UCDAVIS
DEPARTMENT OF PHYSICS AND ASTRONOMY

Committee Report:
UC Davis Physics & Astronomy Climate Survey

Dear Members of the Physics & Astronomy Department,

Thank you to all for participating in the inaugural UC Davis Physics & Astronomy climate survey. This survey, which ran from November to December 2020, solicited opinions on aspects of the departmental climate from everyone affiliated with the department. Of the undergraduates, graduate students, postdocs, lecturers, researchers, faculty, and staff who were surveyed, participation rates were high, nearing 50% for the department as a whole and well exceeding that rate for several groups (e.g., more than 60% for graduate students and about 75% for faculty).

Here we provide a brief description of the context of this survey and a non-comprehensive synopsis of its results. This document, written by the Physics & Astronomy Climate Committee, accompanies a longer document composed by the UC Davis Office of Budget & Institutional Analysis (BIA) that provides aggregated results of the survey and an executive summary of the results. The raw data from the survey were seen only by the BIA team, and the discussions in both reports draw on the aggregated data from the responses.

Here, after providing some history of the survey, the Committee focuses on several specific strengths and several areas of need we have identified in the results. For the areas of need highlighted here, we suggestions some specific actions that could help address these needs. *We strongly encourage all members of the department to read both this document and the report provided by the BIA team.*

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Caveats

Please keep in mind that while the Committee imposed a rigorous methodology in constructing, administering, and analyzing the survey, the construction of these recommendations was not subject to the same rigor. While care was taken in fashioning these suggestions, readers should take them as a starting point for further discussion and action. Please also keep in mind that although participation rates were high across nearly all demographic categories, some responses had to be aggregated to protect confidentiality. As a result, not all groups' opinions are fully represented in this report; the areas of need discussed here speak only to issues identified from groups whose departmental representation is large enough to highlight their opinions without violating confidentiality.

The suggestions we present below are intended to address issues identified by all members of the department. Some have been tailored to preferentially address needs of groups whose responses were disproportionately negative. As with any report speaking to aggregated data from survey responses, the Committee recognizes that the identified areas of need and the suggested actions only address collective experience, and that each respondent's experience is individual and will not be fully articulated in this document.

1 Background

Beginning in mid-2020, a committee was formed to explore the possibility of creating a survey to gauge various aspects of climate within our department. This committee met with both the founding Vice Chancellor of Equity and Inclusion at UC Berkeley and the current UCD Vice Chancellor for Diversity, Equity, and Inclusion (DEI) to draw on their experiences. The committee was introduced to two members of the UCD BIA office to help with the survey. That office administers nearly all surveys on campus, though this was the first time a climate survey was conducted for an individual department at UCD.

The survey questions relied heavily on a similar survey carried out by the UC Berkeley Astronomy Department. Additional input came from UCD campus organizations, the smaller Diversity and Inclusion in Physics & Astronomy (DIP) climate survey from 2019, and various DEI groups within our own department. At the conclusion of the survey, the BIA office aggregated and parsed the results and provided the committee an initial report on the findings. The final version of that report accompanies this document. The committee discussed the results and worked with the BIA office to implement suggested improvements. In parallel, the committee wrote this report to act as a non-comprehensive primer to the BIA report. Note that all references to figures and tables in this report are to figure and table numbers in the BIA report except where otherwise specified.

2   Positive Areas Identified

Below we highlight three positive aspects of the survey results identified by the Committee. While these areas do not speak to all survey respondents, they are places where the responses were generally positive. We would also note that the fashioning and sanctioning of this survey by the department, *a first for an individual department at UCD*, is seen as an extremely positive result of this process. The department's model is being used by the UCD DEI office to inform and encourage surveys in other departments.

2.1   The Departmental Climate is Generally Seen as Comfortable

While certain aspects of the departmental climate were viewed less favorably (see Comfortable vs. Actively Positive Climate in §3.1 and the BIA summary), more than four out of every five (82%) respondents either agreed or strongly agreed that they are comfortable with the climate in their primary place of work (Table 2). This view was consistently held across the entire department, irrespective of affiliation category, with positive responses ranging from 78% for undergraduates to 91% for faculty. This view was also held by the majority of respondents in all demographic breakdowns. The lowest favorability ratings were found among underrepresented minority (URM), multiracial, and/or other respondents (72%) and respondents who identified as asexual, pansexual, and/or other (52%) (Tables/Figures 2a-2i). This attitude was held statistically equally often among those working (during non-pandemic times) on campus and those who primarily worked off campus (Table/Figure 2h). Despite the various caveats and limitations, the Committee sees this as an encouragingly positive result, and one that should be celebrated.

