2/05/2021

Physics DEI Committee: Meeting Minutes

Agenda: Discussion Topics

1) Introduction - All **(5 mins)**
2) Approve previous minutes (1/22) - All **(5 mins)**
3) Announcements & Matters Arising **(5-10 mins)**
    a) Wellness Survey distributed to physics students this week
    b) Review subcommittee webpage statements and make edits outside of meeting
4) Debrief on Special Colloquium Event (All) **(15-20 mins)**
    a) Event well attend: talk had 101 participants, discussion session had 60
    b) Presentation uploaded to the website
    c) General feedback on the event
    d) Discuss if past event that outlining current admissions process was helpful
5) Discussion about collaboration with Howard (All) **(15-20 mins)**
    a) Update from DEI GSSA and DEI Student Assistant about meeting with Kim Lewis, Associate Dean at Howard University
    b) Outline recommended ways to collaborate with Howard's Physics Department
    c) Seek feedback from whole committee on next steps
6) Breakout sessions if time permits (All) **(0-15 mins)**

Meeting Minutes

Attendance

Present: Jennifer Ogilvie (chair), Rachel Owen (DEI GSSA), David Gerdes, Vanessa Sih, Leo Pando Zayas, Roy Clarke, Cagliyan Kurdak, Ana Austin, Johnathon Jordan, Kevin Zvonarek, Anwesha Saha, Marina David, Monique Wheeler, Shailaja Humane, Emily Crabtree, Liam Blanchard, Nora Sherman

Absent: Ashlee Wolff, Emery Trott, Laura Zichi, Yin Min Goh, Bing Zhou, Chris Meiners, Karen O'Donovan

Summary of Minutes

- Introductions
- Previous minutes approved with no changes
- Announcements, Feedback, and Matters Arising
    - Wellness survey along with wellness resources were sent out to both undergraduates and graduate students by SSO. Waiting for feedback from students, there is no closing date for the survey.
    - Announcement for subcommittee members to review website statements. The statements will be posted the following week.
    - Astronomy department asked if DEI Committee would be interested in joint viewing of "Picture of a scientist." There was general interest from the group, however there were several logistical concerns (see full notes below).
- Debrief on Special Colloquium Event: The Committee reviewed the talking points about the Applied Physics program and how some of those aspects could be transferred to the Physics program. General discussion focused on current qualifying and preliminary exam formatting. The Research Subcommittee has accepted the task of researching and developing improved assessment methods and will provide a recommendation based on findings (see full notes below).
- Discussion about collaboration with Howard: The Committee discussed ways on building a collaboration with Howard. Recommendations included inviting speakers for colloquium/special seminars, connecting with current contacts, joint mini-courses, and helping with their clean room development for future research collaborations (see details below).

Detailed Minutes

Picture of a Scientist:

JO: The Astronomy DEI Committee is interested in joint viewing of "Picture of a scientist". The shared cost is $150.

AA: Asked if the invitation should be extended to include the Saturday Morning Physics email list for people outside the department who might be interested. This would not occur during a SMP event.

DG: Have heard very positive reviews of the film and the SLC is said to be hosting a screening in March (TBA). If the department were to host our own screening, there are some parts that can be distressing and it is recommended that support be provided during

a screening. SAPAC is a resources on campus in which to find a moderator and support. Recommended that due to the sensitivity of the film that the viewing remains “in house.”

CA: Based on website, there is a 72 hour window to view the movie based on an RSVP list. Mentioned this might be difficult to plan a designated screening.

JO: Will ask astronomy what they envisioned for the joint session and will report back at the next meeting.

Debrief on Special Colloquium:

JO: Received feedback from other departments. The colloquium was very well received and well attended.

RO: Mentioned that her take on the Physics GRE, which was mostly indifferent, was different from the typical narrative.

JO: Confirmed that she believed there was not enough evidence to make a claim either way about the GRE and mentioned that we can follow-up with her on the topic.

DG: Mentioned that there is a fair amount of studies on the topic, so it would be good to look into this further.

JO: Mentioned that Julie Posselt featured the Applied Physics (AP) program in a great light. Questioned how to scale up this model for larger departments. Pointed out that a “sense of family” is difficult to obtain in a larger group.

CK: Julie Posselt had a different view on the AP program that he didn’t notice in the past and found the talk enlightening. In response to JO’s question: Some aspects of the program can be extended, however, certain aspects would pose logistical difficulties. One example being the oral qualifying exams as this would require much more resources.

JO: Questioned whether it was the oral aspect of the exam or the preparation were key to having the AP qualifying exam be successful. Mentioned that being able to work together is often where students learn the most.

