Concrete Steps for Recruiting, Supporting, and Advancing Underrepresented Minoritized Scientists

Note: This document was created in response to the desire from over-represented scientists to get engaged and work toward equity and fair representation in science. The primary assumed audience is an over-represented academic. If you are a person of color, or a person from another group that is underrepresented in science (we will use underrepresented minoritized scientist/URMS in this document), you are no doubt already engaged and active. Please give yourself credit for what you're already doing. Every minute you've spent supporting your peers and that you spend advancing your own career is a minute spent fighting for equality.

Caveats: This is a work in progress. Please send feedback/suggestions to the emails listed below. Please also note that the language of "diversity" and "inclusion" continues to center overrepresented scientists. These tags are widely used, and when used in this document, will hopefully facilitate finding related content/guidance in other resources. However, we generally use "integration" rather than "inclusion" throughout to move away from language that places overrepresented scholars as the default or as arbiters of who should be allowed to participate. Note however, that the goal is not to integrate community members into the existing power structure; the goal is to CHANGE the structure and to support URM scientists' power to direct institutional change.

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Shortcuts:

Why is Enhancing Diversity Important?

Because every person deserves equal opportunity and access to contributing to and benefiting from scientific discovery. The current system does not reflect this ideal, e.g.,:

- PhD enrollment/completion data
  - Statistically speaking, Underrepresented Minorities, or Minoritized Scientists (URMs) comprise only 7.7% of the larger scientific community in the United States of America (Higher Education Training., 2013), with an even smaller percentage of this subpopulation (<2%) counting black and Hispanic women (Matchett, 2013; Guterl, 2014). Source: https://www.frontiersin.org/articles/10.3389/fnhum.2019.00280/full
- Health disparities for centuries but, e.g. most recently:
  - COVID-19: https://www.apmresearchlab.org/covid/deaths-by-race

Government funding agencies also view diversity as a priority. For example, in the United States, NIH notes:

"NIH's ability to help ensure that the nation remains a global leader in scientific discovery and innovation is dependent upon a pool of highly talented scientists from diverse backgrounds, particularly those from underrepresented groups, who will help to further NIH's mission...NIH encourages institutions to diversify their student, postdoctorate and faculty populations to enhance the participation of individuals from groups identified as underrepresented in the biomedical, clinical, behavioral and social sciences" including Individuals from racial and ethnic groups that have been shown by the NSF to be underrepresented in health-related sciences on a national basis, Individuals with disabilities, who are defined as those with a physical or mental impairment that substantially limits one or more major life activities, and Individuals from disadvantaged backgrounds, including first generation and low income students. Additional details and information from NIH are [linked] at the end of this document.

For the full statement from NIH, see below.

A note on resource inequality

Many of the steps outlined below are financially costly. We must remain cognizant of the fact that there are inequalities in resources across institutions (and even across departments or units within institutions). We endeavor below to include actions that do not require funding from within the department or university and to highlight funding sources to which people can apply to offset local costs.

I'm a faculty member (or similar)

*"I tell my students, 'When you get these jobs that you have been so brilliantly trained for, just remember that your real job is that if you are free, you need to free somebody else. **If you have some power, then your job is to empower somebody else**. This is not just a grab-bag candy game.'" —Toni Morrison (from The Truest Eye)*

As faculty members, we have more power than we might realize. We are the gatekeepers. We control access and have higher-level community influence. We have the power to build a diverse and integrated community and create resources for support. Our investment in trainees and students is a deeply fulfilling part of our job. But we can do this job more proactively and effectively.

More specifically, every aspect of our job can be leveraged to increase and support diversity in science and the academy more broadly. Concrete ideas appear below for several aspects of our jobs.

Where to start

Assess our organizations

One common refrain you may hear from colleagues is "we don't have a diversity problem." On what basis are they making that statement?

Think about current faculty and trainees in the lab group, center or institute, department, and school. Who is missing or under-represented? Do the math, share the results with your department.

What voices might not be getting as much air-time and attention? Are there members of the community that might be facing more institutional and day to day challenges to their well-being, creativity, and productivity than others?

We are often blind to challenges that we have not experienced. For those of us in positions of power and privilege, who are part of overrepresented/ dominating groups, although it might feel tempting to start by asking URM colleagues or trainees to tell us about their experiences, it is helpful to keep in mind that this is asking them to do work on top of their normal jobs, and can be exhausting (particularly since there may only be a small number of URM colleagues that EVERYONE is asking for this input; from the perspective of the overrepresented group member, it is only one request, but for the URM colleague, it is one of many; see this [twitter thread](), also this [paper about institutional inequality]). Instead, it can be helpful to start by reading about the experiences of URM scholars, and anti-racism resources more generally. Set aside time to make sure we are listening, reading, and informed:

- The plight of the black academic
  https://www.theatlantic.com/business/archive/2015/12/the-plight-of-the-black-academic/420237/
- George Yancy, "The Ugly Truth of Being a Black Professor in America"
  https://www.chronicle.com/article/The-Ugly-Truth-of-Being-a/243234
- Monolithically White Places: Academics on Racism in Universities -
  https://www.theguardian.com/education/2019/oct/24/monolithically-white-places-academics-on-racism-in-universities
- As People of Color Formerly Employed By Mizzou, We Demand Change -
- Anti-Racism and Decolonization from an Indigenous Perspective by Christine McFarlane in *New Framings on Anti-Racism and Resistance* pg 119-127
- So You Want to Decolonize Higher Education by Sharon Stein -
  https://medium.com/@educationotherwise/https-medium-com-educationotherwise-so-you-want-to-decolonize-higher-education-4a7370d64955
- The Whisper Campaign of Academic Trauma by Ciarra Jones -
  https://mystudentvoices.com/the-whisper-campaign-of-academic-trauma-fc917686fcc3
- https://socialsciencespace.com/2019/02/detoxing-from-academia-one-black-scholars-journey/
- https://www.chronicle.com/article/We-Asked-About-Your-Experience/243328
- Mikkaka Overstreet (2019) My First Year in Academia *or* the Mythical Black Woman Superhero Takes on the Ivory Tower, Journal of Women and Gender in Higher Education, 12:1, 18-34, DOI: 10.1080/19407882.2018.1540993
- Tracey Owens Patton (2004) Reflections of a Black Woman Professor: Racism and Sexism in Academia, Howard Journal of Communications, 15:3, 185-200, DOI: 10.1080/10646170490483629
- Navigating as an African American Female Scholar: Catalysts and Barriers in Predominantly White Academi by Traci Palmer Baxley (link to download pdf)
- Guzmán, L. D. "Academia Will Not Save You: Stories of Being Continually "Underrepresented"," Journal of Humanistic Mathematics, Volume 9 Issue 1 (January 2019), pages 326-343. DOI: 10.5642/jhummath.201901.20 . Available at: https://scholarship.claremont.edu/jhm/vol9/iss1/20
- Anthony A. Jack The Privileged Poor: How Elite Colleges Are Failing Disadvantaged Students
- Group conversations with Undergraduate Underrepresented Student Experiences in Structured Research Programs
- Suggestions for things that need to change from Dr. Srivi Ramasubramanian
- And most recently #blackintheivory on Twitter

Although a full rundown of anti-racism resources is beyond the scope of this document, and would duplicate a lot of existing resources, here is an example starting point: **Anti-racism resources for white people**, and **reading lists from Ibram X. Kendi, and Brea Baker.**

See also the end of this document for related scientific texts and articles: "**Other resources for anti-racism in STEM**"

Start the conversation

Let's commit to making sure our spaces are safe and supportive and then diversify our institutions, our departments, our lab groups. This requires institutional buy-in so start this discussion with your chair or even your dean.

We can diversify our communities but before that happens, we need to make sure our communities are safe for our URMS. We want to make our training environments as supportive as possible, and do not want to create an appearance of diversity or skewed distribution such that all the diversity is concentrated in the groups with the least institutional power (e.g., graduate students).

We won't simply 'age' into diversity because our URM colleagues will leave academia before they're given a chance to occupy leadership roles: e.g., under-represented minorities represent 27% of the US working age population, but only 11% of the STEM workforce (National Science Foundation, Science & Engineering Indicators, 2016).

Again, it is particularly important to **work on diversifying leadership at the top**.