2.2   Perception of Departmental Values

Roughly three out of every five respondents either agreed or strongly agreed that the department cares about a positive climate, is taking steps towards a positive climate, takes DEI values seriously, acts upon DEI values, and communicates adequately on DEI issues (Tables/Figures 2a-2i). While there are some significant outliers among various demographic breakdowns (see Table 1 and Figure 1 in this report), the favorability rate exceeds 50% across most categories for all of these statements. There were, however, clear disparities between taking values seriously

or caring about a positive climate vs. acting on and discussing these values/ideas, which will be addressed later in this report. There has been a good deal of activity over the past several years, and particularly in 2020-2021, focusing on these issues. Many of these actions are still in their nascent phases, though, so it is not surprising that some disparity exists between perception of the department's values and its actions.

Approximately three out of every four respondents also either agreed or strongly agreed that they feel well supported by their colleagues to achieve their goals (73%), that they are treated with respect and dignity by their colleagues (86%) and by the department as a whole (77%), and that they have adequate resources to help them achieve their goals (68%, Table/Figure 7a). While these numbers varied—in some cases considerably—across different demographic breakdowns, there was majority support for these statements across nearly all categories. Conversely, issues related to mentoring and teaching (Table 4a), encouragement and support for a good work/life balance, and adequate support and resources for mental health (Table/Figure 7a) were seen as areas of need for the department, some of which will be addressed below in §3.

2.3 Expression of Identity

More than two out of every three respondents (68%) agreed or strongly agreed that they were comfortable expressing all aspects of their identity within the department (Table 2a). This question was left intentionally broad, with a large number of non-comprehensive examples relating to various aspects of identity. The broadness of this question, combined with the high average favorability rate, is extremely encouraging, as it shows the majority within the department feel comfortable to express themselves in ways that are grounded in their various identities.

However, while there was broad support for this statement across many demographic categories, there were significant outliers where the favorability rating was much worse, including among female respondents (49%), those identifying as non-binary and/or transgender (46%), and those identifying as asexual, pansexual, or other (36%). There have been recent conversations in various forums in the department around counterspaces/safe spaces, and these results help underscore the need for such spaces.

