Notes from LZ discussion of AIP TEAM-UP report and combating racism in academia and society

Slides from the meeting:

https://docs.google.com/presentation/d/1GBMP2HfDu_kG9e5Q84Mo1zvraDQA-8jSnwkcbB0325w/edit?usp=sharing

What actions can individuals take?

https://www.shutdownstem.com/action
https://www.particlesforjustice.org/strike-details (sign the pledge on the main page)

5 highlights from a the report:

1. **Belonging:** Fostering a sense of belonging is essential for African American student persistence and success
2. **Physics Identity:** To persist, African American students must perceive themselves, and be perceived by others, as future physicists and astronomers
3. **Academic Support:** Effective teaching and a strengths-based approach to academic support are necessary for African American student retention and success
4. **Personal Support:** Many African American students need support to offset financial burdens and stress
5. **Leadership and Structures:** For sustainability, academic and disciplinary leaders must prioritize creating environments, policies, and structures that maximize African American student success

Summary of the discussions during the meeting

(These are not direct quotes, just summaries based on my (Kelly S.) interpretation of comments. Please feel free to edit/change them to better represent your points.)

Alvine: Physics identity (#2) is really important.

What is the right question to ask? Should we limit it to increasing the number of Bachelor's degrees in physics earned by African Americans? But this begs the question of what they will do with this degree. Should the question instead be how to increase the representation in academia overall? (but maybe an increase in the number of Bachelor's degrees will naturally lead to more representation).
Kim: These suggestions will also help make intro-level courses more inclusive, which can lead to higher representation in other STEM fields as well (many pre-med students have to take intro physics, for example). Making sure these intro courses don't "weed out" young students.

Cecilia: Many people choose their majors early, so we could also focus on high school students and even younger.
Greg: The report points out that there are many compounding disparities in K-12 education, housing inequities, etc. These problems in academia don't exist in a vacuum.
Micah: The report also provides a rubric for high school students who are interested in physics to assess the support available within a particular department, to be used when choosing a college.

Kim: Does the report discuss student study groups? Are there best practices for how to increase the inclusiveness of these groups?
Greg: Report doesn't address it directly, but does give statistics on how often students feel isolated in their departments.
Daniel: We fund grad students (as a TA role) to host study sessions specifically for underrepresented minorities.
Vetri: Link to paper discussing struggles of Black Women in physics, that highlights the effect of study groups.
Micah: Study groups work for a single class, but maybe for general belonging in a department it's more about faculty?
Cecilia: How can faculty be better trained to help/mentor underrepresented students? Because it can be a struggle.
Greg: Activism of lone faculty members is unsustainable (because it's hard and takes a lot of effort). The chapter on change management can help departments start to change everyone's thoughts and practices around these issues.
Kelly: Maybe we can make a list of resources for faculty to help learn these things?

Matthew: These issues are so persistent (examples going back decades showing these problems still exist). How do we make change permanent?
Greg: It's about changing our individual mindsets. It's our responsibility to educate ourselves - not just the responsibility of Black activists (who have been doing this for so long already)
Matthew: History of America taught in schools is white-washed. Look up the Cornerstone speech.
Aaron: Also the confederate states declarations of war specifically mention slavery.

Micah: Following up on Matthew's comment - how do we maintain momentum? How do we make sure we aren't reading the same report in 30 years? Particle for Justice focuses on taking actions, and making an action plan for how you are going to engage in these issues in your day-to-day life.
Peter: K-12 education is a huge problem, because a typical African American student receives pennies on the dollar for their education. We need to do more - vote, other political actions to increase education spending.
Greg: Make change in your communities - two sides to the coin. Our academic community, but also our physical community. Can change our patterns of spending, get involved in local politics, etc. Try to normalize these discussions to help them perpetuate.
Peter: GAANN fellowship (Institutes of Higher Education need to apply - not students)

Alvine: These issues come back because we rush to action. Think about how the implemented solutions will be sustainable. Try for consistent discussion on these issues.
Kim: Need to identify sustained sources of funding to support these initiatives, and if they don't exist, then push for them. DOE doesn't pay for/prioritize outreach (this is why other fields are seeing better outcomes, because their funding mechanisms pay for outreach). We should put pressure on National Labs and DOE to include that. Large bodies (like the UC system) really lead the way, and other institutions adopt those practices. Short term grants can be exhausting to re-apply for.

Greg: Can PIs come together and push for changes in funding mechanisms?
Dan M.: Large differences between NSF and DOE funding priorities. Maybe we can highlight this within the Snowmass process.