What to do

Visit *Academics for Black Survival and Wellness* and read their 'Call to action' document

Commit to supporting and increasing diversity at your institution:

Learn about the power structure at your institution:
Look up your university president, vice presidents, provost, vice-provosts, deans, vice-deans. Is this a diverse group as far as you can tell? Of course, you can't tell from a name and photo how people identify, nor how much anyone in these positions are fighting for equity but if everyone is white, there is a problem. Put pressure on your university to do something about this. It takes time and high level commitment to make changes, but don't make undergrads demand these changes in the school newspaper. We as faculty need to demand it, too.
- Request endorsement from the university faculty senate
- Request support for cluster hires that prioritize diversity across areas/ departments

Support your current URM colleagues:
- Invite colleagues to co-author grants and reviews, co-organize symposia

● Read colleagues' papers, ask them about their work then CITE THEM
● Invite colleagues to give talks to the department; recommend them for colloquia in other departments

Thinking about spaces on campus
● There is substantial evidence that the physical spaces on campus can make them more or less welcoming. Lobby your university to make spaces more welcoming by making the spaces more accessible (meeting ADA guidelines is the *bare minimum*)
● Make infrastructure disabled accessible. It is imperative that people stop thinking of these things as addressing "special needs". Disabled people are human beings with human rights to access. Many of us are also working and paying taxes so using their tax dollars to fund infrastructure and to institute processes that exclude us is further insult. (see below for "Accessible communication and planning")
● Wheelchair accessible is the first one people think of, but there are other aspects to accessibility like
    ○ Braille signs
    ○ lights in addition to phone ringers
    ○ counters of various heights
    ○ many chairs without arms (so that people don't have to be a certain thinness to sit and rest)
    ○ some chairs with arms because some people use the arms to get in and out of the chairs
    ○ kick buttons for elevators and doors (which come in handy during pandemic as well)
● Diversifying the portraits on the walls, the statues on campus, and other places where we show whose contributions are valued.
    ○ [Here is an excellent example of a petition](#) to diversify portraiture (with literature review/ evidenced based justification) drafted by Penn faculty, staff, and students: Prof. Danielle S. Bassett, Dr. David Lydon-Staley, Jennifer Stiso, Prof. Junhyong Kim, Andrew Gunn, Prof. Ishmail Abdus-Saboor, Josh Darfler, Prof. Maria Neimark Geffen, Ursula Tooley, Prof. Lee C. Bassett

Faculty and administrator searches:

[Here are some tips for deans, department chairs, and search committee members seeking to promote diversity in faculty searches.](#)

As a member of a search committee, prioritize diversity.
● Bring it up at the committee meetings *regularly*.
● Obtain search committee training from offices tasked with supporting diversity and inclusion on campus.

- Write broad calls for applicants (each way you narrow the call for applicants will narrow the pool of people who can see themselves in the job ad).
- Related: Be deliberate in your job ad phrasing: include a diversity statement and avoid words like "brilliant" or "extraordinary." These words may make groups that are not stereotyped as possessing these qualities less likely to apply.
    - See related research by Leslie et al. 2015
- Be proactive in outreach (see Recruitment Resources below). Your outreach also includes many of the other steps outlined in this document (getting to know URM trainees in your field broadly, following URM scholars on social media).
- If you think some applications are being ignored, spend time processing them yourself and making notes to raise in the next group discussion. Be specific about the intellectual value this candidate would bring to the institution (i.e., what is particularly interesting and impressive about their work? What would they uniquely contribute to the department in terms of their research, teaching, mentoring and service experience?). You might be ignored or feel like people think you are being irritating, but the more prepared and confident you are, the better your chance of convincing your colleagues. And if you are not successful the first time, keep trying anyway. If you are concerned about bias in the search process, share your thoughts with a dean and your diversity search officer (if you have one; if you don't, talk with colleagues about having one).

More generally, as a member of the department conducting the search
- Sign up to be the department's diversity search officer (which confers formal responsibility to advocate for fair search processes); don't make the BIPOC in your department do this extra work.
- If your department doesn't allow certain members to join search committees--**in particular, trainees**--lobby to change this practice
    - Trainees may well be better aware than faculty of outstanding diverse candidates elsewhere
    - Trainees are more familiar with the use of social networks to induce jobseekers to apply (and can inform searching faculty about what information about searches is being shared via social networks)
    - Trainees are likely better judges than faculty of how an applicant is likely to perform as a teacher/trainer/mentor of trainees, especially trainees of color.
- Make sure that the search committee and the rest of your colleagues have the information they need to prioritize diversity in searches (i.e., see above re: doing the math, and about making the case for specific candidates in terms of their scholarship; also see above re: the importance of having URM faculty and people in positions of leadership; actively make the case for why this matters, and advocate for candidates from historically and currently marginalized groups).
- Create a structured interview that asks the **same** questions of all candidates
- Create an evaluation matrix with candidates on one axis and attributes that qualify them for the job on the other. Then rate EACH candidate on EACH attribute. This helps to reduce post-hoc re-weighting of attributes to justify a "more comfortable" hire

- ○ "We have known for decades that one reason decision-makers make suboptimal choices is because they apply attribute weights inconsistently across options in a choice set (Dawes & Corrigan, 1974). For example, one may recruit a male prospective graduate student with less research experience instead of a female graduate student with more research experience because even though research experience is important, his higher GRE scores suddenly seem more diagnostic than his research experience (Norton et al., 2004). Our results indicate that structuring decision-makers' exposure to attribute information to decrease the error associated with inconsistent attribute weighting could help people make more equitable decisions (so long as they determined how they wanted to weigh different attributes consistently across candidates ahead of time)." Source: Chang & Cikara, 2018 - JPSP
- After reading some of the resources provided above characterizing the experiences of URMS we should endeavor to remember these barriers and keep in mind that candidates have the CVs they have *despite* these.
  - ○ See article: **Why Traditional Metrics May Not Adequately Represent Ethnic Minority Psychology**

Statements of commitment:

Culture change requires a joint effort. Work together with your colleagues to document shared values and commitments.

- Create a diversity statement or broader statement of shared values that includes a commitment to diversity and integration and agree to hold each other accountable.
  - ○ The most critical outcome here is actually creating this norm in your department or center (more important than just posting it on the department website). This may take time to really permeate, but it helps to start with a community statement that incorporates language explicitly defining anti-racist conduct. If the statement accurately reflects the department culture, only then should it be shared publicly on a website. You can see examples at:
    - ■ https://psychology.as.virginia.edu/diversity-psychology
    - ■ https://psychology.berkeley.edu/sites/default/files/new_principlesforpsych_11152019.pdf
    - ■ https://miamioh.edu/cas/academics/departments/psychology/about/diversity-inclusion/index.html
  - ○ Similar statements with language explicitly addressing anti-racist conduct could be created for your own lab group - your lab manual is a good place for this.
- Faculty should commit -- and demonstrate -- that they have undergone rigorous training on how not to perpetuate stereotypes and casually and unintentionally make remarks, questions, and actions that constitute microaggressions.
- Attend department meetings discussing diversity -- do not dismiss them as "burdensome service" time in which you could be doing research (or treat the meetings as time when

you can surreptitiously do paper reviews). Working on diversity and integration is not a static issue, and there are concrete opportunities to improve in every department.

- Lobby your department for a mechanism to lodge complaints against discriminatory behavior <u>anonymously</u>.
    - Many departments have these mechanisms in place; make sure EVERY community member is aware of these channels and has the expectation that if they are racist/ableist/sexist/discriminatory in any way, that they will be contacted by the appropriate offices/individuals.
    - Actively work towards and criticize gaps in diversity and integration in the graduate program (e.g., financial support for first years, access to technology for first years), even if it means speaking out against executive faculty. It is also on executive faculty to be open to and to prioritize such efforts, if not spearheading it themselves (which they should).
    - Lodge complaints against problematic community members en masse (if a faculty member says something racist, make sure multiple students notify the chair or DGS simultaneously). It's much harder to "explain away" grievances as being from "one sensitive person" when you raise your voices together.
- **When we see someone being racist, we MUST SAY SOMETHING.** Let's speak up when we hear comments from other faculty that are inappropriate or when standards are applied unfairly. Do not be complacent because the system currently works for you.
    - Some <u>general use replies</u>:
        - "We don't do that here."
        - "I'm sorry, what do you mean by that?"
        - "What is your name? Can you say more?"
        - To jokes: "can you explain to me exactly why that's funny, I'm not sure I understand, so it would be great if you walked me through it" or "That's not funny; you can do better."
        - "Be specific: what exactly do you think caused these inequities if it a history of racism that goes back before the founding of the country?"

    - More specific examples:
        - During a student review meeting last year when discussing a student who was slower than average to settle on a main topic of study, a faculty member said, "I told everyone this student wasn't ready for grad school, but everyone said 'oh they're a minority so we should give them a chance!'" This is not okay. The student rotated through very different labs. Their timeline for finding a topic had nothing to do with their race. Point this out.
            - An **example reply** might be "Their progress in our program has nothing to do with their race. We should be talking about how we can better support students who decide to follow broader rotations - which we should also encourage. Maybe we could check in with students about their rotation strategy after each one."