CK: Mentioned that he hosts study groups every year to help students prepare for the qualifying exams. Agreed that students being able to study together is a key part of the oral qualifying exam.

RC: Mentioned that the oral exams are designed to be a diagnostic tool instead of an exam and they wanted the exam to be individualized for each student. There is also a tendency

for AP to cover a broader range of topics than in physics. Also questioned if there was a significant difference in the number of students in AP versus Physics.

LPZ: Asked if the AP study sessions were a mandatory course/requirement for students.

CK: Responded that the study sessions are not a course. Everyone is invited to attend and each session is recorded for those who cannot make it.

JJ: Student's often self-organize a study group. This heavily depended on the cohort. Currently most students use the old tests posted online as preparation material.

LPZ: Recommended that professors change the narrative and make sure students know that they are there to help.

VS: Mentioned that two years ago a senior graduate student help a study session, which could be revisited in the future. Mentioned that the qual committee wanted the qualifying exam to be more of a diagnostic tool so that students can be placed in the appropriate courses. To help with placement, the dates of the test were moved to September and May (from January and May). Even though the test can help better place students, the September exam does not allow for an opportunity to study as a group.

DG: Shared opinion on qualifying exams. Feel as though in the past, the exams were meant to be a difficult barrier that students needed to overcome. While the intention of the tests has changed to be used a diagnostic tool, the content is still outdated. In order to make physics more inclusive, there needs to be a change in tone around the exams. Currently the tests are very theory-focused and no experimental knowledge is tested. Recommended looking into a project-based approach that students can be proud of.

RO: Mentioned that at CU-Boulder has oral and written components to their exams. Passing their courses is considered sufficient for the written component of the qualifying exam. For the oral component, they pick a topic that they are interested in, but is tangential to their field, and they prepare a mini-research report.

NS: Brandeis also counts course finals as the written component of the qualifying exam.

JO: Asked how to move forward. Would this include getting rid of the current model.

DG: Recommended that a concrete proposal be made. The proposal will need to show that the proposed method has been successfully implemented before. In order to obtain faculty approval, the proposal will need to present a lot of facts/data points and have a strong

foundation. Mentioned it would be nice to see U-M create a new way to do this and take the lead.

AA: Mentioned that the Research Subcommittee has been trying to find projects. Volunteered to have the Research Subcommittee take the lead on this and requested student help.

JJ: Recommended that testing of some of the more specialized knowledge be incorporated into the preliminary exam. For his, he had to present some work and answer some questions that were more general to particle physics.

RC: Mentioned that an additional benefit to the preliminary oral format, is that there is an opportunity for the student to receive feedback and discuss topics with various faculty members.

LPZ: Mentioned that it should be made clear to students and faculty how to prepare. This includes telling the student what they will be tested on and recommendations on how to prepare for the exam.

Discussion about collaboration with Howard:

MW: Presented an update on meeting with Dean Kim Lewis and some of the collaboration opportunities that were discussed. In the past, Howard has done mini-courses with Harvard students. Additionally, Howard is in the process of building a new cleanroom and mentioned that research collaboration opportunities were discussed. Other recommendations were to invite speakers from Howard for seminars.

JO: Mentioned that a take-away from the meeting was that research collaborations were key to building a good relationship. Pointed out that Howard faculty in past dealings with other institutions have not always been mutually beneficial and it felt as though these institutions were trying to poach their top students. Recommended that we find joint research strengths in order to move forward. Asked if Christine Aidala was still in a collaboration with a faculty member there.

CA: Has worked with Alfred Marcus in the past. They are both part of a high energy collaboration at Brookhaven National Lab. Mentioned that she has remained in touch through Brian Ramson, a Howard alum, who often wanted to go speak about his experience as a grad student. Recently the collaboration has received an NSF grant to develop a new detector, so there is an opportunity to continue working together.

JO: Mentioned that Dean Lewis suggested inviting faculty with shared research interests. Asked if Alfred Marcus could be a good person to host.

CA: Mentioned she could discuss possible speakers with Marcus. Mentioned that his speciality is hardware, which is better suited for a special seminar rather than a department colloquium. Also mentioned she can reach back out to Ramson and her contacts at Mount Holyoke.

MW: Mentioned that we are waiting to find out what their needs are. Also mentioned the possibility of a guest researcher/visitor.

RO: Recommended reaching out to contacts in applied physics and electrical engineering to form connections with faculty associated with the LNF cleanroom.

AS: Mentioned that LNF tool engineers have been recording talks online if those resources are useful.

RC: Mentioned that cleanrooms are very expensive to set-up. Therefore building a consortium between them is a good idea, which was mentioned to Dean Lewis.