Micah & Greg: Report recommends large funds for helping w/ student debt and paying for college.
Kim: Geographic location can make a difference. Many degrees come out of HBCUs or smaller institutions in the South. Those places may not award PhDs, and may charge for Masters, so some students don't realize that you get paid to go to grad school in STEM. Could also look into federal work-study programs - nice since the government pays for half of it.
Cecilia: Smaller schools/departments really struggle with this due to more limited resources. Faculty have to pour tons of hours into applying for grants, and then they maybe don't get it. Also, your service work towards diversity doesn't count towards tenure, which is a huge problem. Institutions need to prioritize and incentivize this work.
Kevin: Many funding programs already exist, we just need to find and utilize them. EPSCoR is a good example - South Dakota has had some success at least (here's the DOE link)

Join the E&I committee! Anyone can join, no caps on how many people. This structure exists and we can leverage it to make change.
Cecilia: Structural change is important, but the change we can make as individuals should not be minimized. Take time to get to know people, go out of your way to help them.

Alvine: Yes, taking time for personal change and reflection is important. If you see racism, how will you react in the moment.
Kelly: Here's a prompt for this.
Asher: Practice before the situation comes up is very effective. Practice actually saying them out loud - in the shower, in the mirror, with a trusted friend.
What stops people from speaking up? Discomfort with these ideas in general, shock/surprise, worried about making a mistake.
Cecilia: We need to look at our opponents - they are very vocal! We should feel free to be as vocal and not be afraid to confront people.
Alvine: When we call people out, they can play the victim and make ME feel bad (did I misinterpret what they were trying to say?).
Greg & Micah: When you are called out, don't make it about your feelings and don't get defensive. Take time to reflect on what you said.
Kim: Concrete example on pregnant women. "I'm confused - why would you say that?", or "What do you mean?". Puts the burden on them to explain/examine what they are saying and why.
Peter: Can also make an "I" statement - make it about you instead of making it about their mistake.
Goal is to get people to reflect on their words/actions, and not make them defensive.

Greg: We should treat these reports on how to change our leadership structures like we would treat a report from Xenon about how they are changing the structure of their TPC. Need to make sure these discussions continue and are prioritized.

What can we do as individuals, but also what should we NOT do as individuals?
Alvine: Even though people come from places of genuine intention, our actions/words can have impacts we don't intend. Take time to reflect (or ask) before acting.

What role can LZ play?
Kim: We can make a standard slide to include in conference presentations. Don't necessarily need to SAY anything, but if you include a logo or language, you are letting people know where you stand and implicitly inviting people to come talk to you about it. An example would be including the BLM logo on title and conclusion slides.

What can individuals do?
Vetri: Press your universities and departments to ensure that social distancing is enforced by health officials and not by the police.
Kim: When cities started opening up, minorities were disproportionately arrested for social-distancing infractions.

Amy: Back to ugrad/grad admissions. College fees are punitive. How do we raise awareness for the fact that grad school is paid? How do we make networking opportunities more equitable for people at smaller schools (since there is a smaller network).
Kim: College fairs and active recruiting to those institutions.

Micah: A different way to rank schools is by their social mobility index
Hugh: Can also be active politically to push for tuition-free college.
Amy: Are there partnerships with smaller institutions?
Kim: Vanderbilt bridge program, APS bridge program. Enacting change as a faculty member: be on the admissions committee, new faculty committee, as well as individual actions. Grad applicants are self-selecting because they look at the website and wonder if they belong. So it's more than just admitting the right people - need to actively broaden the pool. Diversity committee now chaired by tenured white male instead of untenured women, and suddenly the committee's suggestions are taken seriously.
Rachel & Kim: Partner with other departments/campuses to increase opportunities for students in smaller departments.
Kim: Support NSBP conferences, events, etc.
Harry Nelson: perhaps improve LZ outreach to the native american community near SURF (discussing ideas to improve things locally and nation-wide)

Cecilia & Alvine: If you see police getting involved, check up on the person involved to ensure there is no foul play. Consider recording the event if you feel comfortable.