- Imagine during a faculty search a colleague characterized a URM candidate with many collaborators as difficult to evaluate because it was hard to know how to attribute responsibility for the work. Imagine another faculty member then characterized an overrepresented candidate with many collaborators as "well-networked."
    - An **example reply** might be "I think we should strive to be consistent in the way we evaluate these candidates. Can we pause here and clarify what attributes we want to focus on across candidates and also what 'success' looks like for each attribute?" (see related advice for hiring practices above)
- Finally, a colleague may say something along the lines of "I'm all for diversity as long as we can maintain our high standards""
    - An **example reply** might be "Not only are we maintaining, we are raising our standards by acknowledging the myth of meritocracy & finding all the talent we've been missing." --Imogen Coe
    - Cite the diversity-innovation paradox: "demographically underrepresented students innovate at higher rates than majority students, but their novel contributions are discounted and less likely to earn them academic positions. The discounting of minorities' innovations may partly explain their underrepresentation in influential positions of academia." --
- Challenging colleagues can be especially difficult in a pre-tenure rank, but it's critical. When we don't feel comfortable doing the confronting we could ask a more senior colleague for advice or for help getting the other colleague to understand how problematic statements like this can be.

Find or create groups that work on these issues:
- Look up any local offices or committees at that Provost or Graduate School level that work on these issues and provide resources and support. These are people and groups that we could connect our current and future URM trainees with.
- If there isn't a local diversity and inclusion committee in our department/center, we can ask our leadership to create one. We can deliberately suggest that the committee be called a Diversity & Integration committee to emphasize efforts to integrate scholars at all levels of power and voice. This group can assess current needs and activate leadership with ideas for initiatives. This group cannot be homogenous; diversity is critical here more than anywhere else. At the same time, we should be respectful of our URM colleagues' other commitments. Work together, distribute the actual work equitably. We should consider involving trainees and people at all ranks in this committee.
- Recruit trainees (e.g., graduate students and post-docs) to serve as diversity fellows to liaison between trainees and faculty. These should be FUNDED positions at the level of the department. If your department or school do not have these positions, talk to your deans about creating them. For example of diversity fellow responsibilities:

- ○ https://gsas.harvard.edu/diversity/diversity-and-inclusion-fellows/diversity-fellow-applications
- ● Have a Diversity Journal Club: Actively talk with trainees and colleagues about scientific practices that are relevant to whose voices are represented and how.
  - ○ e.g.,https://docs.google.com/document/d/1_BYkAj_ArN5RndEQwrA51H6LEIAcvsO6TqjBqHcAI2M/edit
  - ○ Discuss the role that neuroscientists must play in ending the criminalization of marijuana and other drug-related offences. Discuss making open and transparent the Board of Trustees' relationship(s) to multi-billion dollar pharmaceutical companies and individuals who have made fortunes off of opiate addiction and misinformation surrounding their use.
  - ○ Here is another anti-Black-racism syllabus from ANDL
- ● Email program officers of your funding sources (they have groups, too!) to voice your support for funding initiatives to support URM scientists (credit: Kaifu Dzirasa)
- ● Find and learn about, volunteer to work in programs providing opportunities and training for formerly incarcerated students
- ● Finally, here is some advice specifically for department chairs on how to mentor faculty and promote diversity from the top

Need help finding URM speakers for your seminars/panels/conferences? There's a list for that:
- ● Black Neuroscience PIs
- ● URMS in Computational Cognitive Science
- ● URMS in Computational Neuroscience and Psychiatry
- ● Women in Neuroscience
- ● SPARK Society Scholars of Color Database (Cognitive Science)
- ● #BlackInNeuro Twitter List
- ● Anne's List (women in systems neuroscience)
- ● Women Also Know Stuff (Political Science)
- ● POC Also Know Stuff (Political Science)
- ● https://diversifychemistry.com/
- ● http://crosstalk.cell.com/blog/100-inspiring-black-scientists-in-america
- ● Database for minority cancer researchers (AACR)
- ● Minority Immunologists (AAI)
- ● Can't find a list? Make one!
  - ○ Google forms is a great tool for compiling a database

Additionally, you can diversify seminar series content by:
- ● Reviewing the balance of who is invited -- insist that the lineup includes women and URM speakers (e.g., Ask yourself: "Is there a person of color whom I can suggest?" And **do so**, if the answer is "yes!")
- ● Allowing trainees to nominate/invite speakers

- Inviting speakers from outside of academia
- Allowing trainees to ask questions first
- Asking speakers to discuss their professional trajectory
    - Source: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7148143/
- Consider implementing programs to showcase outstanding investigators who might not be part of the regular seminar series. For example, UMichigan has done this effectively for 'Young Investigators'/ graduate students/ post-docs (who, btw, they can thereafter recruit).

Accessible communication and planning
- All communications must be accessible. This means captioning, alt text for images (on social media, on websites), audible descriptions of video for the blind.
    - Websites must meet accessibility standards.
    - Any apps the university uses in instruction and communication must be accessible without onerous extra steps. Zoom, for instance, has no good captioning. If one's organization requires Zoom and doesn't also pay for a live captioner or CART, it's inaccessible. Note that auto-captions are only slightly better than nothing because they are so often erroneous that Deaf people call them "craptions".
- Emergency planning: many institutions make absolutely no plans for disabled people in an emergency situation. Those that mention it at all, are often directing abled people to deposit disabled people who need mobility aids near the elevator (which would be shut down) and for the abled people to leave their disabled colleagues behind.
    - Institutions need to involve disabled experts in emergency planning and then have required training so that abled instructors, PIs, managers, etc all know how to take care of our disabled students, workers, and team members.
- Accessibility shouldn apply to all facets of campus life. All the extracurriculars and cultural events we encourage the abled campus community to go to should be accessible.
    - Eg., consider whether bike racks and picnic tables in public areas are accessible. Are tables set with chairs bolted in around them?
- We need to be mindful of how these considerations change at different intersections of identities. **Disabled BIPOC may have concerns and resources that differ.**
    - E.g., campus police/police may pose a greater threat to disabled people and Black people, but especially Black Deaf and/or Autistic people. If campuses don't abolish campus police, they MUST have at least one officer that knows ASL.
    - BIPOC using ASL have been shot for supposedly throwing "gang signs". Training needs to be required all over campus because it is often abled campus community members who make racist/ableist assumptions and call the police force in the first place.
- This all applies to CONFERENCES as well!! When we act as organizers, we must raise these issues with our society/hosting space:

- - https://www.theguardian.com/higher-education-network/2017/aug/31/without-accessible-conferences-we-lose-the-voices-of-disabled-academics?CMP=share_btn_tw
  - https://www.youtube.com/watch?v=-7-quPaRol8&feature=youtu.be
  - https://blog.ucsusa.org/science-blogger/how-to-make-professional-conferences-more-accessible-for-disabled-people-guidance-from-actual-disabled-scientists
  - https://medium.com/@gsm/conferencing-while-chronically-ill-190664c9a4cd
  - https://www.youtube.com/playlist?list=PLviN1Y0PCc3PlbkPSeKgo4Gs7jLixBwVa

Additional Institutional action

- Discuss cutting all institutional ties with municipal police departments and re-allocating resources from police to other campus needs (e.g. NYU-NYPD ties example here https://t.co/g7pH8xqCxs?amp=1)
  - Sign petition to remove police from university campuses that has been signed by 126 academic organizations and nearly 3000 individuals at various universities: https://tinyurl.com/XCampusNoMoreCops
- Having department townhalls around the topic of racism and injustice along with actionable items in an effort to bridge the gap between academics isolating themselves from issues occurring on campus or on a broader scale. Also have open conversations about funding structures (where is money coming from and what values does this imply?)
- Collaborate to have institutions hold one another accountable (e.g., a "Paris Climate Agreement" for University anti-racism efforts).

Commit to supporting existing diversity and diversifying your lab group:

Support people who are already there:

Open doors and commit to doing the work after someone walks through that door. When we hire an under-represented staff member or recruit an under-represented trainee (e.g., student or post-doc), let's commit to staying aware of any unique challenges they may face working in our labs or in our general research environment and working to remove barriers and provide support. It doesn't mean we have to be their friend or therapist (most of us aren't qualified!). Be sure they know that we understand our job to lift them up and help them get to the next level. Here are some things we can do:

