

Top: Anjali Nambrath '20 *Physics/Mathematics*, president of the Society of Physics Students.

Right: Stella Schindler, a rising third-year CTP graduate student and president of the Physics Graduate Student Council.

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# Particles for Justice: Strike for Black Lives

By Sandi Miller

**I**N THE WAKE of the May 25, 2020, death of George Floyd by a White police officer, the Physics Department began sharing personal stories, departmental statements of grief and anger, moments of silence, and hosted discussions on behalf of Black lives. On June 10, 2020, many members of the Department set aside the day to reflect on the Black Lives Matter movement.

#ShutDownAcademia and #ShutDownSTEM, initiatives from a coalition of STEM professionals and academics taking action for Black lives, inspired the international physics group Particles for Justice to propose the Strike for Black Lives on June 10, 2020. The idea was for non-Black STEM researchers to spend the day discussing systemic racism and ways to combat anti-Black racism in academia.

The Strike's co-organizers included MIT physics faculty Tracy Slatyer, Associate Professor of Physics, and Assistant Professor of Physics Daniel Harlow, as well as a Black physicist who originated the idea, Chanda Prescod-Weinstein, a former Center for Theoretical Physics (CTP) postdoc.

"It was nice to see that about 15 people sitting at home could create something like that in the span of basically a week," says Harlow.

Department Head Peter Fisher encouraged all Physics students, postdocs, staff and faculty to join in, and the idea spread to other School of Science



From left: Physics faculty co-organizers Tracy Slatyer, Associate Professor of Physics, and Daniel Harlow, Assistant Professor of Physics

departments, as well as to the School of Engineering. Around the world, the strike was also recognized in academia, conferences, and professional societies such as the American Physical Society, journals and the *arxiv*.

“Those of us who are Black academics should take the day to do whatever nourishes their hearts, whether that’s protesting, organizing or watching *Astronomy Club*,” Fisher wrote in an email to the Physics community.

During the morning and afternoon of June 10th, individual Physics divisions and labs hosted video meetings to educate themselves and propose short- and long-term goals. At the end of the day, the Department welcomed students for a discussion on next steps.

## The Center for Theoretical Physics (CTP)

At the CTP, division head Iain Stewart’s committee of graduate students, postdocs and faculty quickly assembled a curriculum to educate its community about racism. Discussions included learning about the history and struggles of Black CTP students, postdocs and faculty at MIT. In the afternoon, participants brainstormed online within breakout rooms, and in the evening, the CTP screened the documentary, *I Am Not Your Negro*.

It was “an important on-ramp for those who might never have engaged in conversations about race, equity and justice before,” says Stella Schindler, a rising third-year CTP graduate student and president of the Physics Graduate Student Council.

“These challenging conversations were only a much-needed first step on what will be a long and difficult road towards meaningful and lasting change,” said Schindler. “None of us are experts in the historical or ongoing anti-Black racism and systemic discrimination rampant in society. Nevertheless, it is imperative that we continuously work to educate ourselves and have these tough conversations.”

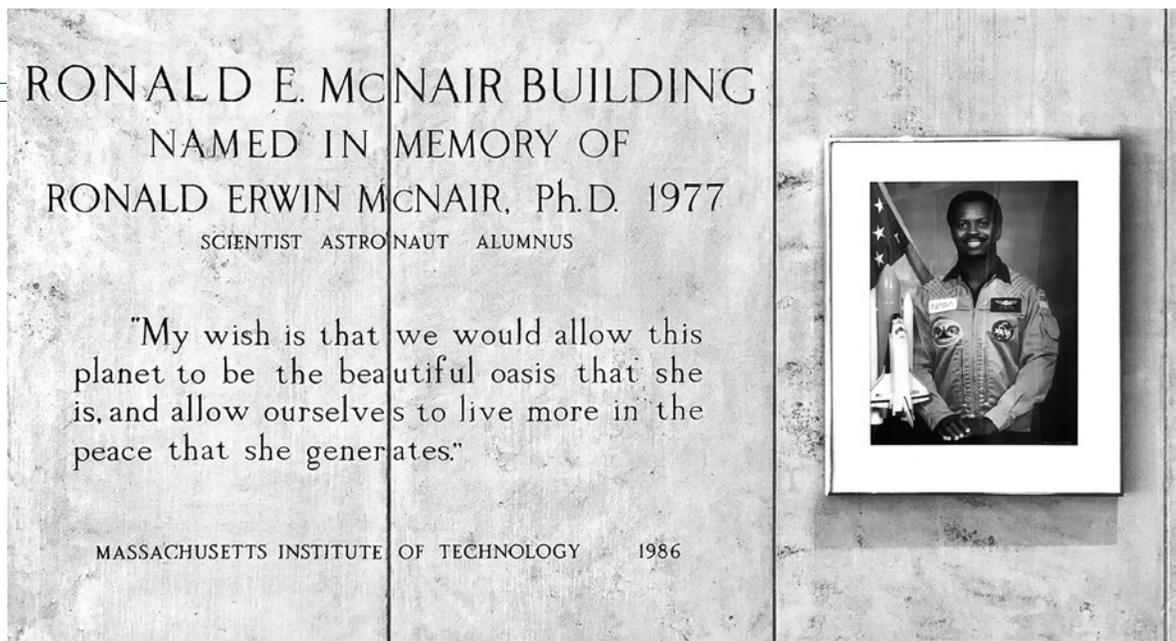
Of course, being physicists, Slatyer noted that some discussions involved the question of default assumptions / the null hypothesis when testing for instances of racism, in comparison to how new particles are discovered:

“Sometimes conversations seem to start from the perspective that by default we should assume no racism is present, and that in order to claim the presence of racism, we must exhaustively test and exclude all alternative hypotheses at high significance. But this is an absurd default, given the enormous body of evidence (both quantitative and testimonial) that systemic racism is pervasive in our society—we need to start from the baseline understanding that anti-Blackness is broadly present and has an often-devastating negative impact on our Black colleagues.”

The CTP created ground rules for its discussions, including avoiding devil’s advocate opinions, avoiding talking over one another, and a promise to not share personal stories outside of the group.

By the end of the day, a long list of ideas was consolidated into a nine-page document, which in turn was broken down into short-term actionable items, longer-term ideas requiring more discussion, and Department-wide plans. Short-term ideas included:

- The launch of a graduate student-led CTP Anti-Racism Reading Club.
- A faculty equity/diversity officer will ensure all candidates known to be URM (underrepresented minorities) will get two reads. The next post-doc search committee will also employ anti-bias strategies already used in faculty searches, Pappalardo fellowships competitions and graduate student admissions.
- Funding sources will be identified for CTP postdocs, students and faculty to attend physics conferences that serve underrepresented groups, such as the annual meeting of the National Society of Black Physicists.
- A web page was proposed with outreach/DEI (diversity, equity and inclusion) opportunities for CTP members, and a secure CTP web page to list faculty outreach/DEI work.
- Future CTP email reports will focus on “suspicious activity” rather than “suspicious people” to avoid stereotyping.
- For seminars in the CTP, starting with that Friday’s LHC/BSM/DM/QCD journal club, a code of conduct will be created to deal with microaggressions and other unsuitable behavior.
- Productive visits for invited URM physicists will be organized; for example, seminar organizers will connect the visitor with CTP people working on relevant topics.



The Ronald McNair building, named after Black astronaut Ronald McNair PhD '76, who died in the 1986 Challenger disaster. It is the home base for the MIT Kavli Center for Astrophysics and Space Research.

## The MIT Kavli Institute for Astrophysics and Space Research (MKI)

At the MIT Kavli Institute for Astrophysics and Space Research, Astrophysics Division Head Prof. Scott Hughes and MIT Kavli Director Prof. Rob Simcoe hosted an online town hall, which drew about 105 participants.

Graduate student Halston Lim shared research on demographics, and how previous initiatives failed to attract more underrepresented scholars. A faculty member “went back five or ten years, and said that we had not made a single offer to a Black student,” said Nergis Mavalvala, Curtis and Kathleen Marble Professor of Astrophysics and Associate Department Head. “We do not need to collect more data. We know what the problem is. We need to implement more solutions.”

Attendees were split into breakout rooms to discuss whether MKI provides support to URM scholars, and what specific changes should be made. Those answers will be fed to an MKI and MIT Astrophysics task force to address systemic racism, says Hughes.

One immediate change is to refer to MKI’s Building 37 by its name, the McNair Building, rather than by its number. The building was named after Black astronaut Ronald McNair PhD ’76, who died in the 1986 Challenger disaster. “This Black scholar’s impact at MIT should not be replaced with a number,” said Hughes. “He deserves to be named at least as often as Ray Stata is named when people discuss Building 32.”

Hughes says he and Simcoe are focused on maintaining momentum, especially with much of MIT’s attention focused on reopening campus and

implementing Covid-19 measures. “Though we are energized, I am cognizant that there are many demands that will consume this energy.”

## The Laboratory for Nuclear Science (LNS) and Physics Headquarters

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The Laboratory for Nuclear Science participants started their day by discussing hiring and mentoring policies to attract and support more Black students, postdocs, faculty, engineers and staff. LNS graduate students also proposed ideas towards better recruitment and improvements to the activities at the laboratory. “Within the next month, LNS will hold a lab-wide conversation about the specific implementation of the ideas developed during these discussions,” said LNS Director Boleslaw Wyslouch.

At the end of the day, about 50 physics students attended the Department’s weekly open-office hours session for students, which was repurposed for the Strike discussions. It was hosted by Peter Fisher, Nergis Mavalvala, and Physics Academic Programs Office staff Sydney Miller, Emma Dunn and Cathy Modica.