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Demographic Category	A. Department Climate (higher equity gap is BETTER)	B. Needs for teaching, mentoring, & achieving goals (higher equity gap is BETTER)	C. Training & support for mentoring (higher equity gap is BETTER)	D. Quality of mentoring relationships (positive equity gap is BETTER)	E. Department support & resources (positive equity gap is BETTER)	F. Resources I lack from the Department (positive equity gap is WORSE)	G. Experiences of exclusionary behavior (positive equity gap is WORSE)	H. Observations/ disclosures of exclusionary behavior (positive equity gap is WORSE)
Undergrad students	1.00%	4.63%	Not Applicable	-0.33%	-2.43%	-5.00%	2.00%	-3.00%
Grad students	-15.22%	-11.63%	46.00%	1.00%	-13.86%	6.33%	1.00%	8.00%
Postdoc/Researcher/ Visitor	0.44%	-1.17%	-46.00%	-21.50%	10.29%	4.33%	-2.00%	-1.00%
Faculty/Lecturers	20.56%	11.00%	Not Applicable	11.67%	16.00%	-6.83%	-4.00%	-7.00%
Admin/Staff	17.56%	15.00%	Not Applicable	Not Applicable	19.86%	Not Applicable	0.00%	-5.00%
Freshman	12.33%	21.38%	Not Applicable	20.00%	21.14%	-6.67%	-12.00%	-22.00%
Transfer	-12.33%	-21.38%	Not Applicable	-20.00%	-21.24%	6.67%	12.00%	22.00%
Male	16.00%	14.63%	12.60%	12.80%	18.00%	-9.33%	-10.00%	-11.00%
Female	-16.00%	-14.63%	-12.60%	-12.80%	-18.00%	9.33%	10.00%	11.00%
Not Nonbinary/Trans	19.00%	14.83%	Not Applicable	Not Applicable	10.71%	-3.17%	-18.00%	-6.00%
Nonbinary/Trans	-19.00%	-14.83%	Not Applicable	Not Applicable	-10.71%	3.17%	18.00%	6.00%
White/European/ MENA	0.11%	-14.13%	-25.71%	-11.57%	-5.57%	6.33%	-3.00%	7.00%
URM/Multiracial/ Other	-5.89%	-3.25%	-16.40%	-17.20%	-1.86%	-1.33%	8.00%	6.00%
East/South/ Southeast Asian	-5.67%	19.50%	34.57%	18.57%	6.00%	-6.50%	-4.00%	-14.00%
Heterosexual	20.00%	11.75%	6.40%	4.80%	18.00%	-2.83%	-11.00%	-11.00%
Gay/Lesbian/ Bisexual	-11.89%	-8.75%	-6.40% (for all other orientations)	-13.67%	-17.00%	4.50%	3.00%	5.00%
Asexual/Pansexual/ Other	-21.78%	-11.75%		-2.40%	-13.57%	0.33%	17.00%	14.00%
Domestic	-10.44%	-18.88%	-15.14%	-13.29%	-11.86%	3.33%	6.00%	14.00%
International	10.44%	18.88%	15.14%	13.29%	11.86%	-3.33%	-6.00%	-14.00%
Works primarily at department	-9.22%	-7.75%	-23.14%	-7.67%	-3.71%	5.67%	4.00%	17.00%
Does not work primarily at department	9.22%	8.88%	23.14%	7.67%	2.86%	-5.17%	-4.00%	-17.00%
Other	3.33%	-4.67%	Not Applicable	Not Applicable	4.14%	-3.17%	Not Applicable	Not Applicable
Did not report disability	6.67%	18.50%	0.75%	16.50%	14.00%	-13.33%	-8.00%	-9.00%
Reported disability	-6.67%	-18.50%	-0.75%	-16.50%	-14.00%	13.33%	8.00%	9.00%