- TELL THEM THEY MATTER.
  - Make sure our URM trainees know we are invested in them as whole humans just as they are invested in the sciences. It's as easy as saying, "You are valued here. I know it's not easy, and I appreciate all the contributions you make to our group and community in general."
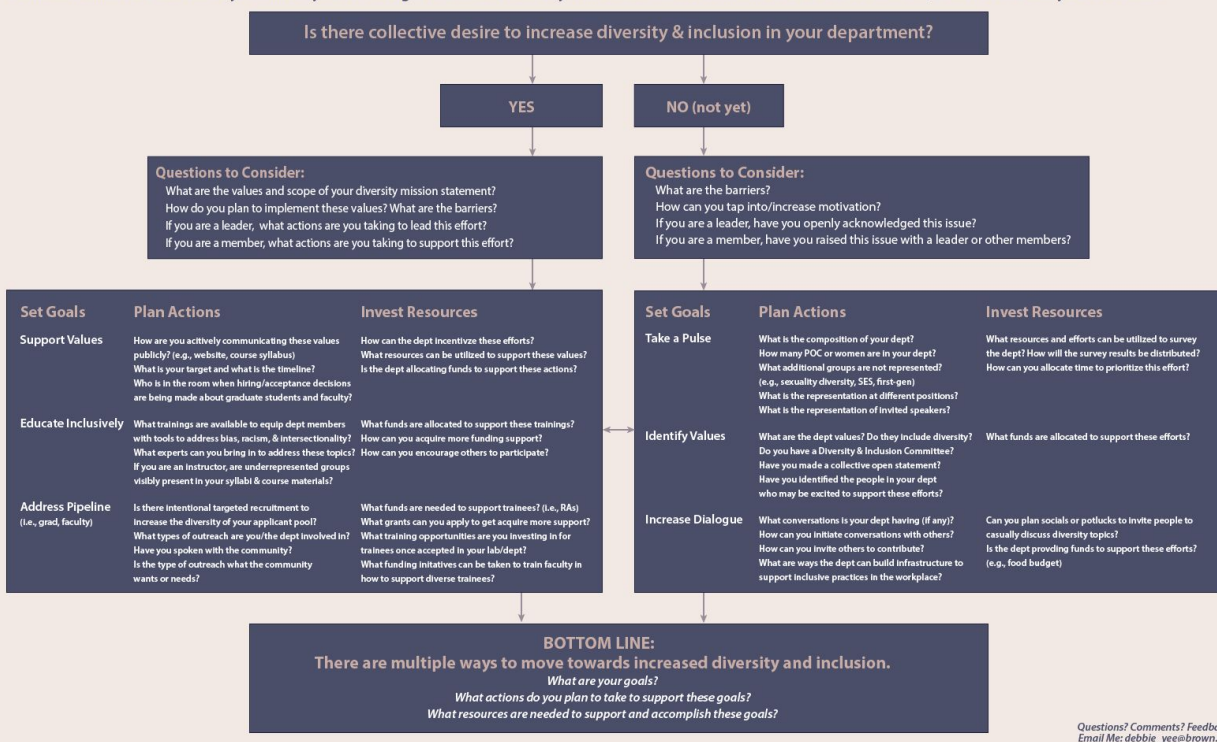
○ Remind our URM trainees that they likely had to work harder than non-URMs just to be competitive because of structural inequities that increase barriers to their success. Validate that any recognition they receive is about their talent/skills/relevant experience and not their identity.

○ You can tell trainees the steps for reporting a discrimination incident if they are not comfortable telling it to you. This includes if the incident involves you. Typically there is a university or department ombudsman or a contact resource at the university's Office of Institutional Diversity to whom you can direct their reporting -- look these resources up and give them to your trainees.

● FUNDING: The training phase in science is financially costly. Every step is underpaid. Remember that some trainees are paying off incredible debt and even supporting their families locally or back home with the small wages they earn. Many can't ask their parents for money to fix their car or buy a conference flight (and wait forever to get reimbursed).

○ For lab staff (post-baccs and post-docs), ask our HR office how much we can pay for these positions and if we have the option of increasing the pay. Pay them the maximum amount we can afford (this doesn't just apply to URMs!). Build these rates into our next grant application. Spending more money on fewer people provides more people with a more humane wage.

○ For graduate students, work study students, and other trainees in your lab, ask your department if everyone gets the same pay - they often don't. For example, often students with fellowships make more during the summer. Ask our departments if we can use discretionary funds or grants to "top-up" the summer funding for students without fellowships to match those who do have them.

○ Lobby your department, school and university to pay trainees (students/ post-docs) a higher wage. Current wages for training roles make academic inaccessible for lower income applicants, including some URM applicants. Consider whether it is possible to provide supplemental grants or stipends to those with reduced means.

○ Ensure access to affordable health care for trainees (also when they have to take leave of absence, if they do)

○ If we can use a p-card to pay for conference travel, let's do that and eliminate the need for a lengthy reimbursement process. At conferences, have group meals and use the p-card. When we are at the same conferences with our p-card, lets ask the hotel front desk if we can pay the hotel rooms for our trainees on our cards so that trainees don't have to wait to get reimbursed (or pay in advance with a pcard if you can). Note: this doesn't only apply to URM trainees.

○ Petition departments to cover travel costs for prospective graduate students and moving costs for incoming graduate students and other trainees.

○ Help our trainees find funding opportunities and invest time in crafting competitive applications with them. Don't let people work for free in your lab. More on these issues below in the grants section.

- MAKE GROUP COMMITMENTS TO SUPPORT DIVERSITY:
  - We need to talk about mentoring URM trainees in faculty meetings with our colleagues. Organize a workshop led by someone at your institution with expertise but don't just do one workshop. Make regular space to talk about this issue specifically. Help other faculty understand how important this investment is. It will also benefit all trainees.
  - Write up a diversity statement with lab members to reflect the group's goals and values (see links above)
    - Set specific goals: e.g.,
      - Note that there is a problem (e.g., #CommunicationSoWhite)
      - be deliberate in our citation practices in manuscripts (see related work from Bassett lab)
        a. Here is some code to calculate the racial make-up of authors (from names) in your citation list and compare it to expected distributions based on neuroscience papers published after 2016 (source: Max Bertolero)
      - invite URM speakers to present in lab meeting
        a. See lists above!
    - At the end of each semester, evaluate whether the lab has been consistent in meeting these goals

- LET'S TALK ONE-ON-ONE: Have regular one-on-one discussions about specific issues related to being a URM in science and offer our support.
  - Ask trainees what makes it hard to be a URM trainee here. This can be a difficult conversation, but it's imperative to have. Commit to listening for an hour and then agree to spend 10 more investing in changes. Invest in creating a space that truly values and includes everyone. Listen. Validate ("That must have been really hard to deal with. I'm sorry we didn't talk about it before now.") even/especially if you think they are overreacting or seeing bias that isn't there. They aren't. They see things you don't.
  - Take notes and summarize their responses and ask them if you missed anything. If you can truly handle it, ask them how you've been racist. Don't burden them with your emotions. Don't defend or explain. Apologize and say you'll do better.
  - If a trainee raises an issue of bias or discrimination related to something a colleague said or did, don't defend or explain. Validate: "Ugh, that sounds rough. I'm sorry that happened." At the end of or right after this discussion, let them know what you will personally do to address racism in your organization.
  - Sometimes our trainees don't feel comfortable speaking directly to us one-on-one. At the end of each semester, solicit feedback from your lab about your lab's culture. Give people an opportunity to provide feedback anonymously (as much as that is possible; sometimes our groups are small enough that anonymity can't be guaranteed).

- ○ Encourage your department to also collect anonymous feedback about culture, and to use the information to build in more opportunities for support

- LET'S TALK AS A GROUP. Have group discussions about being and supporting URMs in science.
    - ○ See "MAKE GROUP COMMITMENTS TO SUPPORT DIVERSITY" section above
    - ○ Especially if you are an individual with privilege, it is easy to be intimidated and be concerned about not saying the right thing. It can be hard to identify and pinpoint the correct actions to take, or know what questions you could (or should) be asking about structural changes to engender diversity and integration in your department.
    - ○ If you and all your lab members are white, please prioritize having an ACTION meeting (see flowchart on next page). This is a great way to 1) signal to your trainees that you aim to set the tone of inclusivity and articulate your value towards increasing diversity and integration in your lab, and 2) gather input from your trainees on their perspective for how to improve diversity and integration.
    - ○ Tell your lab members that you are not tolerant of ignorant, racist, and offensive comments being made in the lab or in public spaces.
    - ○ Spend some time reading about racism in academia (we have some resources above and below, but google can help you find plenty of articles) and talk about a couple of the things you found in a future lab meeting.
    - ○ If your lab is racially/ethnically diverse, check in one-on-one with everyone first (see LET'S TALK ONE-ON-ONE). Then have a group meeting with everyone, attendance optional.
        - ■ Start by making sure everyone agrees to be open to hear hard things and comments that might sting or make people feel accused. Get individual pre-commitments to this in advance. Make it a condition of joining the meeting.
        - ■ Let the POC team members (e.g., students, post-docs, other trainees, staff) speak freely. Ask your white team members to listen and not defend, explain, justify. If your white team members want to contribute they can say, 'here's what I am planning to do, what should I be doing?'
        - ■ Check in with everyone individually after the group meeting. Validate. Validate. Validate. If your lab is comfortable with each other, people will be honest and white people will get their feelings hurt. Check on your white team members, too. Thank them for participating and listening and agreeing to future action. Also stress the importance of giving our Black colleagues' responses priority right now and more often in the future.

Below is a flowchart & worksheet with some question prompts, which can be used as a launching point to spark conversation about concrete steps your group can take towards moving towards a more equitable, diverse, inclusive, and integrated department (source: Debbie Yee).

How to use this flowchart: There are a myriad of approaches for addressing diversity and inclusion. This is just a sampling of questions to help spark conversation and help groups brainstorm different concrete ways to make systemic changes to enhance diversity & inclusion. This is not meant to be an exhaustive list, so feel free to add your own ideas!

