotion	Building Bridges

CHARGE 1: CREATE A DIVERSE COMMUNITY COMMITTED TO THE INCLUSION AND SUCCESS OF TRADITIONALLY UNDERREPRESENTED GROUPS

	P1.1 Invest in underrepresented scholars through cohort-based recruitment at all levels, from graduate students to scientists and staff. (15,31)
	P1.2 Enhance efforts and ability to recruit and retain diverse hires (explicit emphasis on hiring URMs at every level and creating new mechanisms to retain them, like postdoc-to-LRP or Bridge-to-PhD) and communicate these opportunities in a targeted, effective, and inclusive manner. (4,11,13,26,27,31)
	P1.3 Develop institutional relationships with minority serving institutions. (23,24)
	P1.4 Compensate and reward DEI work that goes above and beyond job responsibilities via fellowships and awards. (3,4)
	P1.5 Overhaul mentoring to address current shortcomings and the needs of diverse cohorts, at both the individual (e.g. 360-review) and group (e.g. values statements) level (6,7,21)

CHARGE 2: ENSURE A RESEARCH AND TEACHING ENVIRONMENT FREE FROM EXPLICIT AND IMPLICIT BIAS

	P2.1 Implement DEI into existing and future research funding streams. Support PIs to include DEI in proposals by coordinating and communicating opportunities, and supplying language and budget information appropriate to funding sources. (5,33)
	P2.2 Declare existing programs (e.g. SSRFP, REU, HRFS) part of Lamont's mission, make the leadership of these programs sustainable, and foster the development of new programs. (25)
	P2.3 Collect, monitor, and review data needed to track progress towards equity goals (e.g. exit surveys and interviews, hiring, turnover, grant submissions, annual reviews). This includes ensuring compliance with Columbia University policies (e.g. supporting minority- and woman-owned local businesses) and disability inclusion. Include metrics in Lamont's Annual Report. (1,12,32)
	P2.4 Encourage a broad curriculum that reaffirms our DEI commitments and goals. (33)
	P2.5 Clarify promotion and job expectations, including where DEI fits in job responsibilities, for everyone on campus including by finalizing and/or updating all handbooks. (8,9,10)

CHARGE 3: CREATE A SAFE AND WELCOMING CAMPUS WHERE EVERYONE THRIVES

	P3.1 Expand support for accessible events that build community (across divisions and roles) including those already established and new initiatives to fill gaps in social programming and campus-wide community discussions. (18)
	P3.2 Ensure accessible training on core- and supplemental DEI topics are available yearly, and encourage everyone (and especially supervisors) to participate in at least 3 per year. (22)
	P3.3 Form a Harassment Accountability Task Force and revise Lamont's code of conduct to address field safety, misconduct, and accessibility. (19,20)
	P3.4 Ensure sufficient support for working parents to thrive at Lamont. (16)
	P3.5 Increase flexibility for all Lamont staff, not just research staff and faculty (for example, through remote work options and more flexible work hours). (17)

These **15 Priorities,** which emerged from the Task Force process, must all be addressed to meet the challenges Lamont faces. The Priorities embody 34 Specific, Measurable, Achievable, Realistic, and Timely (SMART) goals (page 12). To make progress toward these goals, we provide numerous actionable recommendations, presented within a narrative context in each of the Working Group chapters. Our recommendations outline a roadmap for robust and visionary change at Lamont. The Priorities and SMART goals demonstrate how many of the recommendations overlap and are synergistic; however, acting on the individual recommendations is essential to creating a strong web of support as we strive to put action toward the intention laid out in the Charge (page 5).

As the work of this Task Force has ended, it is imperative that we establish who will "do the work" of addressing and bringing our recommendations to fruition. We recommend the appointment of a standing Lamont Diversity Committee tasked with *recording metrics and tracking progress* towards all of our goals, and especially those recommendations that are included in the Directorate's forthcoming DEIA (DEI + Antiracism) Action Plan. This should be done via a transparent system (e.g. MIT EAPS, 2020). Given the institutional structures involved in this process, we recommend that this committee closely coordinates with other centers within the Earth Institute (or Climate School) and reports directly to whoever oversees progress on all DEIA action plans therein. Equitable application of the recommendations requires clearly defining who is responsible for implementation. For work that can be distributed, this requires changing job responsibilities and/or expectations or creating new forms of compensation. For work that requires dedicated personnel, this requires expanding and increasing the capacity and expertise for implementing these recommendations at Lamont, including within the Office of Academic Affairs and Diversity (OAAD).

Like our ideal campus community, our recommendations are diverse - some require millions of dollars, while others cost nothing at all; some require structural changes at the Directorate or divisional level, while others require only that existing committees and individuals uphold their commitments to DEIA in their everyday work and actions. Although Lamont is not yet the workplace of our dreams, there are many examples of individuals bravely leading our community toward a more just future. Historically, much of this leadership has come from marginalized and junior community members; from today forward, we need everyone on board. We implore everyone at Lamont, regardless of their institutional position, to take action on one or more recommendations outlined in the pages of this Report. Together, we can make Lamont a place where everyone can thrive, and live up to our reputation as the premier campus for cutting-edge geoscience research; not just for some, but for all.

Task Force Charge

At Lamont-Doherty Earth Observatory, we are committed to creating and upholding a safe working environment, and to fostering a diverse, nurturing, and vibrant community founded upon the fundamental dignity and worth of all of its members. Only then will we be able to fully achieve our goal of producing the fundamental Earth Science knowledge upon which our understanding of and ability to live sustainably on planet Earth depends.

To this end, this task force will provide a set of recommendations for actions, large and small, short-term to long-term, to the Lamont Director which address the following overarching challenges:

- How do we create **a diverse community** committed to the inclusion and success of traditionally under-represented groups in the geosciences including Black, Indigenous and people of color? As a leading Earth Science institution, LDEO strives to provide a model for a workplace that cultivates diversity, equity, and inclusion (DEI). Our stated commitments to DEI should be backed up by substantive anti-racist actions that promote justice for marginalized geoscientists. Such actions can be taken at multiple levels and across many scales, and will require examination of recruitment, hiring, promotion, and admission processes, among others.

- How do we ensure **a research and teaching environment free from explicit and implicit discrimination and bias**? This charge includes, but is not limited to, an examination of our curricula and seminars, as well as institutional and grassroot efforts to make Lamont's commitment to DEI an integral part of our community's culture.

- How do we create **a safe and welcoming campus** where everyone (including scientists, students, advisors, staff and administrators) thrives and is respected? This charge encompasses everything from physical structures on campus that impede inclusion, to behaviors and expectations that harm members of historically marginalized groups at Lamont. This also includes continued examination of the Lamont Code of Conduct.

Background and Introduction

The study of the Earth and its constituent systems benefits from a broad diversity of disciplinary perspectives brought to bear on this pale blue dot. Add the prefix "geo-" to any number of scientific disciplines (e.g., physics, chemistry, biology) and that specialty is more than likely to already be represented among the numerous scientific staff at LDEO. Yet in contrast to the diversity of scientific perspectives within the geosciences, our field itself has been, and remains, quite homogeneous. In 2016, 85% of geoscience PhDs in the United States were awarded to white men and women - and the overrepresentation of white people (who make up ~60% of the US population) in geoscience has been a feature of the field for nearly half a century (Bernard and Cooperdock, 2018). In 2019, 20% of those employed in environmental science and geoscience were part of racial and/or ethnic groups deemed "underrepresented minorities" (URMs), as defined by the National Science Foundation. URMs today earn 15.7%, 10%, and 6.7% of geoscience bachelors, masters, and doctorates, respectively (AGI, 2019). The underrepresentation of nonwhite geoscientists at all levels leads to a regular refrain in geoscience departments attempting to bring a greater measure of diversity to their ranks: *the pipeline is broken (or is leaky, or needs fixing).*

This Report is about people: the people who have been excluded, the people who have not felt safe and supported, and the people who have not been able to be in or stay in our field. Every time these situations cause someone to leave our field, we perpetuate harm, and in the geosciences, a great deal of harm has been done to Black, Indigenous, and people of color. We cannot work on the pipeline without addressing this reality. Nevertheless, within this landscape of exclusion, there are remarkable stories of leadership, perseverance, and resilience. For example, in 1972, at a time when only four Black Americans had geoscience PhDs, a coalition of geoscientists (including many senior white men) organized the 1972 "First National Conference on Minority Participation in Earth Science and Mineral Engineering," a landmark event that brought together government officials, civil rights organizers, geoscientists, and industry leaders to solve the problem of racism in geoscience (Gillette & Gillette, 1972).

Slowly but surely, barriers that had long seemed infallible began to crumble: From the early 1970s to the early 2000s, the percentage of women on the senior Lamont research staff grew from 3 to 13 percent (Bell et al., 2005), and in 1996 the Department of Earth and Environmental Sciences (DEES) hired its first woman. By 2017 DEES had its first female Chair, and in 2020 Lamont appointed the first female Director. Yet the gains made in the last 40 years by white women did not lead to inclusion for other marginalized people, and especially, women of color. This is, in part, because of the failures of leading institutions to recognize their own complicity in perpetuating and sustaining racism in geoscience. For example, in their analysis of data from NSF's survey of earned doctorates, Bernard & Cooperdock (2018) state:

> "Unsurprisingly, women of colour are particularly underrepresented. Between 1973 and 2016, the numbers are bleak: only 20 Native American, 69 Black and 241 Hispanic or Latino women received PhDs in all three geoscience

subdisciplines combined. They make up a mere 330, or 1.46%, of all doctorates awarded in over 40 years."

For people of color entering geoscience, this paucity of representation is universally daunting. It is hard to envision a future for oneself in a field that has excluded others like you for so long; in STEM, this reality for women of color has been recognized as the "double bind" (AAAS, 1975). This means that women of color are often overlooked in efforts to advance both people of color and efforts to advance women; therefore, intentionally focusing on women of color is a way to disentangle and eliminate the interlocking harms of racism and misogyny, structures that impact all oppressed people (Crenshaw, 1989). At Lamont there has been no concerted initiative to recruit, retain, or support women of color. There are currently *zero* Black women employed in a Research Scientist (RS), Lamont Research Professor (LRP), or DEES faculty position (Dutt, personal communication). In fact, to our knowledge, there has never been a Black person of any gender or nationality employed in one of these positions. This is not for lack of a pipeline; in 2016, there were 69 Black women and 183 Black men who are US citizens or permanent residents with a PhD in geoscience (Bernard & Cooperdock 2018; Bernard, 2020). This number is a minimum; any Black woman or man who is not a US citizen or resident, or obtained their PhD from a non-US institution, is not included in this count. Yet it is striking, because it shows that the lack of representation at Lamont is a problem we have created and one that we have the power to solve. Like Dr. Kathryn Clancy said in her November 2020 Colloquium at Lamont, a workplace must do the work to *deserve* people of color; to make sure they are included, supported, and retained. If "the pipeline is broken," we must start by making changes right here at Lamont.

<u>Lamont-Doherty Earth Observatory (LDEO)</u>
LDEO's mission is to seek fundamental knowledge about the origin, evolution, and future of the Earth. LDEO's scientists study the entire planet, from the core to the outer reaches of its atmosphere. LDEO is home to over 200 scientific researchers, more than 80 graduate students, and many support staff. However, our scientists and our science have not been wholly inclusive of people from all backgrounds, races and ethnicities, genders, or sexual orientations.

Starting in 2005, the Earth Institute committed to remove barriers to inclusivity and diversity that hindered our field from reflecting the makeup of society as a whole. The National Science Foundation funded a $4.2 million grant for the ADVANCE program at Columbia University (2004–2009). The mission of the program was to increase the recruitment, retention, and advancement of women scientists through institutional transformation. This program was led by a committed team of both men and women. The LDEO recommendations from the ADVANCE committee were to 1) improve the institutional climate by promoting awareness of subconscious bias and stereotype threat; 2) improve the status of LDEO scientists relative to faculty; 3) promote a more diverse work environment; 4) adopt family friendly policies; 5) create incentives and accountability for mentoring; and 6) increase the number of women among the scientific staff and in leadership positions.

In 2005, approximately 20% of researchers at Lamont and 3% of the instructional faculty at DEES were women. The ADVANCE grant resulted in the hires and advancement of many more women scientists in permanent positions. Through the ADVANCE program, the LDEO Directorate created the Office of Academic Affairs & Diversity (OAAD) in 2008 and established the Lamont Research Professor track (LRP, formerly Doherty Research Scientist track) in 2010. Over the time period of 2005–2011, the number of white women scientists on the LRP track increased from 10 to 16, and the number of women of color (2) remained the same. This failure to attract and recruit women of color highlights a fundamental flaw at Lamont that persists despite the institutional and cultural changes catalyzed by the ADVANCE program for women in STEM.

The creation of the OAAD in the LDEO Directorate was crucial to taking steps forward in increasing and promoting DEI at Lamont. In 2009, the OAAD implemented new search committee guidelines to increase diversity and publicized LDEO's demographics, bylaws, and information about promotions and policymaking. There were a number of initiatives focused on advancing junior staff such as the summer life series, the Lamont leadership forum, small leadership conference grants, a postdoctoral luncheon, and postdoctoral mentoring plan. Promoting the visibility of women and minorities is also central to the mission of the OAAD. Related initiatives included the Marie Tharp Fellowship, the Director's Science of Diversity Seminar Series, the Women in Science Networking Event, and the Excellence in Mentoring Award, as well as updated Institutional Support and Family Leave policies.

A 2005 NSF-ADVANCE work environment survey at Columbia (including LDEO, CIESIN, IRI, Fu Foundation SEAS, Barnard College, and Mailman School of Public Health) showed that "in general, men and women do not strongly believe that diversity is a goal of their department / unit" (OAAD, 2005). This still rings true 15 years later, as a 2020 Earth Institute survey found that "employees generally do not feel steps have been taken to establish resources and accountability mechanisms for promoting and tracking diversity and fairness within LDEO" (Earth Institute, 2020).

Even relative to geoscience as a whole, LDEO lags behind in the participation of underrepresented groups. The racial and ethnic demographics at LDEO have not changed much since the NSF ADVANCE grant in 2005 (Figure 1) (OAAD, 2020). The demographic makeup of the Lamont Research Professor (LRP) track has remained stagnant over time; the proportion of minority scientists in the LRP track in 2005 was below 20% in 2005, and in 2020 is just above 20%. In 2020, 7 of 19 women on the LRP track are minorities (36%) and 2 of 19 (11%) are URMs (both Hispanic), up from 21% and 7% in 2009. The Research Scientist (RS) track has seen the largest decrease in both the percentages of minorities and URMs at LDEO from 2005 to 2020. From 2015 to 2020, there have been *zero* URMs in the Research Scientist track. Postdoctoral researchers are one of the more diverse cohorts at LDEO, with the number of minority postdocs increasing almost threefold from 2005 to 2020, while the number of URM postdocs increased from 0 to 10% over the same time period. Graduate students in DEES/LDEO have consistently had the highest proportion of URMs at LDEO from 2012 to 2019 (data from US citizens only, as reported to NSF and NIH); the numbers of minority graduate

students have been steadily increasing since 2014. These data are available upon request from the Lamont OAAD and Columbia DEES Office.

A 2020 survey led by the Earth Institute revealed similar dynamics to those in 2005, 15 years after the ADVANCE program began (Earth Institute, 2020). The report showed that Black, Latinx, and mixed-race participants rated LDEO systematically lower than white participants in almost all available categories including Inclusive Culture, Psychological Safety, Cooperative Climate, and Fairness and Equity; our inability to make Lamont an environment where everyone can thrive is also visible in the responses of other historically marginalized groups (e.g. LGBTQ+).