Shared resources:

Op-ed by female black astrophysics postdoc student
Diversity is a dangerous setup

Statistics on race & ethnicity for physicists in UK
UCSB is a HSI (Hispanic-serving institution)
National Society of Black Physicists

Fermilab has a history of outreach, including a high school spearheaded by Lederman

Highlights from Micah's reading of the AIP TEAM-UP report

On faculty support of prosocial interests from African American students (page 38):

It is important for physics faculty to understand that African American students' commitment to helping their communities affects their career choices. Faculty should validate these choices. Helping students identify the best time in their career progression to be more engaged in helping others will be important for their overall success. Too often, when they express these prosocial interests, students are dismissed outright as lacking commitment to the major or are perceived as less capable and not worthy of faculty time and investment. Rather than diminish their vision of how they want to give back to the community, departments must learn to augment and expand what it means to study physics for African American students. In the most effective departments we saw this done in multiple ways, including by inviting alumni of color back to speak with students and by frequent reference to the AIP Careers Toolbox (Appendix 10).

Links to information on Georgia State University, which has eliminated achievement gaps based on based on race, ethnicity, and income (page 41):

- https://success.gsu.edu/
- https://www.chronicle.com/article/Georgia-State-U-Made-Its/243514

On the scope of the problem (page 53):

Increasing the number of African American bachelor's degrees in physics is a challenge that cannot be met by individual champions acting in isolation; it cannot be achieved by the efforts of a few outstanding physics departments; and it cannot be accomplished without understanding the system of racism that suppresses equity in America. As for our role, we believe that physicists are, fundamentally, people who choose to analyze systems; who produce tools needed for change; and who love to solve problems, especially ones whose solutions advance our ability to solve still harder problems.

On change management, and how to approach it (page 55):

As physicists and astronomers, our first instincts in addressing any challenge may be to identify the components and their interactions, create a model, find the governing equations and the requisite initial data, and iteratively solve to find the inputs needed to produce the desired output. Adapting this approach to the social problem of underrepresentation might look like this:

a vision is set, a strategic plan is created, recommendations are pursued, the results are assessed, and the system is iteratively modified for optimal success.

Sadly, this approach has not worked in the past for African American students, and we do not expect it to work now. As department chairs and other academic leaders quickly learn, things rarely work out in such a linear fashion when it comes to changing behaviors and outcomes. Assuming that they will do so often leads to frustration and disappointment (Dobbin and Kalev 2016).

Following this realization, one's inclination may be to give up, under the assumption that the problem is either too difficult to solve or not worth our efforts. This conclusion is equally flawed. A better approach is to examine the literature on institutional change, identify successful change efforts of similar scope and nature, learn from the experience of the changemakers, and pursue similar strategies. Fortunately, much of the groundwork has been set by sociologists who study organizational change in higher education. A recent comprehensive report on STEM in higher education (NAS 2016) devotes a full chapter to this topic, including the physics community's SPIN-UP report and process as an example of a successful change effort (Hilborn 2012). Other examples are given by education researchers (Elrod and Kezar 2016, 2017; Vinkenburg 2017). (And then the rest of the section)

On what makes a department successful in effecting change to their cultures (page 57):

In line with this, our site visits identified two features of the most successful physics departments that are also highlighted in the change literature (e.g., Elrod and Kezar 2016) and that seem even more important when working across the multiple levels of working across the multiscale system referenced earlier. The first is sensemaking, which is a learning process of creating meaning around concepts and ideas through a variety of social inputs including dialogue with others. An example is extracting understanding from a departmental climate survey. In reviewing the summary responses, a White faculty member, for example, can become sensitized to the marginalization of students of color. Merely seeing the survey numbers, however, is insufficient; the faculty member learns from research, from reflecting on their own experience, and from discussion with others, all of which may happen at a facilitated departmental discussion. This sensemaking leads to a newfound awareness, which may cause a faculty member to change his or her behavior toward students of color. Many diversity, equity, and inclusion efforts fail because stakeholders do not have a common understanding of or vision for the change. Sensemaking is a key element of social cognition theories of change; research shows that it is essential for second-order change (Kezar 2014). The best-performing departments for African American students regularly practice sensemaking to achieve a shared vision and understanding.

The second feature of the most successful departments concerns who leads change. Organizational change is often viewed as being driven by leadership, usually top-down but

sometimes bottom-up. Rarely is one direction sufficient to create second-order change. Simplistic management practice assumes that the top leader of an organization can drive change. This usually does not work in higher education because of the power of individual faculty members over what happens in the classroom, the research lab, and the search committee. The same decentralized organizational structure that supports academic freedom precludes management from enacting change by decree. **Bottom-up leadership from faculty, staff, and students is critical because without it, top leadership lacks a full understanding of the concerns of the people who can drive change at the local level, being too far removed from the classroom and daily interactions among students and faculty. Bottom-up change initiatives also provide a natural accountability mechanism for any change effort.**