

Physics Departmental Action Plan

Academic Year 2020-2021

The Princeton University Department of Physics is committed to supporting diversity and inclusivity within our own community and to creating an environment where everyone, regardless of their identity, feels valued, safe and empowered to be successful. Following a town hall event on June 10, the department created the Equity, Diversity, and Inclusion (EDI) Initiative with the purpose of implementing immediate concrete actions and improvements towards attaining these goals. The initiative consists of an Advisory Board, as well as six different working groups tasked with creating programs and implementing concrete steps that support and address the needs of marginalized physicists and students. The EDI activities are fully supported as an integral part of the department, and are complemented by policy changes and steps that will ensure that the contributions of the working groups lead to permanent improvements. This document gives an overview of department policies and EDI activities taking place during the 2020-2021 academic year. The action plan will be updated each year and made available to all members of the department.

Organization of the Physics EDI Initiative

The EDI Initiative consists of six working groups, each with a designated coordinator. The working groups are tasked with developing concrete initiatives in the following areas:

- Undergraduate mentoring and recruiting
- Graduate mentoring and recruiting
- Broader outreach
- Communications and social media
- Speakers and activities
- Data gathering

The working groups identify new initiatives, organize activities and can make recommendations about improvements in department policies. These working groups resemble the Departmental Action Teams that have been shown to produce effective change in STEM departments.¹ The activities of the working groups are supervised by the EDI Advisory Board, which is represented by one member from each group in the department (faculty, staff, lecturers, postdocs, graduate and undergraduate students). The Advisory Board has two coordinators, one of which is a tenured faculty member. The current EDI faculty coordinator is Prof. Mariangela Lisanti. The

¹ Quan, G. *et al.*, "Designing for institutional transformation: Six principles for department-level interventions," PRPER **15**, 010141 (2019).

American Physical Society, American Association of Physics Teachers, and the American Association for the Advancement of Science each have initiatives that provide guidelines for best practices for EDI work. Members of the Advisory Board, as well as the department at large, are engaged in these efforts, and the work of the EDI Initiative is informed by these recommendations.

The working groups and Advisory Board each have regular meetings, and come together periodically for “All Hands” meetings. When appropriate, the Initiative also schedules Town Halls with the broader departmental community to solicit feedback and recommendations.

The following describes ongoing and planned EDI projects for this academic year. The projects are subdivided into categories pertaining to: undergraduate students, graduate students, postdoctoral fellows, faculty and visiting scholars, department climate and events, communications and social media, and broader outreach.

I. Undergraduate Students

- A. Every year, the department welcomes a new cohort of physics concentrators, who form an integral part of our community. Our students herald from diverse backgrounds all over the world, and the department considers it its mission to welcome everyone and to provide them with the tools they will need to succeed in their future endeavors.
- B. We are committed to establishing support systems for our students---especially during the time of covid19. The Princeton Society of Physics Students and the Undergraduate Women in Physics groups play an essential role in this. The department strongly values their contributions and will continue supporting their efforts. Additionally, we are instituting new programs, such as a “buddy” system for incoming freshmen to meet and interact with upperclassmen. We have also expanded our peer-tutoring program to cover the introductory courses (PHY 105/106) in addition to more advanced courses.
- C. We are developing a series of career advice and mentorship workshops for our undergraduates. These include “Welcome to Physics!” events for the freshmen as well as a forum on how to apply to graduate school. We also plan to facilitate interactions between undergraduates and graduate students/postdoctoral fellows, so that our younger students can learn more about specific research areas.
- D. We are encouraging faculty members to advertise the department policy on student conduct in their syllabi, and to uphold these policies in their classes. This

policy is designed to ensure that all students feel welcome to actively participate in the classroom.

- E. The department recognizes that research opportunities can be formative experiences for undergraduates as they develop their career goals. The department currently encourages students to get involved in summer research projects and helps to support such efforts financially. However, we recognize that this process can sometimes feel overwhelming for students. Moving forward, we will explore ways to further simplify the process of securing research opportunities in the department.

II. Graduate Students

- A. The physics department has been strongly committed to increasing the representation of women and other underrepresented minorities on our graduate student body, and has seen steady improvements in the numbers over the years. We dedicate ourselves to continuing along this path and ensuring that we do the utmost to recruit and retain an exceptional and diverse graduate class. Towards this end, we will redesign the graduate admissions page on the physics department website to make the application process more transparent. We will also continue our tradition of having graduate student representation on the selection committee.
- B. In the Communicating Physics course that has been designed for our first-year graduate students, we are dedicating one class to “inclusive communication” to prepare our students for healthy and productive discourse in their research collaborations as well as their teaching.
- C. We have instituted a “buddy system” where first-year students are paired with older graduate students for mentorship and informal advising.
- D. We have organized an Ambassador Program in which representatives from the physics department will give presentations about the Princeton graduate program at HBCUs and other minority-serving institutions. Our hope is that these events will help clarify the application process for students, and encourage them to apply. We will work together with the Princeton Graduate School to make contacts at these institutions. Additionally, our ambassadors have made new connections with departments in five different geographic regions of the country.

- E. We are organizing students and faculty to represent the department at the NSBP and SACNAS conferences, the Ivy+ Puerto Rico Recruiting Fair, and other relevant meetings.
- F. We will continue participating in the Princeton Prospective PhD Preview (P3), a University-wide program that provides information on the Princeton graduate program to interested students, especially those from historically underrepresented groups. We will also consider the benefits of supplementing the P3 events with a dedicated physics program, which would carry the benefit of increasing the number of physics students we can target through the program.
- G. Due to the unprecedented situation of covid19 and the financial hardship that many families are enduring, the physics department has made the General and Physics Subject exams optional for the 2020/2021 application season. The department will use the opportunity to better evaluate the impact of the GRE on the general admissions process.