LDEO Demographics 2005–2020
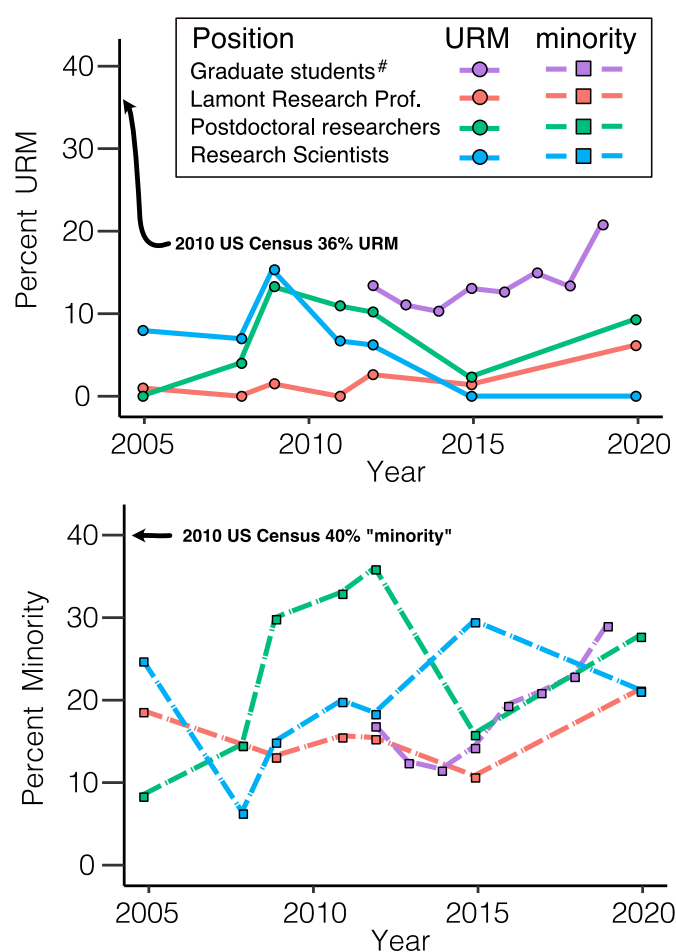
Figure 1: LDEO Demographics 2005–2020. Data from OAAD, 2020 and DEES.

Minority = Black*, Hispanic, Native American*, Asian, or 2 or more races.
URM = Black*, Hispanic, or Native American*
*= LDEO has not had any Black or Native American LRP or RS track employees from 2005–2020
 # = Graduate student demographics, provided by the Department of Earth and Environmental Sciences (DEES), is in the format used for reporting to the National Science Foundation/National Institutes of Health, and as such includes US citizens only.
All other populations shown here include people of any nationality.

Data used to make this figure are available in Appendix A.

Given these responses and the lack of progress towards including underrepresented groups at LDEO (Figure 1), the need to pursue structural and cultural change to support URM geoscientists at LDEO remains urgent. This is the context in which the LDEO Directorate created the Task Force Charge (p. 5). The Task Force is composed of a broad range of Lamont affiliates, including students, staff, administrators, scientists and faculty from LDEO, IRI, CIESIN, and DEES (see Full List of Task Force Members). To meet the Charge, the LDEI Task

Force engaged in a three-phase process that spanned six months. In Phase I, we gathered information about existing programs that address Diversity, Equity, Inclusion, and Antiracism (DEIA) at Lamont and beyond, as well as any particular successes or barriers related to making these programs as impactful as possible. We identified four main *topics* during Phase I that encompassed existing initiatives and also allowed us to identify opportunities for growth, development, and change: Inclusive Culture; Supporting Success; Recruitment, Retention, and Promotion; and Building Bridges. During Phase II, the Task Force divided into four working groups centered on these topics and were tasked with identifying actionable recommendations based on best practices within the literature, as established by peer institutions, and drawing on the diverse perspectives and experiences of the members of each working group and in the Lamont community. During Phase III, drafted recommendations were considered through a vote and discussion by the full Task Force, with >70% approval needed to ratify each recommendation.

Task Force operations were also intentionally transparent and inclusive to the broader Lamont community (including DEES, IRI, and CIESIN). Meeting agendas and minutes were made available on an internal Lamont website during Phase I. Two "Listening Sessions" were held, during which we invited all community members to provide feedback and contribute to the work of the Task Force. Additionally, on October 9th, 2020, several Task Force members presented a draft Diversity, Equity, Inclusion and Anti-racism action plan at an Earth Institute Virtual DEIA workshop.

In working to fulfill our charge of producing recommendations for large-scale change, we took note of the many programs and initiatives which have, in different ways, already begun to address the need for greater diversity, equity, and inclusion at Lamont. This inventory allowed us to not only consider new ways forward, but also to diagnose the barriers, obstacles, and friction points that have reduced the potential impact of existing programs. Many of the reported Priorities, SMART goals, and recommendations reference these ongoing efforts and identify ways to amplify their impact going forward. The full inventory is listed here for reference:

Current programs and initiatives at Lamont centered on community building:
- Campus Life Committee
- Annual Fun Run & Chili Cook-Off Competition
- Several art openings
- The party after Open House
- Weekly TGIF following colloquium
- LGBTQ+ Pride Celebration
- Black History Month Celebration
- Several Informal "sport clubs" (including soccer and volleyball)
- The Cafeteria's holiday brunch
- Seminar Diversity Initiative

Current programs and initiatives at Lamont centered on mentoring:
- Gender and Diversity Coffee Hour (peer mentoring / affinity group)

- Race Talk (peer mentoring / affinity group)
- Seminar Diversity Initiative (role models / mentor training)
- Postdoc mentoring committees (network mentoring)
- Graduate student committees (network mentoring)
- High School, Undergraduate, and REU Internships (mentoring early)
- Mentoring Award (visibility and reward for the role of mentors)
- LARP/DEES mentors and advocates

Current programs and initiatives at CU/Lamont centered on training:
- Postdoctoral Affairs training
- Center for Teaching and Learning
- Office of Academic Affairs and Diversity
- Office of University Life

Current programs and initiatives at CU/Lamont centered on networking:
- Office of Multicultural Affairs
- Pride and Black History celebrations
- AGU Lamont Alumni party

Current programs and initiatives at CU/Lamont to enhance working conditions:
- Free long-term parking
- Free intercampus shuttle
- Subsidized Cafeteria
- Hearing Loop in Monell
- Lactation Room (one located on second floor of admin)

Current programs and initiatives at CU/Lamont to enhance work/life balance:
- CU Office of Work life
- Subsidized Child Care
- Yoga class
- The sports fields (soccer and the volleyball court)
- Long weekends start on Friday afternoons

Successful bridge-building programs that bring students to LDEO:
- Secondary School Field Research Program (SSFRP)
- Lamont Research Experience for Undergraduates (REU)

WORKING GROUPS

The following four chapters contain reports from each of the four working groups: 1) Inclusive Culture, 2) Supporting Success, 3) Recruitment, Retention, and Promotion, and 4) Building Bridges. Individual recommendations, provided in a narrative context, are found within these chapters. We present a summary of the recommendations as Specific, Measurable, Achievable, Realistic, and Timely (SMART) goals here to provide a clear structure for implementation and accountability.

We suggest that implementation of our recommendations be overseen by a standing Lamont DEI committee **(SG0)** to measure progress towards each of the SMART goals using a transparent and public scorecard system (MIT EAPS, 2020). Progress can also be measured by tracking how many of the individual recommendations that make up each SMART goal have been implemented. The recommendations are keyed to their associated SMART goals within the individual working group chapters shown in the far-right column.

SMART GOALS

Specific (SMART) Goal	How will we **Measure** progress?	Who will **Achieve** it?	**Realistic Timeline**	For Individual Recommendations:
SG0 Establish a permanent DEI committee at Lamont with a rotating membership of ~6 people.	● The committee is formed	Directorate	short-term	🏆 💬
SG1 Implement recommendations on disability inclusion.	● Track the number of recommendations that have already been implemented ● Establish and follow timeline for implementing remaining recommendations	Directorate	immediate	💬
SG2 Update the Lamont webpage with specific information concerning changes that are being made at Lamont/Columbia in support of DEI, promote work/life balance resources, provide guidance with navigating the grad application process including fee waiver.	● Information is centralized and publicly available ● Recent changes and updates are documented in a timely fashion ● Webpage is checked annually for consistency with current CU/LDEO policies	Directorate, OAAD, DEES	short-term	🏆 💬 👥

SG3 Reward and recognize DEI work through awards (e.g. JEDI award open to all community members) including an end-of-year celebration of all nominees.	• Track the number of JEDI awards given and number of nominations • Track the impact of JEDI award winners on the community and DEI work occurring at Lamont	Directorate, OAAD	immediate	
SG4 Compensate DEI work by creating a fellowship/stipend program similar to what has been done at peer institutions (e.g. Princeton, Teacher's College, Oxford, Harvard, etc.).	• Fellowships and/or stipends are established • Track the impact of fellowship/stipend winners on the community and DEI work occurring at Lamont	Directorate	immediate	
SG5 Infuse DEI into existing and future funding streams; support community submissions to specific DEI-centered calls for funding (e.g. NSF ADVANCE, INCLUDES) and submissions of Collaborative Research proposals partnering with MSIs by initiating an incentive program for these proposals with 15% ICR returned to PI.	• Track number of proposals with DEI specifics • A partnership incentive program is initiated for proposals with significant partnerships with MSIs	Directorate	short-term	
SG6 Revise formal mentoring practices to include non-scientific staff, research scientists and staff associates; implement 360-review; annual Scientific Mentoring Colloquium; yearly mentoring training.	• Track compliance with mentoring training • Incorporate feedback from 360-reviews to improve mentoring	Directorate and/or new committee	short-term	
SG7 Informal mentoring: organize and support peer-to-peer mentoring groups and activities (e.g. speed-mentoring, writing groups, CV writing, coding etc.).	• Track the number of available peer-to-peer mentoring groups/activities and how frequently they meet • Attendees are surveyed to evaluate the efficacy of these groups/activities	Directorate and/or new committee	short-term	
SG8 Create promotion pathways for non-scientific staff (including staff associate handbook to make these transparent).	• Measure the amount of time of employees spent in their current position without a promotion and compare with CU or other peer institutions	Directorate, OAAD	short-term	
SG9 Finalize the draft handbook for Research Scientists and add in additional recommendations from the report on Staff Associates and Research Scientists.	• The handbook is approved and published	Directorate, ExCom, then Provost	immediate	

SG10 Include DEI work in promotion criteria and annual evaluation, and update all relevant handbooks to reflect this (i.e. LRP Handbook).	● DEI work is included in promotion criteria and annual evaluation	Directorate	short-term	
SG11 Help build social capital by expanding and engaging our alumni network.	● Track the size of the alumni network ● Track how frequently the alumni network is tapped for community-building and mentoring purposes	Directorate	long-term	
SG12 Collect, monitor and review data needed to track progress towards equity goals (e.g. exit surveys and interviews, turnover, grant submissions).	● Track all exit surveys ● Track all turnover in sum and by demographic ● Track all grant submissions	OAAD	long-term	
SG13 Develop a job posting board that aggregates available positions at all levels (esp. internship opportunities, Bridge-to-PhD), with additional benefit of increasing awareness at and beyond LDEO about these programs.	● Track number of job postings ● Track the number of applications received per job posting	OAAD	long-term	
SG14 Advertise all job opportunities in a consistent and broad way to reach a diverse audience, including ample information about the role and expectations.	● Track number of URMs applying to each position ● Track how much DEI work is being asked of new hires	Supervisors, OAAD	short-term	
SG15 Use cohort/cluster hiring to facilitate peer networks at the LARP level; tailor search criteria to attract diverse candidates. Coordinate with DEES where possible. Explore ways to make these positions more attractive by offering more hard-money support.	● Apply for cohort and cluster hiring through the Columbia University Faculty Diversity Initiative ● Track how many URM/minority candidates apply to open positions ● Track how many URM/minority candidates are hired annually	Directorate, OAAD	immediate	

SG16 Ensure sufficient support for working parents to thrive at Lamont via on-campus and Manhattan/Morningside-based daycare options, after school childcare on Lamont campus, increased subsidies and emergency childcare options, ensure pumping space can be made available in a nearby building upon request, and extend option for partial-leave following birth/adoption beyond the current 12-month limit.	• Annually survey working parents to evaluate the fulfillment of their needs • Ensure pumping space and access to childcare are kept available	Directorate, OAAD	short-term	
SG17 Increase flexibility and promote healthy working conditions for all Lamont staff (not just research staff and faculty). This can include working remotely, flexible hours during the day, etc.	• Regularly evaluate campus perception of work-life balance and job satisfaction (i.e. climate surveys)	Directorate	immediate	
SG18 Expand support for accessible events that build community (across divisions and roles) including those already established and new initiatives to fill gaps in social programming and campus-wide community discussions.	• Track metrics for all events: how many events happen per year, how many people attend them, and how many people are involved in planning/execution	Directorate, OAAD	immediate	
SG19 Revise Code of Conduct to address field safety (incl. misconduct and accessibility) and refresh Committee on Professional Conduct membership.	• New members are appointed to the Committee on Professional Conduct • New language on field safety is incorporated into the Code of Conduct • Revised Code of Conduct is published online	Professional Conduct Committee, Directorate	short-term	
SG20 Establish Lamont as a zero-tolerance environment for any type of harassment. Form Harassment Accountability Task Force.	• Harassment Accountability Task Force is formed • EOAA is contacted regarding Lamont-specific reporting	OAAD	immediate	
SG21 Encourage all research groups to develop a public-facing mission/values statement.	• All PIs are contacted by Directorate to encourage writing and publicizing statement • Track compliance (% of research groups)	Individual research groups, Directorate	immediate	

SG22 Ensure accessible training on core- and supplemental topics are available yearly and accessible online and encourage PIs and officers to participate in at least 3 per year.	• Track all available trainings (in person and online) • Track attendance at each training • Track number of trainings each PI attends	OAAD	short-term	
SG23 Invest in developing institutional relationships with minority serving institutions (MSIs) on-campus: host an undergraduate research conference at Lamont every year; invigorate the existing PDRF program to better recruit (and explicitly recruit) from MSIs and URM postdocs in general (more postdocs per year); invite MSI scientists through Seminar Diversity Initiative; create program analogous to Marie Tharp Fellowship for multi-day, -week, or -month visits to Lamont by URM scientists; Open House - have tours and meet and greet sessions for local colleges; create flexible programs to support student interns at any time of year and in varying capacities (e.g. high school, undergrad, Bridge-to-PhD).	• Track number of MSIs at which Lamont scientists are invited to speak • Track number of MSI-affiliated scientists who are invited to speak at Lamont • Track number of collaborative grants or papers written by Lamont affiliates with MSI affiliates • Track number of postdoc applications and hires from MSIs	Directorate; PDRF committee; Seminar organizers; everyone	short-term to long-term	
SG24 Invest in developing institutional relationships with minority serving institutions (MSIs) off-campus: have representatives at MSI conferences every year; "visit of opportunity" for travelling Lamont scientists to give talks at MSIs and community colleges; student-to-mentor connections and application support for transitioning community college students and potential graduate students; Compile and disseminate an information packet highlighting non-academic geoscience career opportunities (such as local tech-career fairs, internship and development opportunities, etc.).	• (See individual recommendations to develop more specific measurables) • See **SG23**	Directorate; everyone	short-term	
SG25 Declaring existing programs (e.g. SSRFP, REU, HRFS) to be part of Lamont's mission and make the leadership of these programs sustainable.	• Track and evaluate funding structure and budgets, and grant support. Provide back-stop and include in fundraising efforts	Directorate	short-term	

SG26 Update hiring practices to affirm institutional commitment to DEI. Create a charge for all LRP hiring committees to ensure that everyone has up-to-date implicit bias training and is aware of the expectations around DEI in the hiring process including how statements are evaluated.	● Track and encourage completion of implicit bias training for all search committee members ● Assess how search committees are evaluating DEI statements	OAAD	short-term	
SG27 Require diversity statements as part of application materials for postdoctoral and research faculty searches.	● Track how many searches required these statements versus did not in a given year	Directorate	immediate	
SG28 Partner with other institutes or departments at Columbia to "cluster hire" diverse students at the graduate level across Columbia and provide tailored mentoring and support, similar to established programs at UWisc, UMBC, etc.	● Track number of proposals submitted to Columbia-wide initiatives for cohort hiring (e.g. Graduate Equity Initiative) ● Track the number of URM students at LDEO/DEES	Graduate Equity Initiative - need faculty to lead	short-term	
SG29 Ensure LDEO adheres to the existing CU Minority, Woman, and Locally-Owned Business Enterprises (M/W/LBEs) Non-Discrimination and Affirmative Action Policy for Construction and Facilities Projects initiative by identifying an Officer of Supplier Diversity in the Purchasing office.	● Track number of minority, woman, and locally-owned businesses we have used each year (should be +3% per year, minimum)	Purchasing	short-term	
SG30 Make it easy for PIs to include intern and other DEI funding in grant applications by providing reliable and accurate language and budget information for inclusion in Broader Impacts components of proposals.	● Make language and budget information on broader inclusion for hires publicly available ● Track how often this language is used in grant applications	OAAD	short-term	
SG31 Establish capacity to periodically offer some postdocs with a bridge-to-LRP (e.g. pathway to faculty) position and use this to support DEI goals.	● Track number of LRPs	Directorate	short-term	

SG32 Expand the staff and funding available to the Office of Academic Affairs and Diversity at Lamont in order to support the numerous DEI efforts suggested in this report.	● OAAD capacity is significantly expanded by hiring at different levels (i.e. internships through senior levels) ● Track the size and staff composition of OAAD	Directorate	short-long term
SG33 Encourage a broad curriculum that reaffirms our DEI commitments and goals; provide support for Lamont affiliates leading cutting-edge curriculum development in this space (e.g. Race, Climate Change & Environmental Justice Seminar; workshops run by DEES faculty who are imbuing DEI in their existing classes).	● Inventory all current DEES courses to evaluate how many currently include DEI in their curriculum ● Support the development of new/expanded curriculum to further incorporate DEI into DEES courses ● Ensure inclusivity and DEI support are made clear to faculty, TAs, and students	Directorate, DEES	short-term

WORKING GROUP 1. INCLUSIVE CULTURE

The inclusive culture working group considered three central themes: building community, training, and reporting structure. A description of each theme and associated recommendations follows.