Is there collective desire to increase diversity & inclusion in your department?

YES

NO (not yet)

Questions to Consider:
What are the values and scope of your diversity mission statement?
How do you plan to implement these values? What are the barriers?
If you are a leader, what actions are you taking to lead this effort?
If you are a member, what actions are you taking to support this effort?

Questions to Consider:
What are the barriers?
How can you tap into/increase motivation?
If you are a leader, have you openly acknowledged this issue?
If you are a member, have you raised this issue with a leader or other members?

Set Goals	Plan Actions	Invest Resources
Support Values	How are you actively communicating these values publicly? (e.g., website, course syllabus) What is your target and what is the timeline? Who is in the room when hiring/acceptance decisions are being made about graduate students and faculty?	How can the dept incentivize these efforts? What resources can be utilized to support these values? Is the dept allocating funds to support these actions?
Educate Inclusively	What trainings are available to equip dept members with tools to address bias, racism, & intersectionality? What experts can you bring in to address these topics? If you are an instructor, are underrepresented groups visibly present in your syllabi & course materials?	What funds are allocated to support these trainings? How can you acquire more funding support? How can you encourage others to participate?
Address Pipeline (i.e., grad, faculty)	Is there intentional targeted recruitment to increase the diversity of your applicant pool? What types of outreach are you/the dept involved in? Have you spoken with the community? Is the type of outreach what the community wants or needs?	What funds are needed to support trainees? (i.e., RAs) What grants can you apply to get acquire more support? What training opportunities are you investing in for trainees once accepted in your lab/dept? What funding initiatives can be taken to train faculty in how to support diverse trainees?

Set Goals	Plan Actions	Invest Resources
Take a Pulse	What is the composition of your dept? How many POC or women are in your dept? What additional groups are not represented? (e.g., sexuality diversity, SES, first-gen) What is the representation at different positions? What is the representation of invited speakers?	What resources and efforts can be utilized to survey the dept? How will the survey results be distributed? How can you allocate time to prioritize this effort?
Identify Values	What are the dept values? Do they include diversity? Do you have a Diversity & Inclusion Committee? Have you made a collective open statement? Have you identified the people in your dept who may be excited to support these efforts?	What funds are allocated to support these efforts?
Increase Dialogue	What conversations is your dept having (if any)? How can you initiate conversations with others? How can you invite others to contribute? What are ways the dept can build infrastructure to support inclusive practices in the workplace?	Can you plan socials or potlucks to invite people to casually discuss diversity topics? Is the dept providing funds to support these efforts? (e.g., food budget)

BOTTOM LINE:
There are multiple ways to move towards increased diversity and inclusion.
What are your goals?
What actions do you plan to take to support these goals?
What resources are needed to support and accomplish these goals?

Questions? Comments? Feedback?
Email Me: debbie_yee@brown.edu

How to use this table: There are a myriad of approaches for addressing diversity and inclusion. As you brainstorm (either individually or as a group) about concrete steps you can take, consider the actions that resonate with you/your group and determine what can be feasibly achieved. Be sure to recognize that different group members will offer different perspectives. There is no one right solution!

Set Goals	Plan Actions	Invest Resources
What are your goals? *(Hint: Set a timeline and concrete goals)*	*What actions do you plan to take to support these goals?*	*What resources are needed to support and accomplish these goals?*

- AMPLIFY UNDER-REPRESENTED VOICES:
  - We can create space in our department/center website to highlight the achievements of our trainees (awards/honors, new papers, a recent conference presentation with a photo). Of course we should be doing this for all trainees *and* let's also make sure that we are highlighting the achievements publicly of under-represented trainees. Visibility matters. We can help people get more visibility.
  - When we have a diverse lab group or department, let's make sure that is **accurately depicted** on public websites and social media. It's important to **be honest** about this and to ask for the permission of the people whose images will be used. If we have a diverse lab or department, let's share photos of current and past lab members so prospective students, post-docs and other potential trainees can see other URM scientists succeeding under our mentorship. Photos at conferences giving presentations along with a link to the poster PDF. If we don't have any past or present URM trainees, we should ask ourselves why not. Then

we can invest in being more proactively inclusive at our next opportunity and integrating URM trainees into our labs and departments.
- Follow Black and Hispanic trainees and other under-respresented individuals on social media and amplify their content.
- There is a diversity-innovation paradox, such that "demographically underrepresented students innovate at higher rates than majority students, but their novel contributions are discounted and less likely to earn them academic positions. The discounting of minorities' innovations may partly explain their underrepresentation in influential positions of academia." -- Promote the work of your URM trainees and colleagues to give them the recognition they deserve, and to help their insights be known and valued more widely sooner.
- Cite URMS in your research when possible. How many POC (and other underrepresented groups) are you citing? Publications are the coin of the realm and recognition (read: number of citations) matters. Whose voices are you elevating or crediting in your work?
  - Again, see related work from Bassett lab

- MAKE SURE URMS GET RECOGNIZED:
  - Nominate trainees in our group for awards. Spend time looking for awards to nominate them for. Don't wait for them to ask you to nominate them; most won't ever ask.
  - When writing reference letters for trainees, use language that avoids bias.
    - Guide to avoid racial bias in letters
    - Guide to avoid gender bias in letters
  - When we are on conference program committees or awards committees, bring up diversity at the first committee meeting. Look back at the history of who has been featured or recognized.
    - For a conference, if there isn't a single talk abstract from a URM, look over the poster abstracts to consider offering someone a talk. Is there someone in your field you know that didn't submit an abstract? There are often only a few URM faculty in our field so let's not expect them to be the one Black speaker at every event. Whenever asking someone to talk, ask if they have a trainee that could be featured if they are not available.
    - For awards committees, be proactive. Invite applications from URMS in your field. Once applications are in, discuss every URMS nomination (especially if not all nominations will be discussed by the committee).

- MAKE SURE URM TEAM MEMBERS AREN'T DISPROPORTIONATELY BURDENED WITH FOSTERING DIVERSITY & INTEGRATION
  - Why is underrepresentation a compounded problem? Because even if only a few people in an organization are biased, all that bias and the responsibility to eliminate it gets concentrated toward the few minorities who are there to receive it. What does it take to fix the problem? EQUITY + PROACTIVE ALLYSHIP. See

this research on agent-based simulation of institutional bias and how it accumulates for individuals who constitute a numerical minority.
- We need to make sure that all of our trainees are contributing to reaching our lab's diversity goals; this responsibility often lies disproportionately with URM trainees/ team members.
- As noted by Neil Lewis: "From your perspective, you're making 1 request to your underrepresented colleague. But that colleague, by virtue of being in the minority, quickly gets overwhelmed from everyone making "1 request."

- GET TO KNOW URMS IN YOUR BROADER FIELD.
  - You know the conference poster scan, where you're reading titles and trying not to make eye contact? If there is a poster being presented by a POC, stop and engage with the work. Share some of your time discussing their science. They're excited about it! These are important moments to help people build scientific connections for later.

- INCORPORATE RACISM ISSUES INTO A VARIETY OF RESEARCH TOPICS AND THE BROADER LAB PROTOCOL.
  - This can include topics that are seemingly unrelated (e.g., learning and memory). At minimum, researchers can report the racial identification of participants to demonstrate to what extent the results are limited to overrepresented populations.
  - For PIs who are also Editors in Chief of journals, prioritize papers that actively examine traditionally marginalized issues (e.g., racial/ethnic health equity) and are written by BIPOC authors.
  - When purchasing lab equipment, consider buying from socially responsible companies that do not have a history of racism.

Other resources
Please see this mentorship webinar from NIGMS
Culturally Aware Mentorship with Dr. Sherilynn Black and Dr. Angela Byars-Winston
https://www.youtube.com/watch?v=Pt38C2l-o2o&feature=youtu.be

Recruitment resources
- Post undergrad, graduate, post-doc, and faculty recruitment announcements broadly
  - Institute for Broadening Participation
  - Society for Advancement of Hispanics/Chicanos and Native Americans in Science
  - Association of Black Psychologists
  - Society for the Psychological Study of Social Issues
  - SPARK Society