III. Postdoctoral Fellows

- A. The department has a vibrant group of postdoctoral fellows with expertise spanning across physics subfields. Each year, we seek to recruit the top talent to these positions. The fellows affiliated with the Physics Department include the Princeton Center for Theoretical Science, Dicke, and Gravity Initiative fellows. We remain committed to advertising these positions broadly, including through minority-focused sites and publications, and to encouraging applications from women and other underrepresented groups.
- B. In collaboration with other physics-adjacent departments and institutes across campus, we are establishing a new Future Faculty in the Physical Sciences (FFPS) Fellowship. The FFPS fellows will be selected for their excellence in research as well as their promise---either through their own unique background or through demonstrated commitment---to improving the representation of under-represented groups in the physical sciences. We plan to select the first FFPS fellows this year, and will continue working to ensure the longevity of the program.
- C. We believe in the importance of creating a welcoming and supportive environment for all our postdoctoral fellows. Towards this end, we plan to institute more departmental activities throughout the academic year for postdocs to interact with each other as well as with faculty. We are also working to make more mentorship and career advising opportunities available to our postdocs, as

well as improving interdepartmental feedback opportunities (*i.e.*, entry/exit interviews). As a first step, we have worked towards improving the central postdoctoral email listserv, and have created an informal slack channel which has led to some informal postdoc events. We want to build a stronger community for the Dicke and other Fellowships, for example through a beginning- and end-of-year dinner event.

IV. Faculty and Visiting Scholars

- A. The department will be searching for a tenure-track assistant professor, to start in September 2021. As always, our goal is to seek exceptional candidates with strong research backgrounds, taking special care to identify women and other underrepresented minorities in the process. This year, we will supplement our standard practices by doing the following:
 1. Requesting that applicants comment on their “specific plans and goals for advancing equity and inclusion if hired as a Princeton faculty member,” as now stated in the job application.
 2. Reviewing the best practices in faculty search hiring recommended by the Office of the Provost (Institutional Equity and Diversity) to ensure fairness and equity in the evaluation of applications.
- B. The department has nominated a candidate for the Presidential Visiting Scholar program, which supports sabbaticals at Princeton by academics from traditionally underrepresented backgrounds.
- C. As part of the University-wide effort to combat systemic racism, President Eisgruber recently announced a plan to increase the number of faculty members from underrepresented groups by 50% over the next five years. Noting that cluster hiring has been shown to be an effective tool in diversifying representation,² we will discuss ways of streamlining interdisciplinary hires across departments, including Astrophysics, Geosciences, and the Lewis-Sigler Institute.

2

<https://www.insidehighered.com/news/2015/05/01/new-report-says-cluster-hiring-can-lead-increased-faculty-diversity>

V. Department Climate & Events

- A. We will continue to ensure a diversity of speakers in our colloquium invitations and invited lecturers. In collaboration with the Department of Astrophysics, we are organizing a series of talks (3-4 per semester) related to ways of improving equity, diversity, and inclusion in the physical sciences.
- B. We will create a “Faculty Profile” series that will be advertised in the departmental newsletters and on the webpage. The purpose of these interviews is to help make the faculty more accessible to our students.
- C. We will design and administer a climate survey to gather feedback from all members of the physics department. The survey is being designed with guidance from the Princeton Survey Research Center, and other resources, and will be administered in Spring 2021. The results of the survey will help inform our activities and goals for the 2021-2022 academic year. By repeating the survey on a yearly basis, we hope to establish quantitative metrics on the success of our EDI initiatives.
- D. We will continue diversifying the iconography in the department. Several new portraits and images have been hung over the last six months, which honor the department’s first black Ph.D. student (Sekazi Mtingwa) as well as the contributions of women in physics. Moving forward, we plan to continue updating the department paintings and portraits, focusing specifically on high-traffic areas where students gather to work.
- E. We have created a virtual “Comment Box” on the department website for anonymous feedback from students, faculty, or staff. The Comment Box was advertised to all department members and will be regularly monitored by the EDI Advisory Board.
- F. We will organize special department-wide virtual social events for postdoctoral fellows, graduate students, and undergraduate students.
- G. The department is tremendously grateful for the hard work that our students, staff and faculty are devoting to EDI causes. Moving forward, we plan to give yearly awards to recognize those who have made a significant contribution to improving the department culture.

VI. Communications and Social Media

- A. The department recognizes the importance of keeping all students, faculty and staff well-informed of departmental events. Our goal is to broadly advertise all events to promote inclusion. We will also highlight these activities on the department's Facebook and Twitter accounts, and publish an EDI newsletter summarizing the group's activities.
- B. We will continue to develop and maintain our new EDI page on the physics department website. The page will always advertise upcoming events, the link to our virtual "Comment Box" and other resources.
- C. The department will hire a new University Administrative Fellow, who will help with the communications and social media strategy for the EDI Initiative.

VII. Broader Outreach

- A. Our community is dedicated to supporting physics outreach events beyond the University. We will explore and enhance links to existing outreach programs, and are in communication with other science departments about coordinating the outreach activities across departments. We plan to advertise volunteer opportunities already available through PUPP, PUMA, POTN, PPPL, PACE, and ProCES. Additionally, we will develop and foster connections with the local community and schools, offering volunteer-based services. This year, we plan to prepare a "Life as a physicist" video for local schools, and will also help local high school teachers develop course materials such as lab demos. We are exploring the possibility of creating a Physics REU program, which we hope will attract a diverse group of participants.
- B. We will develop and expand the "Broader Outreach" section of the department website. The site will advertise outreach opportunities for our students, staff, and faculty to get involved in, providing the necessary links and contact information. Additionally, it will host videos of physics demos that the general public can access and download.