1.1 Building community

Dream: We are a community of people. In order for us individuals, and Lamont as a whole, to thrive, it's imperative that we come together. We need to find ways for people to connect with each other across campus so we all feel not only supported, but also invested in Lamont and can flourish within the community. Marginalized people are more likely to be left out of informal networks and to accrue less social capital. Therefore, it is especially important that Lamont organizes culturally relevant activities that include all identities and roles, as participation in sharing events contributes to boosting a sense of community (Albinsson and Perera, 2012; Procter, 2004).

Approach: Our recommendations are based on the examination of current community events, the analysis of the Lamont Code of Conduct, Lamont's accessibility plan, and Columbia University's resources (for example, Statement of Ethical Conduct and Administrative Code of Conduct).

Community: Recommendations in this section impact everyone in the Lamont campus. We suggest that the Office for Academic Affairs & Diversity (OAAD) oversee the implementation, in collaboration with Administration Services, while the Committee on Professional Conduct and the Campus Life Committee could join in assessing progress.

Barriers and friction points to achieving our dream include that participation in community-building activities is currently irregular, inconsistent, and/or discouraged by supervisors. Further, the work to organize these events is unrecognized and on a volunteer basis and often falls on marginalized and junior community members. Student- and postdoc-run events also run the risk of not being sustainable long-term as students and postdocs have a comparatively shorter tenure at Lamont compared to other staff. Some community members also feel left out and not part of the relevant networks. Lastly, there is a disconnect between administrative and scientific staff that we want to bridge.

Recommendations

Immediate
- Several of the existing DEI-themed events and initiatives—including Race Talk, Gender & Diversity Coffee Hour, LGBTQ+ Awareness—have been critical to building a welcoming and supportive workplace. To make these events more sustainable for both the organizers and our community, we recommend that students and postdocs who organize and plan these

events be compensated for their time. **(SG4)** *(immediate, high priority)*

- Community building events should be accessible to everyone on the Lamont campus. Participation of research and administrative staff, for example, during paid work hours should be welcomed and encouraged, and their supervisors should be advised of this. All should not have to "make-up" time or work through lunch to compensate for the time they were engaged in the campus event. **(SG18)** *(immediate, high priority)*

- Resources to create a healthy work/life balance exist at Columbia and should be promoted and made accessible to everyone at Lamont. For example, the Employee Assistance Program should have a more active presence at Lamont. **(SG2) (SG18)** *(immediate, high priority)*

- In addition to the existing community building events, we suggest the OAAD initiates the expansion of events celebrating topics of affinity/identity. For example, while events such as Black History Month and Pride Month exist, annual events should be expanded to include Hispanic/Latinx Heritage Month (October); Native/Indigenous Heritage Month (November); Disability Pride Month (July). **(SG18)** *(immediate, medium priority)*

- An inclusive campus means an accessible campus for all. We strongly recommend that the Directorate follows and effectively implements the recommendations on disability inclusion at Lamont which were provided to the Directorate during an August 2020 meeting. These recommendations are listed in full below. **(SG1)** *(immediate, high priority)*
  - Provide information about accessibility accommodations on the Lamont website and in handbooks/guides for incoming staff and researchers with specific direction to contact persons for information on accommodations. **(SG2)**
  - Provide clear information on what accommodations are available.
  - Provide an accessibility map of campus that has descriptions for each building of accessibility concerns.
  - Endeavor to hold seminars in accessible locations. **(SG18)**
  - Require that field work and field trips include accessibility planning and information. Consider relevant seminar speakers on this topic, for example Anita Marshall (anitastonemarshall.com/). **(SG19)**
  - Require bias training specific to disabilities for students, faculty, staff, researchers, and advisors. **(SG22)**
  - Address issues of shuttle accessibility.
  - Practice disability-inclusive hiring. **(SG26)**
  - Examine the current sick leave policy at Lamont and consider revising (extending) it if it disadvantages individuals with disabilities. **(SG17)**
  - Improve campus accessibility.

- The Lamont Code of Conduct is an important document in which we state our shared values. However, there are several shortcomings that need to be addressed to strengthen this

community commitment. We recommend the following revisions to the Lamont Code of Conduct: *(immediate–long-term, high priority)*

- To combat misconduct in the field and on research cruises, the Code of Conduct outlines important recommendations. However, few if any are followed by the community, such as pre-trip safety training or post-trip surveys. We recommend that renewed focus is put on this including running relevant training (see also **1.2**) and administering surveys. Additionally, to protect marginalized groups, "Lab and field safety guidelines should be written with the recognition that some lab members require additional support to safely conduct their Work. In the field, PIs should familiarize themselves with any historical and contemporary racist climate present at field sites and prepare accordingly" (Chaudhary and Berhe, 2020). These aspects could be covered in pre-trip safety training. **(SG19)** *(short-term, medium priority)*
- The Committee on Professional Conduct's membership must be refreshed (as several members have left Lamont) in order to make progress on the stated aims (Code of Conduct Annex 7). The working group structure should also be reconsidered, and this annex rewritten in order to centralize DEI efforts and reduce the number of committees. Some of the stated goals might be transferred to the newly formed standing Lamont Diversity Committee. **(SG19)** *(short-term, high priority)*
- Persistent misgendering and deadnaming should be added to the Code of Conduct as a form of sexual/gender-based harassment. **(SG19)** *(immediate, high priority)*
- There are no established consequences for those who violate the Code of Conduct. To truly create a safe and professional environment, we must hold violators accountable (e.g. Clancy et al., 2020). The Committee on Professional Conduct should work with future recommendations from the Harassment Accountability Task Force to incorporate mechanisms of accountability into the Code of Conduct. **(SG20)** *(long-term, high priority)*

Short-term

- DEI efforts (not limited to organizing events) should be considered more directly in career advancement. Specifically, for administrative and research staff, DEI efforts should be discussed in annual reviews. For faculty, the Faculty Information Form should include DEI work in the service section "IV.G Highlight which of your service relates to increasing Diversity, Equity, and Inclusion on any level." **(SG10)** *(short-term, high priority)*

- Provide funding and organizational support for community-building events. **(SG18)** *(short-term, high priority)*

- A large part of our life at Lamont happens within smaller groups led by a supervisor, including PI-led labs and fieldwork excursions. We recommend that the Directorate strongly encourages that each group crafts a mission statement which states the values of each group and sets expectations about working relationships. Several such statements already exist at Lamont and these can be linked more centrally. **(SG21)** *(short-term, medium priority)*

<u>Long-term</u>
- Divisions should organize more coordinated social meetings that include administrative and finance departments to exchange ideas and understand how each division functions. These meetings work well as social gatherings over bagels or coffee. Divisions should have the funds to run these and the ADs should make sure that such meetings exist or initiate them if they don't by appointing a division member. **(SG18)** *(long-term, high priority)*

- The Campus Life Committee provides funding to support several well-attended and historically important events, including the Fun Run, Chili Cookoff, and Science as Art. We recommend that the support of these events continues to be prioritized by the Directorate. **(SG18)** *(long-term, high priority)*

- The OAAD should further provide expanded logistical support to ensure the success of these events, including help purchasing/acquiring the necessary items and materials without students having to advance costs. Lamont and EI social media/communications teams should help with advertising these events. **(SG18)** *(long-term, high priority)*

- Organize more joint events between academic and administrative staff, e.g. joined holiday extravaganza. Activities such as the Lamont selfie are great to build community and document its change. **(SG18)** *(long-term, medium priority)*

Opportunity and accountability

In rare cases it might be possible to raise funding for some of the events from external grants, e.g. by including community building events as Broader Impacts. To track progress we recommend recording the number and composition (by center, career track, etc.) of attendees to DEI and other community building events. This could be done by sign-up sheets or through annual surveys. This allows assessing which events are most successful in building community across campus. Some of the recommendations also include specific outcomes (accessible gates to all campus buildings, for example, or mission statements for each group in campus), which can be tracked as part of the scorecard system.

1.2 Training

Dream: We want to have engaging and interactive training on relevant topics that allow scientists to understand biases and conflicts and give them the tools to recognize and overcome them. We would like to see wide participation at these trainings, especially from more senior community members.

Approach: Our analysis is based on reviewing the Lamont 2020 Mental Health Survey, the Earth Institute 2020 DEI Survey, the CU 2018 Policy and Planning Committee (PPC) Equity Report, and the NAS 2018 Sexual Harassment Report.

Community: These recommendations affect everyone at Lamont. We suggest that implementation and progress assessment will be overseen by the OAAD. We understand that

some of the recommendations are outside of the purview of the OAAD, in which case we encourage others (e.g. department chair, faculty on CU committees, directorate) to work with and support the efforts driven by the OAAD.

Barriers and Friction points: The main friction point that is repeatedly mentioned is the impression that people, most notably more senior community members who should really be attending training, make no effort to do so (Lamont Mental Health Survey 2020; Earth Institute DEI Survey 2020). Community members are also concerned about attending training (and events) while already being stretched too thin and not being able to fit the required work into a normal work week (Lamont Mental Health Survey 2020). Administrative staff attending OAAD trainings that aren't mandatory might be required to "make-up" time or work through lunch to compensate for the time they were engaged in the campus event (same issue with attending DEI-related events).

Recommendations:

The OAAD organizes an annual series of training on topics related to Diversity and Inclusion, including racial bias awareness; implicit bias awareness; and Discrimination, Harassment and Gender-Based Misconduct. We have several recommendations to expand these training topics, grow attendance, and maximize their efficacy:

Immediate

Training attendance: *(immediate, high priority)*

- PIs, officers of research, and officers of instruction should be encouraged and incentivized to participate in at least two training sessions per year, either in-person or web-based. The OAAD should share planned training ahead of time (with a reminder that attendance at 2 training sessions is expected) so that researchers can plan to meet the number of expected training. **(SG22)**

- Participation in training should be considered as part of the annual reviews for staff. If community members did not meet the suggested 2 training per year this should be discussed in the annual review. **(SG22)**

- To track training participation for faculty we recommend that training participation is included in the Faculty Information Form (FIF). Specifically, we recommend including this as point "III.E training: List any training you have completed at Columbia related to making your group a welcoming and bias free environment and improving your teaching and mentoring." This should be considered in the annual review of the FIF and individuals who do not attend a sufficient number of training should be prompted to do so after the review. **(SG22)**

Short term

Types of training: *(short-term, high priority)*

- We recommend having a set of fixed training offered on an annual basis. These should include those that have been most widely attended and valued including implicit bias training, racial bias training, and bystander intervention. **(SG22)**

- We recommend having additional training "on rotation". We acknowledge that these trainings put a time burden on the OAAD office and community members, as such we recommend holding training related to workplace challenges (conflict management, training related to disability access) and topics related to affinity and identity (Black history, LGBTQ+, Hispanic/Latinx Heritage, Native/Indigenous Heritage) as opportunities arise, but at least several a year. **(SG22)**
- We recommend that fieldwork safety is addressed more prominently, and that training is available for conflict resolution in the field. **(SG22)**
- The 2018 PPC Equity Report "requires appropriate training for all leadership positions, including department chairs, search committee chairs, and department administrators (DAAFs or equivalent)." We encourage training tailored to leadership roles, e.g. unconscious bias training in search and admission committees. **(SG22)**
- "Training programs should focus on changing behavior, not on changing beliefs. Programs should focus on clearly communicating behavioral expectations, specifying consequences for failing to meet these expectations, and identifying the mechanisms to be utilized when these expectations are not met. Training programs should not be based on the avoidance of legal liability" (NAS, 2018). **(SG22)**

Trainers: *(short-term, high priority)*
The OAAD has run many of the types of seminars listed above and we recommend that this office remains the contact point for organizing training at Lamont. However, we also recommend that this office draws on other resources (see suggestions below) to lighten the workload and keep training varied and engaging. **(SG22)**
- CU Office of Multicultural Affairs Diversity Education and Training
- External experts (the OAAD should receive the financial support to do so)
  - Experts on field safety
  - Social justice educators (e.g. Erika Hart, Rachel Cargle)
  - Implicit bias (e.g. https://breaktheprejudicehabit.com/)

Accessibility: *(short term, medium priority)*
- Training should be made accessible to all by developing web-based training or, if possible, recording and uploading in-person training. All online training should meet web content accessibility guidelines, this includes closed-captioning, alternative text for screen readers, and translation options. There are resources available through the wider University, including content platforms like Panopto, which provides automatic captioning for uploaded video files. **(SG22)**

Potential funding sources: Funding for these recommendations is needed to support the OAAD and to allow inviting external speakers and experts. Lamont could partner with the Earth Institute or Climate School for training resources.

Tracking progress: We recommend tracking both how successful participation is at these trainings as well as how effective the training is in changing behavior. For the former, we recommend metrics of success that include how many attendees each training had by topic,

demographics of the audience, what percentage of campus participated in training, how that percentage changes over time. For the latter, we recommend including questions about the effectiveness of trainings in each campus life survey. Both of these assessments are needed to "evaluate whether they are effective and what aspects of the training are most important to changing culture" (NAS, 2018).

1.3 Reporting structure

Dream: Many at Lamont do not trust existing modes of recourse for reporting and resolving instances of workplace harassment. As such, many incidents remain unreported and unresolved. To overcome this, we recommend the development and implementation of an informal reporting structure to allow complainants to come forward more comfortably. This new grievance procedure should fulfill the following five aspects: (1) Complainants feel protected against retaliation when coming forward to file a report; (2) Avenues of informal grievance resolution are established; (3) Institutional memory of repeat offenders is preserved and made as transparent as legally possible. Data on problematic behavior should be collected, even when it does not rise to an unlawful level; (4) Where possible, offenders are confronted and experience consequences. For example, supervisors with numerous complaints should be scrutinized when under consideration for additional students, postdocs, or staff, or when under consideration for promotions; (5) The reporting and mediation of conflicts is monitored to evaluate the success of the reporting structure. A clear avenue for reporting and redress is especially important for advancing DEI at Lamont, given the disproportionate impact of this behavior on already marginalized communities.