“It was actually extremely thoughtful that the questions started out being about the admissions process, because that means the students focused on what the Department could do to affect the prospects,” said Modica. “We all know there aren’t enough people of color in the field of physics, but they came up with what we could actually tangibly do to attract more students of color to the field.”

For example, they discussed ways to boost the pipeline so Black high school students would consider a career as a physics scholar and consider MIT as an attainable school. “There was a lot of concern about the obstacles—some of which are very subtle—as they go along each step of the academic journey, [such as] the language we use on our grad applications and on our website,” says Modica.

Some proposals that could be done fairly quickly were rewriting application materials for inclusive language, dropping the GRE requirement because such tests are often written for white audiences, providing application fee waivers to students from historically Black colleges and universities, and inviting graduate students into the admissions process. Many agreed that the Department could engage and support its Black students in the first-year physics classes, as well.

The Department also promised to look into the “invisible labor” of Black faculty, postdocs, and teaching assistants working with students wishing for advisors and mentors who look like them. “They take on an uneven amount of service and support,” says Modica. “Are there ways to mitigate that or, perhaps even better, to give them substantial benefits?”

However, student requests for improvements in academic advising and higher ratios of Black faculty will take years to change. “Students sometimes don’t realize that systems have a lot of complicated moving parts and are connected to a lot of other complicated moving parts,” says Modica.

“I actually think of the energy students bring to this particular moment in time, and long, long overdue changes being discussed,” says Mavalvala. “I think of this as a place to use this sort of student energy, to let them be ambassadors, to go raise awareness in communities of young people, school kids, who can’t even begin to think of being at a place like MIT.”

“It was clear from that discussion how far the Department still has to go,” said Anjali Nambrath, a senior majoring in physics and mathematics who is the president of the Society of Physics Students (SPS). “Hearing perspectives from undergraduate and graduate students on wide-ranging issues about the current climate in the Department was incredibly powerful and informative.”

Inspired by the Strike discussions, the SPS created a “Steps Toward Diversity and Inclusion” document, which includes:

- Improving academic advising and expanding mentorship structures, especially for underrepresented minority (URM) students.
- Developing mentorship trainings and guidelines for TAs (teaching assistants) and instructors, and increasing support for struggling students.
- Gathering data on URM student retention rate, and partnering with the OME, GECD, and other MIT offices on events.
- Conducting outreach for K-12 students in the Boston area, recruiting HBCU (historically Black colleges and universities) students, and promoting physics to MIT undergraduates.
- Boosting community for URM individuals in the Department (creating a group for Black physicists, LGBTQ+ physicists, etc.)
- Increasing support for students doing physics UROPs and helping students navigate the grad school application process.

“Based on our own experiences and these discussions, we understood that there are massive gaps in how the Department currently addresses recruitment and retention of URM students, advising and mentorship, and undergraduate teaching and research,” says Nambrath. “There’s a long way to go before the culture in the Department is one that truly embraces and welcomes diversity, and gives all students an equal opportunity to excel. It was heartening to see the Department commit to a public meeting to reflect on climate, culture and racial bias at MIT. There seems to be a real willingness to have these hard

conversations, and that's borne out by the fact that many labs canceled meetings and that the Department's divisions held serious hours-long discussions."

Schindler added that on the graduate student level, more efforts will be made to encourage a more just, equitable, diverse and inclusive department for current and future students of every background. "We're at a pivotal moment in history, a moment that requires us to pull together in solidarity and stand up for what is right, even when times are hard," says Schindler. "I'm excited to see our Department rising to the challenge."

"There is much to do," wrote Fisher, in an email to the community. "Physics Council, the Physics Values Committee, our student groups, faculty and staff will work to improve our efforts to support our under-represented minority colleagues, and I will personally push the MIT administration to work more to help us support you." He added, "We can only work, as a priority, to treat each other with kindness and decency while we make the decisions and do the hard work."

Slatyer and Harlow will also remind the White community to take on the burden for addressing systemic racism at MIT. "It will be very important for us to listen to our Black students and colleagues in the coming months, without inflicting an undue burden on them in terms of committees and so on, to make sure that changes that are implemented have their support," says Harlow. "One place to start is the 2015 policy recommendations of the BSU (Black Student Union) and BSGA (Black Graduate Student Association)."

Slatyer added, "Overall, this is a marathon, not a sprint. I was pleasantly surprised at the level of participation—and we need to make sure that people have ways to get and stay involved in anti-racism efforts going forward."

*For articles and books recommended for further reading, please visit the Physics Values Committee's Anti-Racism Educational and Self-Care Resources web page at [physvals.mit.edu/anti-racism-educational-and-self-care-resources](https://physvals.mit.edu/anti-racism-educational-and-self-care-resources).*