Table 1: Summary of equity gaps for different demographic groups, averaged within each broad question category in the BIA report (see the executive summary of the BIA report for details on the meaning and construction of equity gaps). In categories A-E, which were comprised of questions about favorable outcomes, positive equity gaps are more favorable. In categories F-H, which were comprised of questions about unfavorable outcomes, negative equity gaps are more favorable. The alternating gray and white shaded regions show groupings of demographic categories used to compute a given set of equity gaps. As an example, the gaps for Undergraduate students were computed with respect to the combined responses of Graduate student, Postdocs/Researchers/Visitors, Faculty/Lecturers, and Admin/Staff. The "Not Applicable" designation is used for cases where questions did not apply to a particular group or the number of respondents were too small to protect confidentiality.
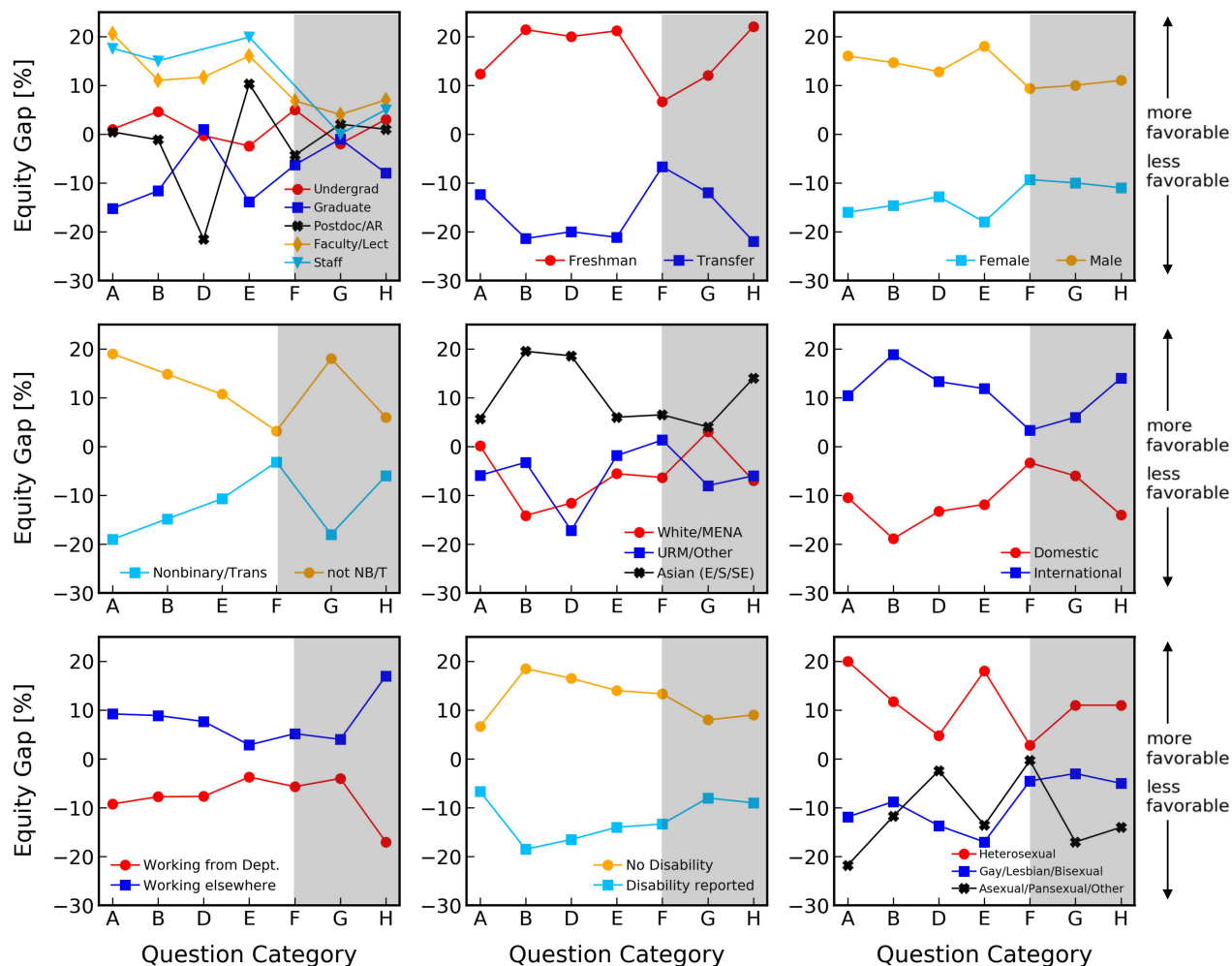
Figure 1: Each panel shows equity gaps for different demographic groups for each question category. Values for equity gaps are taken from Table 1 in this report, which are calculated from the BIA numbers. In each panel and for each question category higher equity gaps are more favorable than lower ones. While question categories F, G, and H (marked in the shaded regions in each panel) contained questions that had unfavorable outcomes such that positive equity gaps, as reported in the BIA report and in the summary table, represent more negative outcomes, in these plots we have flipped the sign of the equity gap for these categories for ease of representation. Especially strong gaps are seen between the Freshman vs. Transfers, Male vs. Female, Nonbinary/Trans vs. not Nonbinary/Trans, and No Disability vs. Disability respondents. Note that these plots do not contain question categories for which there is insufficient data to make comparisons for all respondent classes, e.g., question category C is omitted from each panel as is category D from the center-left panel.

3 Areas of Need Identified:

Below we highlight four areas of need identified by the Committee, and suggest actions that could help address these needs. As stated in the caveats, these recommendations should be taken only as a starting point for further discussion and actions. We note again that these areas speak to issues that were identified from the aggregated data across all demographic categories. Responses that were consistently more negative (termed "larger negative equity gaps" in the BIA report for questions related to favorable outcomes) were observed among female, URM, disabled, and LGBT+ respondents. While we largely avoid making suggestions targeted at preferentially improving the climate for any specific group, leaving such suggestions to future more targeted climate surveys, it is our hope that the actions detailed below will have a large impact in improving the climate for these groups.

3.1 Comfortable vs. Actively Positive Climate

While the majority of people across all departmental affiliations agree that the department climate is comfortable (82%, Table/Figure 2a), none of the other climate questions received a positive response above 70%, with some as low as 48% for the departmental average (Table/Figure 2a). Furthermore, 18-30% of responses were neutral—neither positive nor negative—for the majority of climate questions asked (Table A5 in Appendix A). Additionally, 51% of respondents offered negative qualitative comments in response to climate questions, as compared to 39% and 41% of respondents offering neutral and positive comments to the same questions, respectively. These results lead us to conclude that the climate is tolerable to comfortable but not actively positive for the majority of the department. Further demographic breakdowns in Tables/Figures 2b-2i show the positive averages are even lower for members of underrepresented groups including consistently large negative equity gaps[1] for female respondents (ranging from -5% to -30%) accompanied by a frequency of negative qualitative comments that was more than double that of male respondents (69% vs. 34%, respectively)[2].