Approach: Numerous Columbia University-based surveys and reports reveal that unprofessional conduct—including bullying, harassment, and other forms of discrimination—occurs at Lamont and within the greater Columbia community. The 2015 Campus Life and Work Environment Survey revealed that nearly one-half of the 365 total survey respondents either "agreed" or "strongly agreed" that they had experienced unprofessional conduct while at Lamont. Research shows that the greatest predictor of hostile behavior in the workplace is "organizational climate," the degree to which those within an organization perceive this behavior to be tolerated (NAS, 2018). Lamont employees perceive existing dispute resolution mechanisms to be somewhat unfair and ineffective (2.51/5) and feel that Lamont does not address complaints in an effective manner (2.64/5) (2020 EI DEI Survey).

Community: These recommendations will benefit the entire Lamont community. We envision that the following recommendations are implemented by the Directorate and the Office of Academic Affairs & Diversity and the implementation be overseen by the Harassment Accountability Task Force.

Existing Lamont efforts related to reducing harassment and increasing reporting include (1) the annual and mandatory New York Anti-Harassment training for all faculty and staff at Columbia, (2) the Lamont Harassment Awareness Month programming, (3) the suggested and

unimplemented guide on "Informal Resolution of Complaints" within LDEO/DEES (Dutt and Matthews, 2019). Resources on the Columbia level include the EOAA and Ombuds offices.

Barriers and Friction Points: Columbia's EOAA office is viewed as "only concerned about someone suing the university" and the Ombuds office as "toothless by design" (CU 2018 PPC Equity Report). When complaints are brought forth, slow-moving and lenient adjudication has resulted in a widely shared perception that offenders are rarely held accountable for their actions. Beyond a lack of faith in the current reporting options, many also express a fear of retaliation as a result of their report. Members of past and current Lamont leadership have historically not been cooperative in improving reporting mechanisms (e.g., failure to implement the "Informal Resolution of Complaints" guide). As such, many at Lamont are "reluctant to reveal problems or complaints to management or leadership" (2020 EI LDEO Survey).

<u>Recommendations</u>:

The design of a comprehensive and legally sound reporting structure within the timeline of the LDEITF is beyond the ability of the Inclusive Culture working group. Input and guidance from experts on workplace harassment and conflict resolution are required to build this framework in an effective and responsible way. We note that we have not encountered a good informal reporting structure at other institutions during our research and this lack of existing structures across institutions has been confirmed during the group's meeting with expert Bodi Regan. We thus make the following recommendations to prioritize the establishment of this reporting structure in a responsible and swift manner.

<u>Immediate</u>
- Conduct an anonymous survey on workplace discrimination, harassment, and other forms of misconduct. We recommend that the survey is administered to all members of Lamont by the Office of Academic Affairs & Diversity with input from relevant committees. Different than the Lamont survey on Mental Health and the 2020 EI survey, the survey we recommend here should not only focus on how community members perceive the current reporting structure but should also assess the extent of workplace discrimination. This is similar to the 2015 Campus Life and Work Environment survey administered by the Campus Life Committee and Office of Academic Affairs & Diversity, which to our knowledge is the last time this was assessed. Quantifying existing harassment will be an important step to creating frameworks for addressing harassment and tracking success. **(SG12) (SG20)** *(immediate, high priority)*

- Coordinate with the EOAA office to collect and assess historical data on all reports filed with connections to the Lamont community members. **(SG20)** *(immediate, medium priority)*

<u>Short-term</u>
- Exit interviews should be conducted with everyone to record and preserve institutional knowledge. We recommend that the OAAD performs these interviews. We believe it could be left up to the employee who is leaving to decide whether their advisor should be present at the interview. Consistent questions for this exit interview should be developed. Such exit

interviews already exist for graduate students. **(SG12)** *(short term, high priority)*

- Form another task force—the Harassment Accountability Task Force—to focus on expanding the Informal Resolution of Complaints guide into an enforceable reporting structure for the entire Lamont community (Dutt and Matthews, 2019). This task force should be established by March 2021. The task force should consist of 7-10 engaged members representing a cross section of Lamont (and DEES) with a skew towards groups that more commonly experience harassment. This could include 2-3 graduate students, 1-2 postdocs, 1-2 junior scientists, 1-2 senior faculty, and 1-2 administrative staff (from HR if possible). The task force should report to the Directorate and coordinate efforts with the Earth Institute. **(SG20)** *(short term, high priority)*
  - Relevant consultants may need to be hired to provide expert advice to this task force, particularly when considering how to best implement consequences. Clancy et al. (2020), for example, recommends the following repercussions:
    - Unit heads should have frank, private conversations with those who harass, insisting that the bad behavior cease.
    - For repeat offenders, perks that are not entitlements such as sabbatical leaves, discretionary funding, or the admission of graduate students to their labs should be restricted.
    - Harassment and informal reporting should be considered in career advancement decisions.
  - Since people's perceptions of intent and impact are strongly conditioned by their backgrounds, we recommend that the Harassment Accountability Task Force and anybody overseeing or adjudicating misbehavior needs to include representatives from our more marginalized cohorts.
  - The reporting structure should not only be targeted to graduate students but should also include a point of contact for administrative and technical staff.
  - Coordinate with the EOAA office to collect and assess historical data on all reports filed with connections to Lamont community members.

- The Lamont Mentoring and JEDI awards recognize outstanding mentoring and efforts in promoting diversity, equity, and inclusion. As such we recommend that the award committee considers formal and informal complaints against individuals that have been nominated (to the degree that these complaints are known or can be accessed by the committee). This should be enforced immediately, and we recognize that this effort will also greatly benefit from a functioning informal reporting structure. **(SG3)** *(short term, high priority)*

Long-term
- While combating current harassment is paramount, it is also important to recognize that some of Lamont's past scientists have created or have been complicit in creating an environment of harassment. This history should not be overlooked when praising these individuals for their scientific achievements—we should not perpetuate the notion that harassment is permissible regardless of whether the harasser is "brilliant" or able to raise funding. We specifically suggest: (1) initiating a Lamont wide conversation about recognizing

and condoning inappropriate behavior of past Lamont scientists (AMNH has staff with experience in how to deal with this); (2) augmenting images of past successful scientists who are mostly white and male to include pictures of successful Lamont scientists that represents and honors diversity; (3) converting the Comer "bridge" into a space that celebrates science *and* diversity; for example, a student collaboration space; (4) obtaining and publishing the records preserved in the six boxes titled "Harassment Records - Lamont-Doherty Geological Observatory" held by the Library of Congress with Marie Tharp's papers (Library of Congress). **(SG20)** *(long-term, varying priority)*

Potential funding sources: Funding for these recommendations is needed to support the OAAD and to possibly hire relevant consultants (e.g. Title IX experts). Since this is a problem that is consistent across the Earth Institute and needs to be addressed on the highest level, Lamont could consider drawing on EI resources.

Tracking progress: The effectiveness of the reporting structure can be assessed by monitoring incidents of harassment through surveys and exit interviews.

WORKING GROUP 2. SUPPORTING SUCCESS

The supporting success working group considered five central themes: support of all career tracks, mentoring and training, support of community and DEI service, supporting workplace health, and infusing DEI into existing funding streams. A description of each theme and associated recommendations follows.

Dream: To fulfill its mission, Lamont needs everybody on our campus and in our community to thrive, both professionally and personally. Students, administrators, professors, technicians, maintenance workers, scientists, and nonscientists: we are all essential Lamonters. Thriving at our jobs means finding meaning in our work, opportunities for growth, openness to diverse career goals, and validation within the Lamont community.

A positive mentoring relationship meets the needs of both parties involved (Montgomery and Page, 2018): In general, the mentee's needs are personalization, guidance, correction, affirmation, and agency, while the mentor's needs include space to grow, openness, active participation, value, and correction. We need to support everyone at Lamont by upholding mentoring and learning.

Approach: Supporting success at Lamont must include diversifying our community, so that no one feels isolated on account of their identity. Increasing diversity is critical to cultivating an inclusive culture where everyone is respected and nurtured. Supporting success also requires ensuring a healthy workspace and appropriate life/work balance, so that each of us can avoid mental health problems, manage stress, and remain productive and creative.

A prerequisite for an effective, positive mentoring relationship is that shared needs for communication of expectations, mutual trust, and mutual accountability are met. Effective mentorship needs to be context-based ("focusing on the environment and individuals' access, or lack thereof, to needed support and resources" and "supporting individuals' self-defined professional visions rather than acculturative mentoring" or "advancing individuals along institutionally defined paths of success") and culturally-relevant ("mentors must maintain a dual perspective, seeing the mentee as an individual, as well as part of a larger social context"). While mentees tend to prefer mentors who share their identity, research shows that commonality of experience is not a prerequisite for effective role modeling and mentorship -- as long as the mentor is comfortable discussing identity-related issues. Effective mentoring increases a mentee's social capital (privileged information and resources that can be shared within an in-group), alongside increasing technical and professional skills.

The old academic model of a mentor/mentee relationship is problematic, as it seldom meets all the needs of either the mentor or the mentee (e.g., the mentor might devote much time without receiving much benefit; or the mentee might not be receiving sufficient sponsorship or affirmation). A single mentoring relationship is especially insufficient for underrepresented

scientists. URM mentees are typically not a younger version of the mentor, and this causes them to be perceived as less competent, more in need. URM mentors, especially if they are the only ones in a workplace, are perceived as less connected and not a good model for fitting in; moreover, they end up doing a disproportionate amount of mentoring and other forms of un- or undercompensated labor (Padilla, 1994). It is therefore better to expand to a network of mentoring relationships that include (i) hierarchical and peer mentoring, (ii) competence-based relationships where mutual trust is based on the work-output of each individual and benevolence-based relationships where mutual trust is based on personal affinity, (iii) weak ties that provide access to resources and information and strong ties that provide social support during times of stress (Callahan et al., 2015). Mentoring groups can be identity/affinity based, creating a "microclimate" of support for URMs.

Community: Many of our recommendations are not explicitly targeted to a single population, but we maintain that a supportive institution is especially necessary for marginalized identities that already swim against the tide. We hope that our recommendations will work to support Lamonters of all races, ethnicities, sexes, genders, orientations, physical abilities, and neurotypes.

Barriers and friction points: There are many barriers/friction points that are common to almost all DEIA initiatives across Lamont. We also will address the multi-faceted issue of mentoring. The barriers and friction points for effective mentoring are divided into three categories: (1) limited extent of current formal mentorship programs; (2) limited communication about expectations for effective mentoring; and (3) lack of accountability and reward for the quality of mentorship. First, our current formal mentorship programs are quite limited. We are missing mentoring structures for staff outside the research track, potentially as a result of the competitiveness of the environment, and by the fact that mentorship is not seen as that impactful without the possibility of positive outcomes such as career progression. Temporary Lamonters (e.g. summer programs) are not aware of and not included in all current initiatives. Second, there are no clear expectations for the quality and quantity of mentorship outside of the relationship with graduate students (committee meetings) and postdocs (postdoctoral plan). Most people do not see that training sessions are valued by their superiors and leadership. Finally, there is no clear accountability for the quality of mentorship (e.g. accountability regarding implementation of postdoctoral committee and postdoctoral mentoring plans). There is the ever-present risk of overburdening good mentors and missing rewards for good mentorship and/or willingness to train. It is difficult to train and grow our mentors when many people are resistant to mandatory training or think they cannot afford the time.

Funding is the largest barrier to overcome for supporting success, and we can (and will, in this document) propose sources of funding; however, there is a less tangible barrier common to most of these initiatives: culture. To fully commit to DEIA, Lamont has to honestly examine its culture and actively work toward changing it. We need to focus our long-term efforts on creating a Lamont in which people want to give back to the community and want to support the success of all of its members. We need to promote accountability and mutual respect. We mention ways to incentivize this behavior; however, our long-term vision includes a Lamont in which

community-service and DEI work are typical, normal roles for community members. This normalization of DEI work does not preclude rewarding and compensating those that go above and beyond their job responsibilities (see pg. 2 P1.4, pg. 3 P2.5).

2.1 SUPPORT OF ALL CAREER TRACKS

Individuals not only report greater levels of happiness, but also perform better at their jobs when they have opportunities for career growth (Callahan et al., 2015). Non-scientific staff members, Research Scientists, and Staff Associates at Lamont are lacking in support. It's crucial that we help all members of our community thrive. These career tracks are also more diverse, containing many more members from underrepresented groups than the Lamont Research Professor and Department of Earth and Environmental Sciences Professor tracks (Dutt, personal communication).

While scientific research and education are the core missions of Lamont, it is important that we recognize: (i) the key contributions to our mission made by non-scientific staff; (ii) the key contributions to our mission made by all technical and research staff, beyond students, post-docs, and professors; and (iii) that our mission extends beyond the ivory tower and includes preparing and empowering Lamonters to pursue careers outside of academia. To this end, we envision that all Lamonters will find a clear path for professional growth, whether in the context of career growth at Lamont or via resources to explore and train for careers outside of Lamont.

Recommendations
Immediate
- New employees should be informed of career growth programs such as the tuition benefit program for pursuing Columbia coursework and the Bridge-to-PhD program. **(SG2)** *(immediate, high priority)*

- Approve Research Scientist Handbook (Seager and Ferrini, 2019). **(SG9)** *(immediate, high priority)*

- Increased flexibility for all Lamont staff (not just research staff and faculty). This can look like working remotely, flexible hours during the day, etc. (Research staff and faculty often have more flexibility, leading to the possibility of better work/life balance. All Lamont employees should have this privilege to some extent). **(SG17)** *(immediate, high priority)*

- Form a committee to take a closer look at mentoring for non-scientific staff, Research Scientists, and Staff Associates. This committee should consider and address the lack of path for promotion for non-scientific staff at Lamont, lack of institutional support for Research Scientists'/Staff Associates' time for mentoring (as they're often fully soft money), what mentoring would look like, and mentoring goals. **(SG6)** *(immediate, medium priority)*

Short-term
- Create promotion pathways and tentative promotion schedules (depending on performance) for non-scientific staff to create greater job satisfaction and possibility for growth. **(SG8)** *(short-term, high priority)*

- Implement formal mentoring for non-scientific staff, Research Scientists, and Staff Associates with 360-degree review structure in place if supervisors are involved. (It's important to note that non-scientific staff and Staff Associates do not choose their supervisors, so it's important to ensure they are doing what they can to help their supervisees thrive professionally/personally). **(SG6)** *(short-term, high priority)*

- Create a Staff Associate Handbook that includes new levels of Staff Associate and paths of growth in the position. **(SG8)** *(short-term, medium priority)*

- More community-wide events when we can all convene on campus again. For example, regular meeting/social activities across divisions (including non-scientific staff) to exchange ideas and socialize. **(SG18)** *(short/long-term, medium priority)*

<u>Long-term</u>
- Change in overall work culture at Lamont. Working hard does not require unbearable stress. Science shows that increased mental/physical health improves work productivity. **(SG17)** *(long-term, high priority)*

2.2 MENTORING AND TRAINING

We refer to mentoring as an on-going relationship entered by a select group of individuals (a dyad of mentor and mentee, a peer support group, a mentoring network, etc.); mentoring is a combination of sponsorship, coaching, and emotional support. We refer to training as the transfer of skills, typically through classes, seminar series, reading groups, discussion groups and the like. Mentoring and training are the main means of supporting professional growth and we envision a Lamont where these activities are equally shared, equally accessible, and effectively carried out. Effective mentoring is a skill; therefore, mentors need training and mentorship as well.