- ○ [Yale Psychology Undergraduate Outreach Listserv](#): for lab mgr and research assistant positions
- Some departments have even developed listservs of (e.g., Psychology) departments at non-R1 and minority-serving institutions which they use to advertise job opportunities
- Be deliberate in your job ad phrasing: avoid words like "brilliant" or "extraordinary." These words may make groups that are not stereotyped as possessing these qualities less likely to apply
  - ○ See [related research](#) by Leslie et al. 2015
- Consider what the job entails and be clear in recruitment posts. Note, however, that many requirements (e.g., "must be able to lift 25lbs.) are used as tools to discriminate. If there is a possible accommodation (e.g., like a cart or having an abled employee
- help) do not make that a requirement of the job.
- Applicants need to know nitty gritty details about the job to judge that without having to ask what seem like "weird" questions up front. But because the bar for proving discrimination on the basis of disability is so high, many applicants won't disclose their disability until a job offer has been made.
  - ○ Provide estimates of the mixture of sitting, standing, walking, bending, etc.
  - ○ How much of the job is doing repetitive motion of various kinds, how much is desk work?
  - ○ For fieldwork: how far is one from the support vehicle or support structure and for how long?
  - ○ Does the workplace have a fridge/freezer where employees can store medical ice packs, medicine, etc?
  - ○ People with service animals need facilities to care for their animal. But people who have dogs as a PTSD trigger would be traumatized by a "dog-friendly workplace". (This illustrates that sometimes needs do clash and disabled people need to work with each other and the job/school/venue to work these disparate needs out.)
- Talk to disabled applicants and let them tell you what they need and be open to change. Our entire world is ableist, we were all raised with it. Don't accept "Disabled people can't do this (science)".
  - ○ Wanda Díaz Merced is a blind astronomer. Because she had a PI willing to listen and work with her, they came up with a system she could use to "hear" stars. [ted.com/talks/wanda_diaz_merced_how_a_blind_astronomer_found_a_way_to_hear_the_stars](#)
- Disabled people have elevated costs and if they're on SSDI or SSI, they're all but required to have low income. Flexibility in REU processing helps, like offering a stipend instead of offering it as wages. And the types of aids that help make the field more accessible to low income abled students often help disabled students/scientists as well. https://theconversation.com/the-hidden-extra-costs-of-living-with-a-disability-78001

Recruiting and supporting graduate students:

Some of us are in a department that does graduate recruiting by committee. Some of us have near complete autonomy in our ability to recruit students. Let's all first assess the representation of URM scientists among our current cohort. Who is missing? In the next application round, let's start our committee meeting or own reading of applications by acknowledging the demographics of the application pool. Make sure our short list and eventual interview list is diverse. If there aren't very many URM applicants we can agree to spend extra time on those applications and seriously consider every one. This is also a signal that we need to be more proactive in our recruitment efforts. When the URM students come to interview, create a space for them to engage privately with other local URM students to talk about the local climate. This is critical. Encourage your current students to be honest about it. It's extremely hard to be one of a few URM students. The more this community grows, the more social support there will be available for the current and future cohorts.

- Organize diversity recruitment weekend, e.g.:
  - https://lsa.umich.edu/psych/diversity/diversity-recruitment-weekend.html
- Make clear that there are application fee waivers (if there are) on the application page or consider ELIMINATING applications fees altogether
- Discussing eliminating GRE requirements
- Provide support on how to put together a competitive application for your lab/department, e.g.,:
  - https://nivlab.princeton.edu/pnipsy-graduate-phd-program-application-tips
  - http://www.betsylevypaluck.com/for-students
- Petition departments to cover travel costs for prospective graduate students and moving costs for incoming graduate students.
- Sign up to support URM students (of all training levels) even beyond your department
  - https://docs.google.com/forms/d/e/1FAIpQLSfS3H4PocdrcoXQvn7CFuOHzi0rrZVBbQkpz2vNhSzRbKETWA/viewform
- Seek funding for URM trainees. Both NSF and NIH offer supplements on existing grants that can be used to pay the stipends of graduate students (or undergraduate students or post-docs).
  - NIH Diversity related FOAs: https://extramural-diversity.nih.gov/guidedata/data
- UC Berkeley has a public list with compiled summaries of several funding programs that provide support for URM researchers. The list can be found here:
  - https://spo.berkeley.edu/fund/womenminority.html
- If you identify a URM graduate school candidate who is a good match for your lab but has less experience than is necessary for starting the PhD program, hire them as an RA. If you're not hiring, reach out to the applicant and offer to match them with a colleague in a similar research area who *is* hiring.
- We must make sure to introduce our URM trainees to potential collaborators/post-doc advisors EARLY. We can feature our trainees' names and photos in our talks, arrange

meetings for them at conferences, and set them up for their next steps starting year ONE.
- Advocate for free writing support in the form of writing workshops and/or tutors, which can support all students. Academic writing can pose a barrier to those who did not have access to this training in strong elementary, middle, and high school educations, or to those for whom English is not their first language.

Recruiting and supporting undergraduate student researchers:

You might have to beg students to join your lab. If that's the case, strategically creating a diverse lab community might be challenging. But many of us have more students ask to join our labs than we have space for. The easiest path is to hire the most enthusiastic person who sends you the most compelling email. You can be more proactive. Many students don't know how to send these emails and how to ask you to get engaged.
- Reach out to students you have a connection with (through teaching or other departmental positions) to ask if they are interested in trying out research. Have an open conversation with them and be willing to connect them with other faculty who do work they are interested in.
- Remember, inviting the first URM into your lab is asking a lot of them. Be mindful of this and check in regularly. When you start creating a space that truly embraces diversity, people will recruit friends and things will continue to improve.
- Talk to your white graduate and undergraduate students about the importance of diversity and equity. Sometimes graduate students are channels for recruiting undergrads into the lab. Have them be mindful and proactive in their recruitment, too.
- Set up online recruitment initiatives for URM undergraduate students to find lab placements. Take advantage of what we are learning now about the possibility of online mentoring and teaching.
- Make sure everyone in your lab is compensated for their time. Don't create a volunteer only summer research program. This restricts access and reinforces the status quo in which students who can afford not to work are given greater opportunity. Just because people will line up doesn't mean you should do it. INSTEAD, leverage all the funds you can find to support students in the summer and all year. If you can't find any funds, write grants (more on this below).
- There are **FULLY FUNDED** programs that match undergraduate URMs with labs and departments to do summer research internships. If your university participates in one of these, you don't have to build an internship from scratch; your interns will have a built in community. Some programs even include conferences and offer GRE prep classes.
  - E.g., Leadership Alliance Program
- There are also many department- or school-specific opportunities for you to join. Google "summer internships URM" + your institution to see whether there is an ongoing program with which you can affiliate.
  - E.g., LRDC Summer Undergraduate Research Program

- Both NSF and NIH offer supplements on existing grants that can be used to pay the stipends of undergraduate students (or graduate students or post-docs). Apply for these supplements:

  - Include an REU (Research Experiences for Undergraduates) Supplement when applying to NSF for funding
    - *REU SUPPLEMENT EXAMPLE "**Research Experiences for Undergraduates (REU) Supplement Request: (10 weeks, Years 1-3)** We are requesting an REU supplement in Years 1-3 to host and train <u>two</u> interns for 10 weeks. The purpose of these funds is to provide research opportunities for undergraduates from other universities/colleges with fewer resources. We will recruit students via the Institute for Broadening Participation (please see letter of support). Prospective interns will submit an unofficial transcript, a letter or recommendation, and a one page statement of research interests in order to apply. Psychology majors interested in pursuing research after graduating will be given priority and finalists will be interviewed via Skype. Interns will run participants in the laboratory or field, code data, contribute to study designs, design online survey experiments, conduct literature reviews, analyze data, and assist in interpretation of results. In addition, interns will attend weekly lab meetings and meet every other week with the PI. Though the PI has not previously had REU supplemental support, Professor X has mentored 12*

undergraduates for credit over the past four years: two of which were thesis advisees, and both of which were awarded departmental prizes for their research. Four of these students have gone on to pursue full time research assistant positions and graduate degrees."
- Apply for NIH Diversity Supplements (e.g., NIMHD)

Once undergraduates are in the lab:

- ○ Find out what URM (and all) undergraduate student researchers' goals are or support them in identifying goals, and match them with tasks and projects that support those goals. Transparency and tracking of goals and tasks might support matching and avoid potential biases around who wants to or is capable of working on different aspects of the project. In this context, also provide direct and explicit guidance about how different skills and experiences might translate into longer term goals (e.g., what faculty look for during graduate admissions; how different aspects of a project might translate into opportunities in the private or public sector)
- ○ Provide structured, regular professional development opportunities with faculty contact that demystify the hidden curriculum of academia.
- ○ Encourage them to attend and present their work at The Annual Biomedical Research Conference for Minority Scientists (ABRCMS)

Hiring and supporting lab staff (Post-Baccs & Post-Docs):
Most of us have the most control over this access point. As noted above, actively recruit broadly, and include a diversity statement in your job post.
- Read every application from every under-represented candidate (as far as you can tell from their materials - you often won't have complete knowledge).
- Interview every under-represented candidate that appears to approximate your lab's needs.
  - ○ Even if you don't hire that person, just making that initial connection with them can be valuable. If you don't hire them, offer advice for their other applications or try to connect them with friends who are hiring. Offer to talk again later when they are applying to grad school or for faculty jobs.
- Create a structured interview that asks the **same** questions of all finalists
- Create an evaluation matrix with candidates on one axis and attributes that qualify them for the job on the other. Then rate EACH candidate on EACH attribute. This helps to reduce post-hoc re-weighting of attributes to justify a "more comfortable" hire
  - ○ "We have known for decades that one reason decision-makers make suboptimal choices is because they apply attribute weights inconsistently across options in a choice set (Dawes & Corrigan, 1974). For example, one may recruit a male prospective graduate student with less research experience instead of a female graduate student with more research experience because even though research

experience is important, his higher GRE scores suddenly seem more diagnostic than his research experience (Norton et al., 2004). Our results indicate that structuring decision-makers' exposure to attribute information to decrease the error associated with inconsistent attribute weighting could help people make more equitable decisions (so long as they determined how they wanted to weigh different attributes consistently across candidates ahead of time)." Source: Chang & Cikara, 2018 - JPSP

- There are many funding opportunities for URM post-docs outside of the NSF/NIH channels. Apply to any relevant funding mechanisms!
  - https://www.minoritypostdoc.org/resources

Commit to diversity and integration in the classroom:

We don't have to teach diversity if we aren't diversity scholars. We shouldn't teach things we have no expertise in. Critically though, there are many ways we can enhance diversity and integration in our syllabus, teaching, and classroom.