Recommendations
Immediate
- Form a committee to study implementation of a "360 degrees" review process for mentors and supervisors during yearly review. This review process is common in industry and should be replicated at Lamont. To avoid inaccurate evaluations and retaliation, mentors and supervisors should be evaluated by a combination of peers and mentees, each answering a specific set of questions that evaluate effort, outcomes, and participation in professional development (mentoring/DEI, etc.) training. For mentors of students and postdocs, one of the peer evaluators should be a member of the mentee's committee, another should be external to the field. (Note: DEES faculty do not have yearly evaluations – the 360 feedback

should happen yearly nonetheless, possibly with the department chair.) **(SG6)** *(immediate, high priority)*

- Form committee to take a closer look at why there is a lack of mentoring for technical, administrative, and B&G staff. This committee should consider the paths for growth and promotion for all positions at Lamont (our WG noted that the lack of potential for growth/promotion within a job leads to a feeling of isolation and dissatisfaction). **(SG6)** *(immediate, high priority)*

- Promote peer mentoring by organizing support groups/study halls online or on campus (e.g. cafeteria, Lamont Hall) centered on specific activities (e.g. writing, updating your CV, coding, etc.). **(SG7)** *(immediate, high priority)*

- Promote networking by organizing new employees meet ups (regardless of career tracks and field). **(SG18)** *(immediate, high priority)*

Short-term
- Encourage each student to acquire one non-faculty mentor (to help distribute the time investment of mentorship and to give non-faculty the chance to share their knowledge and networks). **(SG6)** *(short-term, high priority)*

- Incentivize the mentoring of URM by providing seed money to PIs to take advantage of the Bridge-to-PhD program in STEM. **(SG30)** *(short-term, high priority)*

- Organize a regular (yearly) mentoring panel to discuss and contrast lab expectations and cultures. This could be paired with the Mentoring Award ceremony. **(SG6)** *(short-term, high priority)*

- Design a set of questions to guide annual reviews (modeled on those for graduate student committees and postdoc reviews) that explicitly includes mentoring activities and professional development centered on mentoring. **(SG6)** *(short-term, high priority)*

- Design a "Learning Community" (Whitney et al., 2012) credit-bearing seminar class to train mentees to (i) understand and meet their mentoring needs (weak/strong ties etc.); (ii) facilitate professional development sessions (oral/written presentation skills, CV developments, networking and career planning, goal setting), and (iii) complement with network and peer mentoring relationships the "cognitive apprenticeship in a community of practice" model. **(SG6)** *(short-term, high priority)*

- Organize lunch-time career trainings in proposal writing, science communication, research finances, effective teaching, career paths inside and outside of academia, how to build a lab/research group, etc. Prioritize making these workshops and seminars more accessible, i.e. with closed captioning, recordings, archived slides. **(SG18) (SG6)** *(short-term, high*

priority)

- Obtain community input on 360-degree feedback. **(SG6)** *(short-term, high priority)*

- Obtain community input on mentoring outside the scientific tracks. **(SG6)** *(short-term, high priority)*

- Task the development office with creating an alumni network that can be accessed for supporting Lamont in ways broader than fundraising. **(SG11)** *(short-term, high priority)*

- Implement regular (yearly) "speed mentoring" sessions for both mentors and mentees, as an opportunity to meet people and identify potential "matches." **(SG7)** *(short-term, medium priority)*

- Invite post docs, ARS, RS, SRS, etc. to participate in the speed mentoring event. **(SG7)** *(short-term, medium priority)*

- Extend Alumni parties from just AGU to other venues such as SACNAS (Society for Advancement of Chicanos/Hispanics and Native Americans in Science) and NABG (National Association of Black Geoscientists). **(SG11)** *(short-term, medium priority)*

- Fundraise for a Lamont Diversity Visiting Scholarship. **(SG23)** *(short-term, medium priority)*

- Organize a once-a-semester "Science of Mentoring" Colloquium (modeled on the Science of Diversity). **(SG6)** *(short-term, medium priority)*

- Organize a series of "Geosciences outside the tower" seminars in the colloquium: recruit speakers from government, industry, non-profits, etc. **(SG11)** *(short-term, medium priority)*

Long-term
- Design a "Entering Mentoring" curriculum parallel to the summer programs to train mentors. Examples of topics are mentorship and social capital, mentoring contract, individual development plans, whole-person mentoring; context-based mentoring; culturally relevant mentoring, role-modeling vs. mentoring, conflict resolution training, and bystander intervention training. **(SG6)** *(long-term, high priority)*

- Propose the same session as lunch-time discussion during a designated "Mentoring Month." **(SG6)** *(long-term, high priority)*

- Cluster diversity hires (peer network at the LARP level). **(SG15)** *(long-term, high priority)*

- Implement the committee recommendations on 360 degrees feedback (e.g. include in criteria for yearly evaluation and promotion). **(SG6) (SG10)** *(long-term, high priority)*

- Implement the committee recommendations on mentoring outside the scientific staff. **(SG6)** *(long-term, high priority)*

- Creation of a Lamont Diversity Visiting Scholarship that provides opportunities for underrepresented scientists to visit Lamont for 3-6 months and collaborate with Lamont scientists. It would also provide opportunities for Lamont's underrepresented diversity to visit other research institutes. This scholarship could be seen as a continuation of the Marie Tharp Fellowship for underrepresented groups. **(SG23)** *(long-term, high priority)*

- Conduct a network analysis to evaluate whether all people/identities are well connected within Lamont's research staff (papers, proposals, etc.). Based on the results and experience, decide on the frequency at which such an analysis should be replicated, for the purpose of monitoring progress and interventions. **(SG12)** *(long-term, medium priority)*

- Engage alumni network at every level by inviting them back to campus (e.g. high school interns could present at Open House; organize a Homecoming day for Lamont's PhDs; include those who have become faculty in career trainings events; include those who are employed in government, non-profits, or private sector to speak at the Geoscience outside the Tower series). **(SG11)** *(long-term, medium priority)*

2.3 SUPPORT OF COMMUNITY AND DEI SERVICE

Under the broad rubric of service, we include all those activities that do not directly lead to career advancement. This includes mentoring activities that are outside the expected hierarchical mentoring relationship (outside of, for example academic advising or committee participation), but that are part of peer mentoring, affinity groups, training, and celebrations that support DEI. It also includes the participation in, or the leadership of, activities that support a sense of community within Lamont – across divisions, career paths, and other boundaries. The nature of those activities is discussed by the WG Inclusive Culture. Here we focus on how to incentivize and reward such activities, with the goal of seeing them become ingrained in Lamont's culture.

In order to incentivize community service activities and to provide Lamont-level leadership of DEI related activities, community service and DEI activities must be tied to job expectations via financial compensation. This can be done using existing frameworks for compensation in some cases, and in other cases with new initiatives. Other institutes are using stipends to compensate DEI work and those who do this important work, thus providing real signals from leadership that these activities are valued and incentivize a broader distribution of the burden, so that it does not fall predominantly on the shoulders of those with marginalized identities.

Recommendations

Immediate
- Update the Lamont webpage with specific information concerning changes that are being made at Lamont/Columbia in support of DEI. Some examples include: removing GRE requirement, increasing the number of gender-inclusive bathrooms on campus, making buildings more accessible, establishment of LDEI Task Force. **(SG2)** *(immediate, high priority)*

- Expand JEDI award to be open to all members of the LDEO community. **(SG3)** *(immediate, medium priority)*

Short-term
- Establish two positions with annual stipends ($500–$1000 each) for graduate students and postdocs to fill important leadership positions concerning DEI at Lamont: 1) racial inequality and 2) gender inequality. **(SG4)** *(short-term, high priority)*

- Establish community service activities as part of the yearly review process for all members of the Lamont community with explicit expectations for community engagement. **(SG10)** *(short-term, high priority)*

- Explicitly include DEI work in the criteria for promotion of all Lamonters. **(SG10)** *(short-term, high priority)*

- Make a permanent LDEI Committee with ~6 rotating members. **(SG0)** *(short-term, high priority)*

- Initiate an incentive program for DEI proposals with 10-15% ICR returned to PI for a funded DEI-centered proposal. **(SG5)** *(short-term, high priority)*

- Provide *director's support (leadership months)* with hard salary months for DEI work by LARPs. **(SG15)** *(short-term, high priority)*

- Create a webpage linked to the Office of Diversity and Academic Affairs website that includes all funding sources for URMs, both internal and external opportunities. **(SG14)** *(short-term, high priority)*

- Explicitly allow and encourage all employees (including those with less flexible schedules like technical staff, administrators, B&G) to take part in Lamont community service activities as part of their paid work hours. **(SG18)** *(short-term, medium priority)*

- Encourage DEI efforts of interested Graduate Research Assistants (GRAs) to become a publishable effort/thesis chapter to better recognize the value of these efforts within and outside LDEO. **(SG33)** *(short-term, medium priority)*

- Include the Lamont Advisory Board in DEI activities and bring them on board. (**SG5)** *(short-term, medium priority)*

<u>Long-term</u>
- Community service should be explicitly written into the promotion processes for Lamont staff. **(SG10)** *(long-term, high priority)*

- Build funds to establish a "leadership month" program to support community service among Lamont scientific staff. **(SG15)** *(long-term, medium priority)*

2.4 SUPPORT WORKPLACE HEALTH

If Lamont invests in supporting the mental and physical health of its people, Lamonters will feel equally invested in Lamont. Investments in both the people and the campus are the foundation for long-term solutions. We envision a campus where the physical space and the expectations for working habits provide a welcoming workplace for all, reduce stress, and are mindful of work/life balance. The main friction points are the state of the facilities (state of good repair, old architecture, spaces that are not ADA compliant, possibly not OSHA compliant as well), and the level of stress associated with our jobs (overworked administrators, B&G making do with little resources, scientists stress about soft money positions, etc.). Here we outline adjustments that are a starting point and do not require a major influx of money.

Recommendations
<u>Immediate</u>
- Increased flexibility for all Lamont staff (not just research staff and faculty). This can look like working remotely, flexible hours during the day, etc. **(SG17)** *(immediate, high priority)*

- Include a 'Best Practices' recommendation for Research and Administration Groups that aims to reduce stress: ensure breaks between meetings (end time at 0:55m), do not expect email answered in less than one business day (unless close to a deadline), no mandatory meetings on Fridays, support taking breaks for exercise, support taking a lunch break away from one's desk, etc. Publicize the recommendation via the weekly Director's letter and add to the website. **(SG17)** *(immediate, high priority)*

<u>Short-term</u>
- ExCom should clarify criteria for how space is apportioned (e.g., title/length of employment). **(SG17)** *(short-term, medium priority)*

- We need more private space at Lamont for those who share offices or are in spaces with no privacy (Monell). In each building, a quiet room with a landline and good internet service should be made available for individual needs (interviews, a call to a doctor, a confidential meeting with a colleague, etc.). B&G and each Associate Director should meet to identify

possible locations. **(SG17)** *(short-term, medium priority)*

- Task Campus Life Committee to evaluate (via survey of the represented communities) Lamont's support for childcare: are subsidies sufficient for the least paid at Lamont (staff, graduate students)? Can there be a salary-based sliding scale for childcare services? Should they be expanded to cover locations in the city as well as at Lamont? Is there a need for transportation between the shuttle and the childcare center? **(SG17) (SG16)** *(short-term, medium priority)*

Long-term
- ADA compliance should be a main goal of any renovation. **(SG1)** *(long-term, high priority)*

- Offices should all have windows and ventilation. When that is not possible, a lounge should be made available for people who do not have windows. **(SG17)** *(long-term, high priority)*

- Implementation of plan for private spaces in each building. **(SG17)** *(long-term, medium priority)*

- Wellness Rooms (spaces for exercise, meditation, lactation, etc.) and a wellness path should be created on campus. **(SG17)** *(long-term, medium priority)*

2.5 INFUSE DEI INTO EXISTING AND POSSIBLE FUTURE FUNDING STREAMS

As mentioned above, one of the barriers/friction points to achieving our dream is funding. In addition to existing funding streams that have supported DEI (for example, the Seminar Diversity Initiative and the Secondary School Field Research Program), below we recommend further actions to include DEI into existing and possible future funding streams.

Recommendations
Immediate
- Create a website off of the Office of Diversity and Academic Affairs page that includes all funding sources for underrepresented minorities, including both internal and external opportunities. **(SG2) (SG14)** *(immediate, high priority)*

- An Environmental Justice theme should be added to the Climate and Life Initiative. **(SG15)** *(immediate, medium priority)*

Short-term
- Create seed money research opportunities for the Bridge-to-PhD Program in STEM. While the program provides about 2/3 of the RA support for the Bridge scholars, we recommend Lamont take the responsibility of the other 1/3 of the support if the Bridge scholars decide to work with Lamont scientists. **(SG5)** *(short-term, medium priority)*

Long-term

- Create a Lamont Diversity Postdoc Fellowship. **(SG23)** *(long-term, high priority)*

- Create a Lamont Diversity Visiting Scholarship that provides opportunities for under-represented scientists to visit Lamont for 3-6 months and collaborate with Lamont scientists. This scholarship can also provide funding opportunities for Lamont's underrepresented scientists to visit other research institutes. It can be seen as a continuation of the Marie Tharp Visiting Fellowship for Women, which was successful in promoting the success of women scientists and their collaboration with Lamont scientists, but for underrepresented scientists in general. **(SG23)** *(long-term, high priority)*

Opportunity and Accountability: We should establish a standing DEI committee of ~ 6 rotating members with the goal of tracking and evaluating progress of program implementation concerning DEI at Lamont and soliciting and making new recommendations for progress. Ideally, this committee will stay in place with some members serving for one year (fresh ideas and voices) and rotating out and a leadership core serving for overlapping terms of 3 years each (maintaining the core goals) - leadership core members should receive half a month of institutional salary (including any students who are otherwise paid by grants). The webpage for the Office of Academic Affairs and Diversity should be routinely updated to communicate new initiatives and progress toward diversity goals, and to rearticulate these goals as needed. More broadly, the Committee for Campus Life should distribute a Work Satisfaction Survey every 2-3 years modeled on the one performed in 2013 to assess progress toward improving mental health, job satisfaction, and progress toward diversity, equity, and inclusion at Lamont.

Potential funding sources for implementing recommendations: Many of the recommendations in this report can be realized within the context of existing funding streams. Such recommendations include incorporating social justice components into the Climate and Life Initiative and a rebalancing of work-life expectations (which comes at no cost and only requires a cultural change of mindset). Other recommendations will require institutional support in order to be realized (such as career training, seminars in "Geosciences outside the tower", establishing private/wellness spaces). Many of these are in support of Columbia University's stated DEI mission and should be funded by the University. Still, other recommendations can be achieved by seeking donor support for endowments to further DEI support (e.g., establishing stipends for GRA and postdoc DEI leaders, and a fund for bringing DEI speakers to help affect institutional change).

WORKING GROUP 3: RECRUITMENT, RETENTION, and PROMOTION

Dream: Our overarching goal is a campus whose personnel (staff, students, etc.) are representative of the ethnic, racial, gender diversity of the nation. Recruitment, retention, and promotion practices are a vital part of reaching this goal. Recruitment is the route through which a diverse cohort of staff and students will enter our community. Retention, of which a clear path to promotion is a key part, is the way that we will turn improvements in the diversity of the incoming personnel into sustainable paths forward for the diversity of our campus and the geosciences more generally. Recruitment, retention, and promotion practices that prioritize improving diversity are necessary, but not sufficient to reach this goal. The recommendations outlined below would work most effectively when undertaken in parallel with improvements to campus culture, mentoring, and our connections to other communities, as detailed throughout this report.

Approach: STEM institutions have historically suffered from homogeneity due, in part, to a lack of attention to the retention and advancement of underrepresented minorities beyond the student level (Whittaker and Montgomery, 2014). This oversight has led to the failure of increasing representation among senior level STEM faculty and researchers, as well as the absence of role-models and mentors available to support a diverse pool of students and early career scientists. This homogeneity is especially felt in the geosciences, which trail all other STEM fields in diversity as recently as 2016 (Bernard and Cooperdock, 2018).

Evaluation of a wide range of programs designed to increase diversity, equity, and inclusion in STEM fields finds that the most successful programs are those that holistically and aggressively promote DEI at all levels within an institution (e.g., Riggs and Alexander, 2007; Wolfe and Riggs, 2017). In other words, broadened participation in geoscience is best achieved neither through top-down nor bottom-up approaches, but rather through sustained investment of both individuals and leadership working together to promote inclusive practices. Successful programs reward DEI efforts in appointment, promotion, and tenure decisions (e.g., The University of California, 2011) and demonstrate their investment in institutional transformation with the commitment of institutional funds to DEI activities (Whittaker and Montgomery, 2014). In addition, the existing programs that are most successful at increasing diversity in the highest levels of STEM fields are those that operate within institutional networks, with long-term relationships among institutions, that ensure students from underrepresented backgrounds remain supported as they transition from one career stage to the next (Riggs and Alexander, 2007; Morris et al., 2012). Finally, many institutions have found success in strengthening the pipeline of students entering STEM by giving pre-college and undergraduate students hands-on experience, giving them direct experience to increase their awareness of the opportunities in the field (Hallar et al., 2010; Baber et al., 2018).

We have thus compiled the following recommendations with the intent of (1) increasing institutional support for a diverse, equitable, and inclusive campus that is attractive to individuals

from underrepresented backgrounds, and strengthening/streamlining existing programs with these goals, (2) incentivizing and empowering individual and community-level engagement with DEI infrastructure and activities, (3) developing long-term relationships and sustainable networks with institutions already serving underrepresented minorities, and (4) increasing participation of underrepresented minorities at all academic, administrative, and supportive levels at Lamont.

Community: Lamont is affiliated with several existing programs designed to broaden the STEM pipeline and support underrepresented geoscience students at the high school, undergraduate, and post-baccalaureate level (e.g., the Lamont-Doherty Secondary School Field Research Program, Columbia's Bridge-to-PhD program, and the Lamont Summer Intern Program). However, many Lamonters are unaware of the wide variety of these existing DEI-oriented programs and community engagement with some of these programs (e.g., the Bridge-to-PhD program) has historically been low. The Bridge-to-PhD program was presented to the DEES faculty in May 2020, and now multiple faculty members have written funds for a Bridge student into their grant proposals – clearly information about such programs is a prerequisite to engagement.

Barriers and Friction Points: A major friction point that must be addressed to achieve success in diversifying geoscience at all career stages is the lack of time that scientific and administrative staff have to independently research, develop, and engage with available programs and resources. For Lamont to become a leader in increasing representation in the geosciences, it will be necessary to hire additional staff who can commit to sustaining successful partnerships and programming, and this will require funds. A more efficient system to link grant writers to outreach opportunities could help to raise at least some funds for continued support of these programs, and also make it easier for scientists to commit time to these efforts. Nonetheless, a long-term commitment to investing funds is essential.

Although many of these initiatives will need to be implemented and assessed at the Staff level, they are intended to increase the flexibility of individuals within the Lamont community to efficiently utilize and participate in DEI initiatives. Over time this will shift some of the work from staff to volunteers with funding to participate in DEI initiatives. This will not only decrease the burden on underrepresented communities who usually end up voluntarily doing the work of increasing DEI unpaid, but it will likely bring more people to the table to participate.

Below we outline recommendations that aim to have a positive impact on the whole community. We have separated them into recruitment, retention, and promotion, and further categorized our recruitment recommendations relevant to students and interns, postdocs and technical staff, faculty, and non-academic/technical staff.

3.1 Recruitment
Previous efforts to increase diversity among Lamont faculty (e.g., the ADVANCE program) were successful at increasing representation among white women but did not lead to significant gains in representation for Black, Hispanic, or Indigenous people of any gender.

There are no current programs to target the recruitment of underrepresented scientists at Lamont at the graduate, postdoctoral, or research scientist levels. In 2020, 7 of 19 women on the LRP track are minorities (36%) and 2 of 19 are Hispanic (URM) (11%). For DEES faculty, the Provost Target of Opportunity funds have been used in the past to support female hires. In 2020, DEES proposed the hiring of a faculty member who is Asian - a group not represented on the full-time DEES faculty at present - but this proposal was ultimately not approved. In the absence of targeted recruitment and hiring efforts, diverse hiring is limited by the small number of URM applicants within a given applicant pool.

Lamont also contributes to training the next generation of geoscientists. 23.5% of applicants and 39.4% of those admitted to Lamont's intern programs last year were URMs (These data are available from DEES upon request). Averaged over the last five years, 7.8% of applicants to the DEES graduate program self-identified as a member of a URM. Over the same period, 10.3% of those admitted, and 12.7% of students who accepted the position and enrolled in the program were URM. These numbers indicate that the way to increase the diversity of the graduate program is to increase the diversity of the applicant pool. The following recommendations are aimed at achieving this:

Recommendations

Immediate

- A complete overhaul of our recruitment strategy for students and interns: Broaden advertising and actively recruit to enlarge the applicant pool. Rather than relying on the assumption that interested prospective graduate students should already know about Lamont, we should make efforts to advertise the whole program and specific projects more widely than we do currently. This can include writing a short (1-2 page) description of each project that can be distributed widely, one-on-one meetings with all interested students to encourage them to apply, and making clear in advertising that we are prioritizing the chance to increase diversity. A trial with this approach involving some committee members this recruitment round has been highly successful, though it remains to be seen how these early efforts will translate into a more diverse applicant pool. This approach could be coordinated by the DEES Graduate Admissions Committee (GAC) or potentially GSAS. The GAC or GSAS should host workshops for potential grad student advisors on best practices for recruiting URM graduate students. **(SG14)** *(immediate, high priority)*

- Make GSAS application fee waiver details easier to find on the Lamont and DEES websites for students and interns. **(SG2)** *(immediate, high priority)*

- Advertise available postdoc and staff positions to a broader range of prospective candidates (as suggested for research faculty searches) including list serves and social media targeting underrepresented minority groups, as well as non-academic job boards such as Zip Recruiter, LinkedIn, and Indeed.com. Suggest language for including funds to cover the cost of job postings in grant proposals. **(SG14)** *(immediate, high priority)*

- The physical challenges of field work may be exclusive to those requiring Americans with Disabilities Act (ADA) accommodations. In all job ads for positions that may require field work, add taglines highlighting that those who aren't able to perform field work but are interested in the project science should still apply and provide personnel substitutions for the field work component, if needed. **(SG1)** *(immediate, high priority)*

- Advertise all available positions to a broader audience, especially targeting minority serving institutions and associations. **(SG14)** *(immediate, high priority)*

Short-term
- Develop long-term relationships with minority-serving institutions (such as community colleges, tribal colleges and universities, historically black colleges and universities, etc.) to highlight student internship opportunities and promote the DEES graduate program:
  - Developing, compiling, and maintaining a database of institutions interested in building relationships with Lamont to allow for long-term trust building, continuity, and institutional memory. Begin with institutions in the CUNY system and the AGI Director of MSIs with Geoscience programs. **(SG23)** *(short-term, high priority)*
  - Using a cohort approach as much as possible, similar to the "Posse" program instituted by University of Wisconsin. **(SG28)** *(short-term, high priority)*
  - Start an application support program that pairs current grad students and mentors with prospective grad students to assist them with the application process. Similar to MITWHOI's JP ASK program. *(short-term, medium priority)*
  - Sending Lamont ambassadors to STEM career day events for applicable institutions in the broader NY/NJ region. Making this part of annual reviews will encourage participation. **(SG24)** *(short-term, medium priority)*
  - Developing a "visit of opportunity" program, in which Lamonters who are already traveling to other regions for talks, meetings, or collaborations may apply for directorate funding to extend their stay in order to connect in person with MSIs in the area. **(SG24)** *(long-term, medium priority)*
  - Host regional undergraduate geoscience research conferences on the Lamont campus to show off Lamont facilities, build networking opportunities between undergraduates and Lamont scientists, and recruit for the DEES graduate program. **(SG23)** *(long-term, medium priority)*

- Fund postdocs and faculty as Lamont ambassadors to promote Lamont, geoscience careers (in general), internship opportunities, the DEES graduate program, and administrative positions at minority serving science meetings, such as SACNAS. **(SG24)** *(short-term, medium priority)*

- Institute a graduate student and postdoctoral fellowship program (analogous to the Lamont Postdoctoral Fellowship program) that targets underrepresented minorities and provides a pathway to a research faculty position. Analogous to the EI diversity fellowship. **(SG31)** *(short-term, high priority)*

- Diversity statements for postdocs and faculty: *(short-term, high priority)*
  - Require diversity statements as part of application materials (this allows for evaluation of a candidate's commitment to DEI and demonstrates Lamont's concern for DEI to prospective candidates). Job adverts should include language emphasizing the importance we are placing on these documents and pointing candidates to the rubric (see below). **(SG27)** *(short-term, high priority)*
  - Search committees should continue to have one member be responsible for ensuring that DEI considerations (particularly diversity statements) are given high priority in the search process (this is currently the rule, but it may not always be adhered to). **(SG26)** *(short-term, high priority)*
  - Use a transparent rubric for evaluation of diversity statements, similar to Berkeley's (Berkeley Office for Faculty Equity and Welfare, 2020). **(SG26)** *(short-term, high priority)*
  - A procedure to ensure diversity statements are given sufficient weight is to have the committee read all diversity statements from an applicant pool blind (with no identifying information attached). Then rank them using the rubric and assign each a number based on the quartile in which they fell in the ranking. Then the rest of the application process can proceed. The diversity statement quartile numbers can be used at the other stages of the search to help decide who is shortlisted, invited to interview and ultimately offered a position. Aggregating the scores into quartiles will help remove noise in the ranking. Doing it blind will reduce bias. Doing it first will emphasize the importance to search committee members and avoid diversity statements being an afterthought. **(SG26)** *(short-term, high priority)*
  - Coordinate recruitment and hiring best practices for research faculty and DEES faculty between DEES and LDEO. **(SG15) (SG26)** *(short-term, high priority)*
  - All search committee members should be encouraged to take implicit bias training and it should be the committee chairs responsibility to ensure that >= 70% of the members have completed this. **(SG22)** *(short-term, high priority)*

- Streamline, centralize, and advertise the plethora of existing Columbia and Lamont internship and REU programs (such as Lamont's Secondary School Field Research Program, the college internship program, EI summer intern program, and Columbia's Bridge-to-PhD program), in a publicly accessible website to optimize both the public and the Lamont community's awareness of and engagement in such programs. Advertise the existence of this website across many job seeking platforms. This effort should not detract from the individual programs, but create a platform for these programs for advertising and mutual support. **(SG2) (All)** *(short to long-term, high priority)*
  - Recommend, incentivize, and make it easy for PIs to include intern funding. For example, provide reliable and accurate language regarding these programs for inclusion in Broader Impacts to strengthen support for the existing programs. **(SG30)** *(long-term, high priority)*
  - Develop an internal job posting board that aggregates available research assistant positions (including those not associated with broader internship programs) and student applications for such positions, to simplify and optimize the matching process between projects and prospective personnel. Advertise job postings through a shared social

media presence and post to Lamont's various social media pages. **(SG14)** *(long-term, high priority)*

  ○ Develop an annual information session where intern programs can be advertised across Columbia and to other institutions. **(SG2)** *(short-term, high priority)*

Long-term
- Searches for highly specialized science niches tend to yield very limited applicant pools. We should shift to more cluster hires to allow for a cohort approach to recruiting URM faculty, and for the purpose of increasing DEI at Lamont by attracting a larger applicant pool, and broaden search criteria (in terms of subdiscipline) to attract talented URM scientists. **(SG15)** *(long-term, high priority)*

3.2 Retention

Many barriers to retention are directly related to Lamont's culture itself. With the understanding that many aspects of the inclusivity and equity of Lamont's culture are being explored by other working groups, we include a few general suggestions to improve this culture:

Recommendations

Immediate
- Implement exit surveys for *all* Lamonters leaving Lamont. **(SG12)** *(immediate, high priority)*

- Obtain and monitor staff turnover rates at Lamont. **(SG12)** *(immediate, high priority)*

Short-term
- Host annual open-community discussions on the big picture issues regarding Lamont's evolving culture, including: exit survey results, trends observed during analysis of annual performance reviews, mentorship issues, systemic biases, etc. **(SG18)** *(short-term, medium priority)*

- Review, and where appropriate act on recommendations made by Richard Seager and Vicki Ferrini's report and finalize and approve the Handbook for Staff Associates and Research Scientists (Seager and Ferrini, 2019). **(SG9)** *(short-term, medium priority)*

Long-term
- Implement an informal complaint system to catch problems before they require formal intervention. **(SG20)** *(long-term, high priority)*

3.3 Promotion

There is little data on the promotion of URM community members at Lamont, but as we diversify our community, we want to be proactive to ensure that everyone is supported in an equable way throughout their career track. Valuing DEI work and providing ample resources

and networks for helping Lamonters pursue their professional goals are central to our recommendations:

Recommendations

Short-term
- We can use promotion criteria to promote DEI work and mentorship, for example, by changing the LRP handbook to explicitly value this work. This has at least three benefits: **(SG10)** *(short-term, high priority)*
  - More DEI work will get done.
  - It will prevent anyone being penalized for spending time on DEI work.
  - It will contribute to changing climate culture to one that inherently values DEI.

- This effort should include a stronger administrative framework, and possibly the hiring of more administrators to help keep track of, fund, and streamline DEI opportunities and efforts on campus. **(SG32)** *(short-term, high priority)*

Long-term
- Track data on retention and promotion in order to make sure there are no systemic barriers to promotion for URM faculty. **(SG12)** *(long-term, high priority)*

- The annual number of PhDs trained grossly exceeds the number of available long-term academic positions. For Lamont to become a global leader in recruitment, retention, and promotion of underrepresented minorities in the geosciences, it should support trainees wishing to transition into non-academic geoscience careers. This would include: **(SG11) (SG23)** *(short to long-term, high priority)*
  - Compiling an alumni network with existing DEES data on Lamont PhDs and Lamont postdoc alumni successfully employed in geoscience careers outside of academia. **(SG11)** *(short-term, high priority)*
  - Compiling and disseminating an information packet highlighting non-academic geoscience career opportunities (such as local tech-career fairs, internship and development opportunities, etc.). **(SG23)** *(short-term, high priority)*
  - Fostering stronger relationships with the non-academic geoscience community through outreach to the alumni network. **(SG11)** *(long-term, high priority)*
  - Increase the number of Lamont alumni that come in for a day to give talks about their jobs and career paths outside of academia. Include funding for their travel and accommodation. **(SG11)** *(long-term, medium priority)*

Opportunity and Accountability: The simplest ways to track progress toward the goals of this initiative is to track the data of URM applicants, URM hires, and staff turnover; this data will give the clearest picture if we have increased recruitment and retention of URM hires. This will likely all need to be done at the staff level, perhaps within the Human Resources department. Promotion will be much more difficult to track, but integrating this type of tracking into the proposed Alumni network can offer a view into the evolving network of Alumni within and also

graduating from Lamont. Once the data is available, it should be tracked over time to measure the effectiveness of these recommendations. Effective tracking will need to become the backbone of these initiatives to ensure that the institution is on the correct path.

WORKING GROUP 4: BUILDING BRIDGES

Building Bridges examines opportunities for improving pathways for URMs into (and out of) academic, administrative, and other positions on the Lamont campus and makes recommendations for broadening our sense of community beyond the borders of our campus.

Dream: Promoting diversity of individuals, perspectives, and experiences fosters a rich, equitable, and *connected* environment in which members of Lamont's community (inclusive of LDEO, IRI, CIESIN, DEES) can thrive and achieve their goals. The concept of building bridges is the recognition of the importance of establishing and fostering connections between individuals, programs, and communities. The bridges we seek to develop will foster a more inclusive and robust academic and research environment at Lamont and are instrumental pathways or pipelines that will build a stronger, more diverse and inclusive, better connected community and scientific enterprise. The investment in short-term and long-term recommendations focused on building bridges will transform Lamont into a more equitable environment that will encourage individuals who have traditionally been underrepresented in our community to get involved and stay in the geosciences, as they feel welcomed and respected and have adequate connections to see a future for themselves in the geosciences.