- This article provides a helpful overview on inclusive teaching https://www.chronicle.com/interactives/20190719_inclusive_teaching
- Include a diversity statement in your syllabus
  - You can find an excellent resource with example text here
- Explain in the syllabus what office hours are for: that students *should* come see you to ask questions about the course content, related research, how to get involved in doing research, and so on. Some of us get to college not knowing what "office hours" are!
- Take an Inclusive Teaching workshop at your institution. There are likely many workshops and seminars available at your Education Center. Look one up and learn as much as you can about what you can do creating an inclusive classroom environment. Then do it.
- Find photos of the scientists we choose to cover in lecture. Putting them into our slides, forces us to confront the choices we make in how we represent the field to our students (Source: Sam Sommers)
- Examine the imagery in our courses. Is there racial and gender diversity in our visual imagery? These images communicate who is a part of and could be a part of science. Let's not show a bunch of white scientists and Black celebrities. Integrate scientists and business leaders of color in examples. Feature former students of color from your courses and what they are doing now relevant to this course topic (with their permission of course). In general, students love to see how they could apply the knowledge from this class in the future.

- Consider the content of our syllabi. Are we selecting readings from authors with diverse perspectives? Are we integrating content from people of color? Here is an example from a seminar on The Psychology of Racism and Race, but we can make this effort for EVERY subject matter. See resources above related to decolonizing your syllabus.
- Be knowledgeable about the researchers you're featuring in coursework and discuss why some of them are problematic, e.g., in
    - Social Psychology: Henri Tajfel, known for developing Social Identity Theory, was widely-known as a serial sexual harasser by his contemporaries
    - Statistics: When introducing the F-test, note Fisher's history of supporting eugenics and racist ideology
- We can make an effort to get to know students from under-represented backgrounds. We can make small talk before or after class. Email individual students to invite them to office hours or a lunch to talk about how things are going. **Many URM students don't realize how important it is to connect with multiple faculty until late in college** when they are struggling to figure out who will write their 2nd and 3rd recommendation letters. Let them know you're happy to discuss professional development questions beyond the scope of the course's content:
    - How you became interested in your research area
    - What was your path to becoming an academic?
    - How do you deal with negative feedback?

The following suggestions for inclusive syllabi are adapted from Scientists Promoting Equity And Knowledge at Duke (https://sites.duke.edu/speak/):

Textbooks

The high cost of textbooks is a particular pain point for many students, and can even keep some students from enrolling in certain courses. Many students are unaware that their textbooks may be available at the Libraries. Students say that they expect their instructors to tell them about the course's inclusion in library programs. Many universities allow instructors to put books on reserve at the library. Example syllabus excerpt:

Textbooks
Textbook(s) for this course are available for 3-hour checkouts at the Duke Libraries. Search and browse the Libraries' Top Textbooks program here: https://library.duke.edu/course-support/course-reserves/textbooks.

Lending textbooks

If you have additional copies of your textbook in your possession you are willing to lend to students for the semester and/or are willing to get creative in generating solutions with your students, consider this general invitation to ensure that course materials are affordable.

Example syllabus statement:

> **Affordability of Course Materials**
> I am committed to ensuring that this course is financially accessible to all students. Please reach out if you have concerns about the affordability of materials, and we will figure something out.

Office hours

Many first-year students are not aware of the purpose of office hours ([relevant NPR coverage](#)), which prevent them from attending office hours when they need help. Consider adding (some version of) the following to your syllabus (and/or showing them [this humorous video](#)):
Example syllabus note:

> **Office hours**
> Office hours provide an opportunity for you to meet individually (or in small groups) with me outside of class. This time can be used to receive help with or dive deeper into course material, ask for feedback or additional guidance on coursework, discuss broader career development questions, or just drop by for a chat.

To further reinforce this, some faculty have rebranded office hours as "student hours" or "drop-in hours."
Some students enter college with the impression that "extra help" is an indictment of their talent or ability. You can play a part in overcoming this mindset with framing language in your syllabus, such as:

> **Resources**
> Successful people access support when needed. Here are some great free resources available to you:
>
> - [Academic Resource Center](#) provides one-on-one learning consultations, peer tutoring and study groups, ADHD/LD coaching, and more to help students discover and develop their strategies for academic success at Duke.
> - [Counseling and Psychological Services](#) works to support student wellness through individual or group counseling
> - [Student Disability Access Office](#) makes sure students receive necessary services and accommodations
> - [Thompson Writing Program's Writing Studio](#) provides one-on-one appointments with expert writing consultants
> - If you're not sure who to contact for help, [DukeReach](#) works to connect folks at Duke with the resources they need

Acknowledge all the people who make our jobs possible:

Be respectful of all staff from administrative to custodial to the support staff like mail carriers that pass through your work space. It only takes a couple seconds to say, "Hi, how are you?" and "Thank you." Their jobs are hard and they are most likely underpaid. Our modeling of who matters will matter to our teams. Even better, support their unions (or efforts to unionize) and movements to improve their pay and working conditions.

Acknowledge, apologize, and make amends for our mistakes:

One consequence of living in a society in which racism is so deeply and systemically ingrained is that, no matter how hard we try, there might be times when we do things that are racist and/or perpetuate racism. When this happens, some important steps are to:
- acknowledge that, regardless of our intent, our behavior inflicted pain,
- apologize without equivocation for the hurt that we caused,
- thank the individuals who were brave enough to bring this to our attention, and
- make a commitment that we will do everything we can to:
    - correct the behavior,
    - work towards a better personal understanding of the issue that will help us individually not make the same mistake, and
    - if possible, develop institutional/group safeguards so that, if someone makes a similar error in the future, we are more likely to catch it and correct it before it can negatively impact others.

More great resources

[Check out the Society for the Improvement of Psychological Science's Diversity and Inclusion Hackathon Page](#)

[Creating a Diverse Pipeline of Researchers](#)

I'm a trainee (e.g., post-doc, graduate student, or post-bac)

As advanced trainees, sometimes we may not have much power or control over our local communities. Thus, in this critical career transition we should also be strategic about how we invest our time. This doesn't mean we don't invest in change, but it might mean we encourage our faculty and academic leaders to address these issues while we focus on getting a job.

For those of us who are white or in some other over-represented group, we can be more proactive and invest in these issues. For those of us who are are non-white, we are most likely already engaged even without noticing it. Activate your allies and call them in to distribute the labor.

Concrete ideas below for all aspects of our post-doc and graduate student positions. Note also that many of the resources above may be relevant to you, too!

Where to start

Assess yourself:
- What power do I have in my current lab or department? How can I strategically invest that power for increased diversity and integration?

Pre-commit:
- Pre-commit to increasing diversity and reshaping your environment at your next opportunity.

Get the conversation going
- Connect with advisors and faculty you trust and who value diversity & integration. Ask for a meeting to talk about resources that might be missing for under-represented post-docs and grad students and what is needed to change the situation.
- Brainstorm with them ways in which they could initiate and lead collective efforts to instantiate structural changes that foster diversity and integration within the department.
- Have conversations about diversity & integration with your PI, department chair, director of graduate students.