Approach: In striving towards attaining the following goals, we will endeavor to fortify the existing bridges that have already been established, while creating new ones that will move us toward being a part of a more diverse, equitable, and inclusive, anti-racist geoscientific environment.

Community: Our vision of building bridges has the potential to benefit all members of the Lamont community. Bridges are the key to identifying mutually beneficial exchange of ideas, information, and perspectives to connect (1) Lamont with external communities, particularly traditionally marginalized communities with which we interact, (2) communities and individuals within Lamont and Columbia University to each other, and (3) Lamont with the public. All members of the Lamont community can participate in and benefit from activities related to building bridges.

Barriers and friction points: The primary friction points that inhibit progress toward building bridges are primarily related to funding, incentives, time availability, and administrative barriers. While there is interest among many members of the Lamont community to pursue work in this space, the level of involvement varies and can be limited by any or all of these factors. We note that several recommendations made in the 2019 Report of the Committee to examine the Career Tracks of Staff Associates and Research Scientists at LDEO are related to many of the same friction points and should be revisited as part of the LDEI effort (Seager and Ferrini, 2019).

Searches for professors tend to overlook qualified prospective candidates by not seeking or considering applicants from HBCUs or institutions considered to be less prestigious, thus narrowing the hiring pool. There is, in fact, a systemic pattern of prestige hierarchy in Ivy League institutions, which has an unconscious impact on the diversity of hires (Clauset et al., 2015). Currently, 4.2% of the total Columbia faculty are Black (Office of the Provost, 2020), yet 24.3% of the population of NYC is Black (US Census, 2019). A first step might be information gathering, including improvement of hiring and retention best practices (including how to create a more welcoming environment for URM staff and students), and by reaching out on multiple levels to learn more about where and how best to advertise hiring opportunities to reach the broadest and most diverse pool of potential applicants (Pew Research Center, 2018). (In cases of local institutions, this could include invitations to visit Lamont, and offers to visit local community colleges, possibly as part of job or career fairs, or even as a dedicated outreach effort to make connections).

Two examples of successful programs building bridges between Lamont and the next generation of citizens and potential scientists are the Secondary School Field Research Program (SSFRP) and the Lamont Research Experience for Undergraduates (REU) summer intern program funded by NSF (see glossary). The SSFRP largely focuses on NYC-area high school students, and draws a largely URM student cohort, while the Lamont REU summer intern program enrolls college students from across the country, and has doubled the participation of URM students to 50% in recent years. Each program brings a cohort of 25-30 students to the Lamont campus to engage in guided research in earth and environmental science. 12% of the REU minority summer intern program alumni proceed to obtain PhDs, compared to the 8% national average. The increase in minority participation is a direct result of the NSF mandate, which has proven to have a positive effect on minority student participation.

Broader participation and greater diversity seem linked to the fact that SSFRP is open to any motivated student from a NY area high school, and therefore draws from a generally more diverse student body, including a greater proportion of URM students. Part of the success of this program is due to the continuity provided by students who return as participants and eventually as college mentors for the high school students. In contrast, the Lamont REU program is only open to students for one year, and includes an application and selection process. The REU has recently become significantly more diverse, due in large part to a mandate to do so from the funding agency (NSF) and the implementation of a selection process that requires potential advisors to include URM students and applicants from smaller schools among their top three choices. An important aspect in both the SSFRP and REU programs is that the students are compensated with a stipend (and housing in the case of the REU), so that students do not have to choose between research opportunities and summer jobs to help support their families or pay for college.

With respect to funding, not all members of the Lamont community are able to engage in activities that will improve DEI. There are a variety of funding models that support effort on campus, and some make pursuing DEI activities more challenging for some staff members. For example, some people in the Lamont community are supported exclusively by grants, and their

level of engagement can therefore be limited. In addition, getting funding to pursue projects and efforts that promote DEI can be very challenging, and even within successful existing programs that have been granted funding by federal agencies it can be extremely challenging to include and raise funds specifically targeted for salary support for DEI activities.

Beyond the challenges of funding limitations, a lack of adequate non-financial incentives for pursuing DEI work presents another barrier. Some individuals recognize the value and importance of DEI work, and are self-motivated, but institutional credit would reward those efforts and further incentivize and broaden participation by confirming the priority of this work.

There are a variety of administrative barriers that can hinder progress toward building bridges, especially when considering bridges to rising generations of students. These include limited availability of information about potential partnerships, programs, and funding opportunities that could support the development of activities, programs, and student opportunities, and a lack of institutionally-supported programs. In addition, administrative hurdles such as required background checks for short-term hires of students as casual employees can potentially drive away talent and limit engagement of underrepresented groups, as these barriers may make students feel marginalized and unwelcome. Extending alternative pathways for bringing students to campus for research and/or technical experience with compensation, in the form of stipends, could help to address this. Finally, the lack of (or perceived lack of) space in campus facilities in the city for the Lamont community to engage more directly with people in NYC, is a barrier to expanding connections with the broader university community and with neighboring communities in Harlem, Morningside, and NYC as a whole.

The Office of Academic Affairs and Diversity at Lamont undertakes some of these activities already, along with other wide-ranging responsibilities. Several other groups across Lamont and the Earth Institute run highly successful education and outreach programs, for example, at the LDEO Hudson River Field Station and in polar field studies. In addition, our neighbors with the US Science Support Program have extensive experience with shipboard programs (e.g. School of Rock, STEMSEAS). Indeed, Lamont's existing education/outreach experts and the programs they run are examples of exceptional leadership that we can build on in support of our DEI goals.

Recommendations
Short-term
- Expand scope for seeking potential candidates:
  - We should be hiring from applicant pools that include HBCUs (Historically Black Colleges and Universities), TCUs (Tribal Colleges and Universities), and HSIs (Hispanic Serving Institutions) identified by our diverse search committee, "including, where possible, women, underrepresented racial and ethnic minorities, and members of other underrepresented groups" per our best practices tenets outlined the CU Guide to Best Practices (CU Office of the Provost, 2016). It is important not to overlook qualified candidates from underrepresented groups, and to present a more open atmosphere.

Academia is a challenging environment, and can be unwelcoming (Gasman, 2017). **(SG23)** *(short-term, high priority)*

- Clarify/enforce guidance on the positions for which forming a search committee is appropriate and ensure that at least one member of each search committee is assigned to take the lead in maintaining an emphasis on inclusive consideration of the most fully diverse applicant pool possible. *(short-term, high priority)*
- Post opportunities, events and seminars by LDEI/EI communications teams on social media (e.g. "Advertising Venues for LDEO jobs," OAAD 2020), could also be an easy way to reach out to URM groups. This can and should also be immediately addressed (within the next 6 months to a year); it opens the door for long term goals of a more diverse demographic at Columbia/LDEO/EI. **(SG2)** *(immediate, high priority)*
- There should be a concerted effort to add, for example, at least one URM per year, especially to faculty and research positions until the faculty demographic reflects the population's. **(SG12)** *(short-term, high priority)*
- For distant institutions, student-to-mentor or student-to-tutor connections could be made for both transitioning community college students as well as local potential graduate students, through the directorate, administrators, student groups (remote conferencing might be another option, especially given its prevalence today). If possible, it would be ideal to expand these networks into connections between individuals to formally connect administrations between institutions so we can make sure that there are open pathways for communications in the future, thereby establishing a new pipeline and relationship. **(SG24)** *(short-term, medium priority)*
- Begin searches with a defined approach for seeking out more diverse hires should be implemented immediately, but the building of a diversified geosciences faculty will take more than five years to develop. **(SG26)** *(short-term, high priority)*

- Offer professional credit to ensure that people dedicating time to work that advances DEI are rewarded.
  - Add a section in paperwork for the annual review process for employees to document outreach/engagement presentations at HBCUs, Community Colleges, TCUs, LGBTQ+ organizations/programs, etc. Factor this into the annual review process and reward this effort by ensuring that it bears on annual salary increases (e.g. LRPs, RSs, SAs). It should also be included as part of promotion packages. Elevating this to its own category, and not burying it in general lists of presentations and outreach activities, will raise the profile of its importance and may encourage more activity in this space. **(SG10)** *(short-term, high priority)*
  - Develop resources and a network to help Lamont staff identify opportunities for giving presentations at HBCUs, Community Colleges, TCUs, LGBTQ+ organizations/programs, etc. **(SG24)** *(short-term, high priority)*
  - Offer formal recognition of outstanding DEI work by *all* nominees of awards, as well as awards or distinctions like the JEDI award, that can be granted to any member of the Lamont community (staff, scientist, student, postdoc). By formalizing this into distinctions bestowed by Lamont, it becomes something that can be cited in the professional record of individuals. All those who are nominated should also be recognized in a ceremony as

well, giving credit all to those whose efforts have a positive impact. This recognition should also be for work done by members of the Lamont community who engage off-campus. **(SG3)** *(short-term, high priority)*

- Offer more student opportunities to provide them with practical experience, as well as guidance and tools to navigate academic pathways.
  - Strengthen the School of GS-to-STEM connection in the earth sciences by involving GS students interested in the sciences as much as the students in DEES, SEAS, and EEEB. The students at GS, for example, should be added to the same mailing lists offering job and internship opportunities as the aforementioned schools, which they currently are not. **(SG23) (SG13)** *(immediate, high priority)*
  - Create and expand programs at Lamont that make it possible for students (especially undergraduates) to engage with research projects earlier in their careers, including work study programs through DEES, SEAS, GS, as well as new programs that may create pathways from transferring from community college to Columbia, and into work study programs (especially for students with economic hardships) at Lamont. Strengthening Bridge-to-PhD mentorship programs and informational seminars for ensuing students. **(SG23) (SG13)** *(short-term, high priority)*
  - Simplify processes to bring students on campus for lab visits by providing alternatives for compensated participation (e.g. via stipend) in research activities that can be used in lieu of causal hires. Offering stipends to students coming to campus that are not part of a larger intern program would allow individual scientists to more readily engage non-CU students and offer them opportunities in their labs. This should include not just participation in research projects, but also technical experience. **(SG23)** *(short-term, high priority)*
  - Develop a framework for onboarding students for compensated participation at any time of the year, beyond the established programs we already have. Focus on removing barriers to participation that disproportionately limit access for members of historically excluded groups. **(SG23)** *(short-term, high priority)*
  - Offer better information online (e.g. FAQs) and periodic in-person and/or virtual workshops to help potential students navigate application processes, including some detail on expectations for statements, documents, references, and some examples of good applications. This will level the playing field for students who may not have had as much experience but still have qualifying skills and interests. Dartmouth "EEES Scholars" and the University of Michigan "G.R.E.A.T. Workshop" are excellent examples of these programs. **(SG2) (SG28)** *(short-term, high priority)*
  - Ensure that students involved in activities on campus are able to engage in on-campus social and networking events. **(SG18)** *(short-term, high priority)*

- Use our Open House day for tours, meet-and-greet sessions that would serve to introduce students from local colleges to Lamont. *(short-term, high priority)*
  - Make a concerted effort to include local college students, offering tours of the facility, during our regularly scheduled Open House in October. This could also include a connected training seminar on grad school applications as part of the session, since it

corresponds with the timing of the winter application date. **(SG23)** *(short-term, high priority)*

○ This might be an opportunity to increase the attendance for this age group to our Open House, while also actively encouraging participation of former students of the REU program to give presentations and speak about their experiences to potential recruits. **(SG23)** *(short-term, high priority)*

● Develop and enhance connections to other parts of Columbia, including obvious scientific partners such as EEEB, DEES, and Barnard Environmental Sciences, but also the social sciences, humanities, and professional schools, including the medical center, law, business school, and journalism school. **(SG28)** *(short-term, high priority)*

● Develop relationships with neighboring communities to share our science and promote geoscience as a career option through public forums/talks, guest lecturing at nearby high schools and community colleges. **(SG24)** *(short-term, high priority)*
  ○ Improve public relations and the study successful ways we have found to interact with the public, particularly our neighbors near Morningside Campus. This also encompasses providing information to traditionally marginalized students by reaching out to places where they are currently found (including presentations at nearby schools, learning more about and getting involved with neighborhood community centers/groups in the area, more social media presence). While Open House is one successful program, it is not as effective at reaching the Morningside community.
  ○ The OAAD should facilitate the establishment of regular events in Morningside (or Manhattanville) to better connect to those communities.
  ○ Establish connections with Teachers College to explore possibilities for setting up lasting relationships with Harlem public schools.

● Make sure CU-approved vendors include diverse/minority-owned businesses from our neighboring communities. **(SG29)** *(short-term, high priority)*
  ○ The Minority, Woman, and Locally-Owned Business Enterprises (M/W/LBEs) Non-Discrimination and Affirmative Action Policy for Construction and Facilities Projects initiative (University Policies, 2009) is an excellent building block towards this goal.
  ○ Include appointing or identifying an Officer of Supplier Diversity in the purchasing department responsible for developing and maintaining these relationships, consulting with the National Association of Educational Procurement as has been done at Purdue University (Vollman, 2017).

Long-term
● Invest in developing institutional relationships with minority serving institutions such as CUNY, SUNY and especially local Community Colleges to build scientific collaborations with Lamont scientists, open opportunities for student/scientist recruitment, and encourage visiting/ working students. **(SG23) (SG24)** *(long-term, high priority)*
  ○ Advertise opportunities like the Lamont summer programs and to encourage and assist students in the application process. It would also strengthen relationships with minority

serving institutions (like Rutgers, CUNY, etc.), to create collaborations and pathways for recruitment to increase diversity and representation in our scientific community.
- Encourage Lamont participation in meetings such as Society for the Advancement of Chicanos and Native Americans in Science (SACNAS), National Association of Black Geoscientists, and American Indian Science & Engineering Society.
- Conduct research into creating programs that make the transition between undergraduate education (and other post-graduate career paths) to graduate schools easier.
- Establish achievable numerical targets for expanding Lamont's connections to local institutions. This can be framed on an annual basis or within a reasonable block of time, for example that success would be assessed on whether in 5 years Lamont has established robust collaborative science projects in place with 5 MSIs in the region. The implementation of this recommendation can begin immediately, although success is more likely longer term.

- Address cultural barriers and friction points. **(SG18)** *(long-term, high priority)*
  - Promote dialogue among the Lamont community to confront topics such as Ivy League prestige hierarchy and its optics to attempt to dissolve the barrier that it presents.

- Increase the staffing and resources to a dedicated team of Lamont experts, within and beyond the OAAD whose responsibilities include initiating, coordinating, and supporting DEI. **(SG32)** *(long-term, high priority)*
  - Partnerships with MSIs aimed at increasing the diversity of the applicant pool to our grad program.
  - Education and outreach programs for K-12 students,
  - The "visit of opportunity" program,
  - The "Lamont ambassadors" program, and
  - Recruitment of research interns from Columbia and elsewhere.

- Encourage Lamont scientists to make presentations about their science and to broad, wide-reaching audiences to better engage URMs and promote career options in geosciences. **(SG24)** *(long-term, high priority)*
  - Establish seminars using teleconferencing technologies, to minimize travel but still engage with groups around the country.
  - Lamont community members should target virtual presentations at MSIs and community colleges.
  - Offer Lamont scientist presentations to HBCUs, TCUs, HSIs in their classes and seminars.

- Establish institutional funding for DEI pipeline programs. **(SG25) (SG30)** *(long-term, high priority)*

- Raise capital to sustain successful DEI programs and initiate new programs and partnerships. Highly successful programs could benefit from targeted development efforts. Despite the difficult current economic situation, the time is right to seek resources for such initiatives, as individuals and foundations have become increasingly aware of the necessity

for active efforts to achieve progress in providing equal opportunities for individuals and improving DEI within institutions, including ours. These funds could be used for: *(long-term, high priority)*

- ○ Offer grant opportunities for Columbia faculty partnerships with MSIs. **(SG5)**
- ○ Have pools of money available for hiring, URM student advertising at conferences etc. **(SG15) (SG24)**
- ○ Increase funding for supporting URM faculty/staff/students. **(SG15) (SG28)**
- ○ Support funding for School of Professional Studies (SPS) or General Studies (GS) students and research assistants. **(SG28)**
- ○ Given the challenges associated with raising salary support for this important work, institutional support should be provided for leaders of programs and partnerships that focus on DEI. **(SG10)**
- ○ DEI-oriented internship programs. **(SG23)**
- ○ Declare DEI programs to be part of Lamont's mission and include succession planning for successful multi-year programs. **(SG25)**

Glossary

Priorities - 15 high-level Priorities are at the center of the Executive Summary. Each of the Priorities is related to one or more *SMART Goals*.

SMART Goals - 34 SMART ("Specific, Measurable, Achievable, Realistic and Timely") Goals introduce the Working Group chapters. These are provided in a format that can be easily incorporated into a DEIA action plan. Each of the SMART Goals is related to one or more specific *recommendations*.

Recommendations - There are over one hundred recommendations for actionable change in this report, and they are found in each of the Working Group chapters. They are organized by timeline into actions that can be taken immediately, in the short-term (<6 months), or the long-term (>6 months).

Cluster/cohort hire - In contrast to the way "cluster hire" is used in some academic settings, where an effort is made towards multiple hires across different disciplines to address a single academic focus (i.e. carbon capture and storage). In this report, we use "cluster" or "cohort" hiring to describe a strategy where underrepresented faculty, staff, or students are not hired individually but are rather hired as part of a group of underrepresented scholars regardless of their disciplinary focus or research interests. This strategy is intended to promote retention and reduce the effects of "cultural taxation" or "problematic popularity" which often plague scholars in environments where they have identities that are underrepresented (Padilla, 1994; Gay, 2004).

DEES - Department of Earth and Environmental Sciences, within Columbia University Graduate School of Arts and Sciences.

DEI/DEIA - Diversity, Equity, and Inclusion or Diversity, Equity, Inclusion, and Antiracism.

Diversity - There are two different interpretations of "diversity" that are relevant here (OAAD, 2011):
  1. Gender and Racial/Ethnic Diversity: Diversity initiatives at LDEO have so far been based on this definition of diversity, a usage consistent with national research on diversity in the physical sciences. Within racial/ethnic diversity there is a distinction between "underrepresented minorities" (URM) and "minorities" with the former specifically implying Blacks, Hispanics and Native Americans, and the latter implying Non-Caucasians in general. Data from NSF and the U.S. Census Bureau indicate that approximately 88% of doctoral degrees in the earth and environmental sciences are awarded to Caucasians, and only about 5% are given to underrepresented minorities (NSF, 2007). At LDEO, where approximately 90% of the scientists (excluding postdoctoral researchers) are Caucasian, racial/ethnic diversity implies all minorities and is not limited to URM.

2. <u>Broader Concept of Diversity</u>: This includes, but is not restricted to, diversity issues such as sexual orientation, age, faith, disability status, and mental health status to name a few. While there have been no specific efforts targeting these areas so far, we expect to address these topics over 2011–2014 and to promote awareness and develop policies as appropriate.

Hudson River Field Station (HRFS) - LDEO Hudson River Field Station is located on Piermont Pier in Piermont, NY. It is a community hub for scientific research and environmental education.

Lamont - The entire Lamont campus in Palisades, NY including its constituent parts (LDEO, IRI, CIESIN). Refers to the entire community and the physical campus.
- <u>IRI</u> - International Research Institute for Climate and Society, center of the Earth Institute
- <u>CIESIN</u> - Center for International Earth Science Information Network, center of the Earth Institute
- *<u>LDEO</u>* - Lamont-Doherty Earth Observatory

LDEI Task Force (LDEITF) - The Lamont Diversity, Equity, and Inclusion Task Force, which was formed in July 2020 and composed of scientists at all levels, support staff, and administrative staff.

Minority - LDEO has operationally defined the term minority to include people of Asian, Native American, Black, Hispanic/Latinx descent, and/or 2 or more races.

OAAD - Office of Academic Affairs and Diversity. The OAAD was created in 2008 as a result of the 2005 NSF ADVANCE grant and is housed in the LDEO Directorate.

Secondary School Field Research Program (SSFRP) - High School summer internship program at Lamont that started in 2005.

Topics - 4 main topics were identified during Phase I that encompassed existing initiatives and also allowed us to identify opportunities for growth, development, and change: Inclusive Culture; Supporting Success; Recruitment, Retention, and Promotion; and Building Bridges. These topics then were formed into Working Groups.

Underrepresented Minority (URM) - The National Science Foundation (NSF) considers Black, Hispanic/Latinx, and Indigenous people as underrepresented minorities because of their representation in STEM disciplines relative to the demographic makeup of the US population. In STEM as a whole, people of Asian descent are not considered underrepresented; however, in the geosciences, Asian scientists are still underrepresented in comparison to the US population demographics at some career stages.

Task Force Timeline and Governance
Ratified by the Task Force on July 30, 2020

The LDEI Task Force convenes for its first meeting on July 23rd, 2020 and will be active for 23 weeks, until December 31st, 2020, when it will be dissolved.

The goal of the Task Force is to author a **Report**, jointly authored by all members, which includes appendices of direct recommendations for immediate, short-term and long-term action for the Lamont Directorate. This document builds on the Task Force's **Charge,** provided by the Lamont Directorate, and provides specific guidelines for the work of the Task Force and a proposed framework for meeting its key objectives. This framework provides a starting point for discussion, and will be finalized by the end of Phase One (see timeline).

Timeline
The Task Force will conduct its work in three Phases, with delivery of the Report to co-chairs by December 14th, 2020 and delivery of the Report to the Directorate by December 31st, 2020. During this time, the Task Force will meet once per week for 55 minutes.

Our work will be organized as follows:

1. **Phase One** *Identifying Obstacles to Success* **7 weeks**
   The first Phase will focus on *information gathering* regarding the stated needs and ongoing projects relevant to the Charge. This will include at least one listening session for the Lamont campus to gather community input regarding existing DEI initiatives and related work done by Lamont affiliates. Particular attention will be paid to the historical and contemporary barriers to making this work as impactful and long-lasting as possible. During Phase One, the Task Force will create a **Scope of Work** that describes the overarching themes and action items necessary to fulfill its **Charge.** This **Scope of Work** will be continuously refined and revised by the Task Force throughout Phase One to define emergent themes around which the **Report** will be written.

2. **Phase Two** *Working Groups* **7 weeks**
   During Phase Two, working groups will be established within the Task Force to address each of the themes in the **Scope of Work**. Each Working Group will conduct research and seek any information needed to understand and clearly articulate responses to the following questions:
   a. **DREAM:** What does our "ideal Lamont" look like?
   b. **INVENTORY:** Which Lamont initiatives currently address this theme, and what are the barriers/friction points to their full success in supporting the **Charge**?
   c. **RESEARCH BASED APPROACHES:** What are other institutions doing to address this theme, and what best practices, including in peer-reviewed literature and published books, have been developed around implementation, accountability and sustainability of that work?

     d. **LDEO D&I PLAN:** What is missing from LDEO's strategy for addressing this theme?

     e. How will we keep track of progress and action taken towards each goal? How will LDEO be kept accountable going forward?

3. **Phase Three** *Report Writing* **7 weeks**
The Task Force will reconvene in Phase Three to collaboratively build the Report. This includes sharing summaries of any findings and recommendations emergent from the Working Groups and the identification of synergies and overlaps, so that Task Force recommendations can be articulated in ways that are both specific and comprehensive.

4. *Wrap-up.* **2 weeks** Task Force Chairs finalize the content and formatting of the Report and forward it to the Directorate. *Meet with Directorate, ask for "metrics of success" and ways of accountability.*

5. *Response from Directorate.* We ask that the Directorate produce a written response to the **Report ~6 weeks after delivery**.

Guidelines for Task Force Governance

1. The success of the Task Force requires full and equal participation by all of its members, across all roles and career stages. All Task Force meetings will be welcoming environments ("safe spaces") where all opinions and perspectives are respectfully considered. It is expected that anything shared within the Task Force stays within the Task Force, except by explicit consent of all members (see Guideline 2). Meeting minutes will be shared after each meeting of the Task force and Working Groups.

2. The Task Force is committed to transparency, and to representing and engaging with voices beyond its membership. The Task Force will be outward-facing and community-engaged in the following ways:
     a. All meeting Agendas and Minutes will be published on a Lamont-internal webpage one week after each meeting, with approval from all members. Agendas and Minutes will be circulated within the Task Force immediately following each meeting and at least five days will be given for members to express disapproval (no response will be considered approval).
     b. The Task Force will hold at least one (1-hour) listening session per Phase to share updates with the Lamont community regarding progress and ongoing work, and to provide opportunities for community input.

3. The Task Force will approve **recommendations** for action through approval of >70% of the present voting Task Force members (14/20 for perfect attendance). The final Task Force **Report** will be approved in the same way.
     a. When appropriate, the Task Force may make recommendations for **immediate action** prior to the publication of the full Report. Any member of the committee

may propose a recommendation for immediate action be included on the Agenda of the next Task Force Meeting, and time will be reserved during that meeting for discussion. During the following meeting, a vote will determine whether the item be forwarded as an immediate action item to the Directorate. All immediate action items already recommended during the tenure of the Task Force will be included in an Appendix to the Report.

Time Commitment
The Task Force expects to meet most weeks once per week until its work concludes. During **Phase Two**, Working Groups are expected to contribute additional research in support of the Task Force Goals (estimated 20 hours). During **Phase Three,** all members are expected to contribute to writing the **Report** (estimated 20 hours). Participation in the Task Force represents *an expected minimum commitment* of 60 hours of work over the next ~23 weeks (approx. 3 hours per week).

The Report
The work of the Task Force will culminate in the publication of a Report. The Report will have at least three Appendices that contain direct recommendations to the Directorate in service of the Charge. These are: 1) Recommendations already forwarded to the Directorate for Immediate Action, 2) Recommendations for Short-term (<6 mo) Action, and 3) Recommendations for Long-term (>6 mo) Action.

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Appendix A. Data used in this Report. Data provided by DEES Office (Sally Odland) and OAAD (Kuheli Dutt), Compiled by K. Acosta (2021). <u>Data used to create Figure 1</u>:

Year	Position	Percent Minority	Percent URM
2012	Graduate students	17	13
2013	Graduate students	13	11
2014	Graduate students	12	10
2015	Graduate students	15	13
2016	Graduate students	20	13
2017	Graduate students	21	15
2018	Graduate students	23	13
2019	Graduate students	29	21
2005	LRP	19	1
2008	LRP	15	0
2009	LRP	14	2
2011	LRP	16	0
2012	LRP	16	3
2015	LRP	11	1
2020	LRP	22	6
2005	Research Scientists	25	8
2008	Research Scientists	7	7
2009	Research Scientists	15	15
2011	Research Scientists	20	7
2012	Research Scientists	19	6
2015	Research Scientists	30	0
2020	Research Scientists	21	0
2005	Postdoctoral Researchers	9	0
2008	Postdoctoral Researchers	15	4
2009	Postdoctoral Researchers	30	13
2011	Postdoctoral Researchers	33	11
2012	Postdoctoral Researchers	36	10
2015	Postdoctoral Researchers	16	2
2020	Postdoctoral Researchers	28	9

Full Lamont demographics dataset. Abbreviations: TTL (Total), WM (white man), WW (white woman), AM (Asian man), AW (Asian woman), HM (Hispanic/Latino man), HW (Hispanic/Latina woman), 2M (Two or more races, man), 2W (Two or more races, woman), UDM (Undeclared man), UDW (Undeclared woman). Black and Native/Indigenous are not included as columns because over this time period there were no respondents indicated they were Black or Native/Indigenous. The header row is repeated on each page for continuity.

Lamont Demographics for LRP, RS, and Postdocs 2005-2019 (from OAAD)	TTL	WM	WW	AM	AW	HM	HW	2M	2W	UDM	UDW
(both US citizens and international)											
2005											
Doherty/LRP track	68	46	10	10	2	1					
Doherty/Full LRP											
DohertyRS/AssocSr LRP											
Doherty/Assist/Assoc LRP											
RS track	11	7	2	2		1					
SRS											
RS											
ARS											
2008											
Doherty/LRP track	66	44	12	8	2						
Doherty/Full LRP											
DohertyRS/AssocSr LRP											
Doherty/Assist/Assoc LRP											
RS track	14	9	4			1					
SRS											
RS											
ARS											
2009											
Doherty/LRP track											
Doherty/Full LRP	30	21	4	4	1						
DohertyRS/AssocSr LRP	15	11	3		1						
Doherty/Assist/Assoc LRP	21	14	4	2			1				
RS track											
SRS	2	2									
RS	3	1	1			1					
ARS	8	6	1				1				

Lamont Demographics for LRP, RS, and Postdocs 2005-2019 (from OAAD)	TTL	WM	WW	AM	AW	HM	HW	2M	2W	UDM	UDW
Postdoctoral researchers	30	9	12	3	2	3	1				
2011											
Doherty/LRP track	74	46	16	10	2						
Doherty/Full LRP											
DohertyRS/AssocSr LRP											
Doherty/Assist/Assoc LRP											
RS track	15	9	3	1	1	1					
SRS											
RS											
ARS											
2012											
LRP track											
Full LRP	32	21	5	5	1						
Assoc Sr LRP	17	11	2	2	1						
Assoc Jr LRP	6	6									
Asst LRP	21	12	7	1		1					
RS Track											
SRS	2	1	1								
RS	10	6	1	1		1					
ARS	4		4								
Postdoctoral researchers	39	13	12	4	6	2	2				
2015											
LRP Track											
Full LRP	37	25	5	4	2		1				
Assoc (Senior) LRP	16	12	4								
Assoc (Junior) LRP	7	4	2								
Assistant LRP	11	6	5								
RS Track											
SRS	2	1	1								
RS	8	5	2		1						
ARS	17	4	6	3	4						
Postdoctoral researchers	44	17	17	5	1	1	1	1		1	

Lamont Demographics for LRP, RS, and Postdocs 2005-2019 (from OAAD)	TTL	WM	WW	AM	AW	HM	HW	2M	2W	UDM	UDW
2020											
LRP track											
Full LRP	38	27	5	3	2		1				
Assoc (Senior) LRP	15	8	4	1		1	1				
Assoc (Junior) LRP	10	3	3	1	2	1					
Assistant LRP	2	1			1						
RS track											
SRS	4	2	2								
RS	6	3	2		1						
ARS	18	8	5	4	1						
Postdoctoral researchers	43	19	11	4	4	1	3		1		

DEES PhD Student Demographic Data. Notes (from Sally Odland): These data are compiled each year in this format for reporting to the NSF/NIH with input from GSAS. URM count includes Asian, Black, Hispanic, Pacific Islander, More than One Race. Non-URM includes White plus undisclosed. DEES PhD Students only. Did not include C&S Masters program. Ethnicity not reported for non-U.S. citizens (many Asian, some Hispanic). Included Permanent Residents with U.S. citizens percents. Minority and URM are calculated for US citizens only. "NA" means the data were not yet available at the time this Report was compiled.

	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total DEES PhD students	83	87	94	95	101	103	105	90	93
Male	38	38	45	40	44	53	50	41	35
Female	45	49	49	55	57	50	55	49	58
U.S. Citizens	52	54	58	61	71	80	82	72	76
URM (U.S. Citizens)	9	7	7	9	14	17	19	21	NA
URM w/o Asian	7	6	6	8	9	12	11	15	NA
Percent Minority	17	13	12	15	20	21	23	29	NA
Percent URM	13	11	10	13	13	15	13	21	NA