What to do

Sometimes as a trainee it is difficult to navigate which actions to take. Here are a few suggestions for action at different levels (institutional, departmental, lab):

Institutional-level actions

- Identify resources at your institution that would allow you to create communities. Are there existing institutional-level efforts to foster diversity and integration? Join those efforts and engage with students and faculty across departments, and collaborate with university leaders (e.g., Provost, Dean of Graduate School - See "Assess our Organizations") to plan university-wide programming on race and ethnicity for the university. (See here or here for example)
- Visit the university's Center for Diversity and Inclusion for additional resources and to get connected with like-minded colleagues. If there isn't already a center, figure out who has the power and influence to create such an initiative (reach out to your Grad School Reps, they will likely know!). Advocate for labeling such initiatives as a way to integrate diversity at all levels of power.
- Building networks with fellow trainees within your immediate academic circle (department/center/etc.) and extended academic circle (societies, nearby institutions, outside orgs and professional/academic societies)
- Leverage power through graduate student unions (if available), graduate student senates or other organized leadership, and undergraduate student organizations. Unions can serve to help protect students and postdocs from retaliation when reporting incidents of racism or discrimination. Unions can also help students steer the university towards more anti-racist and equitable policies. Although not all universities have graduate/postdoc unions, many do. Check out this list to find out if your school has one and alternatively talk to your peers about forming one: **https://tinyurl.com/academicunions**

Department-level actions

- Ask about talk series speaker selection. Suggest people to bring to campus. If you notice that a disproportionate amount of colloquium speakers are white, male (or both), reach out to faculty coordinating the colloquium series to consider intentionally having a diverse range of speakers. Even better yet, try to join as a student representative on the colloquium speaker committee (or any steering committee with authority).
- If the departmental website does not have a diversity statement, ask whether one could be added.
- Join a Diversity & Inclusion (D&I) committee if there is one in the department. If not, create one! And suggest that the committee be called a Diversity & Integration committee to deemphasize language that suggests overrepresented scholars are the default and gatekeepers to academia. If you are a non-POC and non-woman, diversity committees will still welcome the allyship (NOTE: if you are someone who identifies as white, make sure to spend more time listening and supporting URM perspectives than advising).
  - Questions to consider for those who identify as someone with privilege:
    - How can we use our privilege to elevate the voices from POC and URMS in our department?

- ■ How are we challenging insensitive or incorrect statements from peers who are also in positions of privilege?
  - ○ For those who are a part of a D&I committee, examine the scope and the vision of the committee.
    - ■ What are the tractable goals that the committee aims to accomplish?
    - ■ What can be done beyond outreach?
    - ■ Invite faculty leaders in your department to provide resources to create safe spaces for healthy dialogue and strategic increases of URMS across all levels of the academy (e.g., RAs, grad students, post-docs, faculty)
  - ○ What training or programming is offered at the departmental level?
    - ■ For those on a D&I committee, brainstorm which experts from within the community could speak to address issues of bias, racism, gender inclusivity, sexism, intersectionality, to name a few.
    - ■ Ask if the department chair would be willing to fund/support these kinds of training sessions and provide an honorarium when inviting outside speakers. NOTE: these training sessions should NOT be reactive; they should be framed as a way to provide resources to equip the department with tools to and approaches to D&I more generally across a wide range of areas and topics.
  - ○ Create a list of D&I resources in the university and distribute this to your department

Lab-level actions

- ● Ask PIs to consider:
  - ○ Having a diversity statement on the lab website
  - ○ Stating explicitly that they would encourage applications from URMS, POC, women, etc, in their job postings.
- ● Get involved in lab hiring and undergraduate student recruitment.
- ● If possible, conduct research on topics of intersectionality.
  - ○ Consider how research questions are affected by constructs like race, gender, socioeconomic status, immigration status, etc. Brainstorm with a supportive mentor who is interested in pursuing these topics.
- ● Mentor URM undergrads
  - ○ Recognize that it can feel infinitely more intimidating for undergraduate URM students to communicate directly with lab PI than with post-docs and grad students. Be a channel for them to voice their concerns and interests.
  - ○ Encourage "growth mindset" about "process" to emphasize development of talent instead of innate trait-like abilities. Research from Carol Dweck at Stanford University and Joshua Aronson at New York University shows that a "fixed mindset" sets people up for failure. It makes people think that when they are challenged or struggle that they just don't have what it takes (e.g., "I'm just bad at statistics"; "Maybe I'm not good at science"). These feelings are more intense in URM trainees who may already feel like outsiders.

- ○ Share information for how applicants can save money during the application process: https://alexisssmith.wordpress.com/2020/06/16/applying-to-grad-school-on-a-budget-and-navigating-the-process-a-saga/

Additional actions

- On our personal websites outwardly state our values towards diversity & integration
  - ○ E.g., Consider adding a statement or sentence about commitment to diversity in an "about me" section.
  - ○ This is especially powerful as a non-URM to signal solidarity as an ally who cares about diversity and integration. Note: Do not do this if it cannot be followed up with concrete actions.
  - ○ Example website diversity statement: "**We believe that our science is better with a diverse team. We embrace and encourage our lab members' differences in age, color, disability, ethnicity, family or marital status, gender identity or expression, language, national origin, ability, political affiliation, race, religion, sexual orientation, socio-economic status, veteran status, and other characteristics that make our lab members who they are.**"
- Cite URMS! Publications are the coin of the realm and recognition (read: number of citations) matters. Whose voices are you elevating or crediting in your work?
  - ○ Again, see related work from Bassett lab

APPENDIX: REFERENCES AND RESOURCES

Other resources for anti-racism in STEM
(again, see here, here, and here for more general anti-racism resources)

"Seeing Color," A Discussion of the Implications and Applications of Race in the Field of Neuroscience: https://www.frontiersin.org/articles/10.3389/fnhum.2019.00280/full

White Logic, White Methods: Racism and Methodology
https://www.amazon.com/White-Logic-Methods-Racism-Methodology/dp/0742542815
"This path-breaking volume should be required reading for every graduate student and scholar engaged in research on race and ethnicity. The contributors carefully dissect and uncover the myriad ways that white supremacy is supported by conventional practices employed by social scientists to collect, analyze, and frame data on race and racial inequalities. By offering a scathing critique of the ways that social science research remains complicit in white supremacy this volume will change the ways that sociologists conceptualize and carry out studies in the sociology of race and racism. -- France Winddance Twine, Professor of Sociology, University of California-Santa Barbara, *Deputy Editor, American Sociological Review"*
The current system prioritizes certain ways of knowing. If you want to support diversity in your lab, be open to different ways of knowing (qualitiative, quantitative, performance, etc.). Think about different ways of knowing, generating knowledge and sharing that knowledge.

"The White Space" (Primarily White Institutions/Universities being an example)
https://sociology.yale.edu/sites/default/files/pages_from_sre-11_rev5_printer_files.pdf

See **https://biaswatchneuro.com/** for discussions about gender representation, related resources, and sister sites.

Full statement on diversity from [NIH](#):

"Every facet of the United States scientific research enterprise—from basic laboratory research to clinical and translational research to policy formation–requires superior intellect, creativity and a wide range of skill sets and viewpoints. NIH's ability to help ensure that the nation remains a global leader in scientific discovery and innovation is dependent upon a pool of highly talented scientists from diverse backgrounds, particularly those from underrepresented groups, who will help to further NIH's mission.

Research shows that diverse teams working together and capitalizing on innovative ideas and distinct perspectives outperform homogenous teams. Scientists and trainees from diverse backgrounds and life experiences bring different perspectives, creativity, and individual enterprise to address complex scientific problems. There are many benefits that flow from a diverse NIH-supported scientific workforce, including: fostering scientific innovation, enhancing global competitiveness, contributing to robust learning environments, improving the quality of the researchers, advancing the likelihood that underserved or health disparity populations participate in, and benefit from health research, and enhancing public trust.

In spite of tremendous advancements in scientific research, information, educational and research opportunities are not equally available to all. NIH encourages institutions to diversify their student, postdoctorate and faculty populations to enhance the participation of individuals from groups identified as underrepresented in the biomedical, clinical, behavioral and social sciences, such as:

A. Individuals from racial and ethnic groups that have been shown by the NSF to be underrepresented in health-related sciences on a national basis (see data at http://www.nsf.gov/statistics/showpub.cfm?TopID=2&SubID=27) and the report Women, Minorities, and Persons with Disabilities in Science and Engineering). The following racial and ethnic groups have been shown to be underrepresented in biomedical research: Blacks or African Americans, Hispanics or Latinos, American Indians or Alaska Natives, Native Hawaiians and other Pacific Islanders. In addition, it is recognized that underrepresentation can vary from setting to setting; individuals from racial or ethnic groups that can be demonstrated convincingly to be underrepresented by the grantee institution should be encouraged to participate in this program. For more information on racial and ethnic categories and definitions, see NOT-OD-15-089.

B. Individuals with disabilities, who are defined as those with a physical or mental impairment that substantially limits one or more major life activities, as described in the Americans with Disabilities Act of 1990, as amended. See NSF data at http://www.nsf.gov/statistics/wmpd/2013/pdf/tab7-5_updated_2014_10.pdf.

C. Individuals from disadvantaged backgrounds, defined as:

1. Individuals who come from a family with an annual income below established low-income thresholds. These thresholds are based on family size, published by the

U.S. Bureau of the Census; adjusted annually for changes in the Consumer Price Index; and adjusted by the Secretary for use in all health professions programs. The Secretary periodically publishes these income levels at http://aspe.hhs.gov/poverty/index.shtml.

2. Individuals who come from an educational environment such as that found in certain rural or inner-city environments that has demonstrably and directly inhibited the individual from obtaining the knowledge, skills, and abilities necessary to develop and participate in a research career.

The disadvantaged background category (C1 and C2) refers to the financial and educational status of individuals while residing in the United States, and is only applicable to programs focused on high school and undergraduate candidates."