Clearly, while there are results in the survey to celebrate, there is more work to be done. Creating an actively positive climate is a nuanced issue, one we do not pretend

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[1]We use the term "negative equity gap" here to refer to both negative equity gaps for desirable outcomes and positive equity gaps for undesirable outcomes, see BIA report for more details.

[2]We also note that the incidence of positive qualitative comments on climate questions was higher for female vs. male respondents, 50% vs. 37%, respectively.

to be able to solve in this report. It is likely true that the other areas of need we highlight in this summary—issues of mentorship, inadequate discussion of climate and action on DEI issues, and experiences of harassment/exclusionary behavior and redress—contribute to a department climate that is not actively positive, which means that addressing those concerns will also indirectly address the overall climate. We will provide specific recommendations for these other areas of need below.

We recommend the department have a clear list of resources online, encompassing both departmental and campuswide resources, as a way to begin to lay the foundation for a more actively positive climate. Well articulated resources are one component of a healthy climate. This list of resources could contain information on:

- The Transfer and Reentry Center (https://trc.ucdavis.edu/)

- Confidential conflict resolution (e.g., https://ombuds.ucdavis.edu)

- Information about various groups within the department engaged in diversity, equity, and inclusion actions (e.g., DIP, UDIP, TEAM-UP, APS IDEA, the Bridge Program, the climate survey, the anti-racism reading group, etc.)

- Mentor and mentee training (https://grad.ucdavis.edu/resources/mentoring/)

- Mental health resources (e.g., https://hr.ucdavis.edu/departments/asap for non-students, https://shcs.ucdavis.edu/services/counseling-services for students)

- Groups that are able to provide possibilities of engaging with counterspaces (e.g., https://cadss.ucdavis.edu/, https://lgbtqia.ucdavis.edu/, https://www.aps.org/programs/women)

- Resources specifically tailored to help undergrads navigate their time with the department (e.g., a transfer orientation course, one on one meetings with faculty, peer mentoring programs, funding opportunities, resources to connect to research opportunities in the department)

- A connection with the DIP and UDIP unofficial list of resources

- Effective studying and time management resources (e.g., https://opportunity.ucdavis.edu/services)

- Career development and personal growth resources

This list is not meant to be comprehensive, but is only provided as a starting point. The department list should not only provide the links, but describe the context and describe the way various resources could be used.

While many of these resources already exist, that does not mean the majority of the department is aware of them. For example, a large percentage of non-faculty respondents indicated that training and career development resources were lacking (Table/Figure 8a). This sentiment was also expressed in qualitative responses as articulated in the BIA executive summary. This would indicate that training and career development resources are either not being effectively communicated or that existing resources are not serving the needs of a large portion of the department. Professors and other members of the department in advising roles should also be familiar with these resources to help less senior members navigate their options. Departmental orientations for all members of the department should be an integral departmental function, and leadership should be vocal about normalizing some of the more traditionally stigmatized resources.

Particular care should be paid to orienting transfer students in engaging with re-sources and strongly encouraging their use, as transfer students showed the largest negative equity gaps of all respondents in terms of their needs being served by teach-ing/mentoring relationships as well as general departmental resources. Positive gains in this area are being made by the UCD Physics & Astronomy AIP TEAM-UP team and the committee highly encourages continued, sustained activity in this area.

3.2 Inadequate Discussion of Climate and Action on DEI Issues

In addition to the key findings discussed in the previous section, we wish to high-light that responses were less than favorable on the topics of:

- *Whether there is adequate discussion of climate in the department* (only 48% of all respondents agreeing, with the lowest rates for graduate students at 38%, transfer students at 42%, women at 48%, and LGBT+ individuals at 28-43%; see Tables 2a-2f), and

- *Whether the department concretely acts upon the values of diversity, equity, and inclusion* (58% of all respondents agreeing, with the lowest rates for graduate students at 44%, URM at 52%, women at 45%, and LGBT+ individuals at 28-45%; see Tables/Figures 2a-2f)

The Committee acknowledges that the transition to a department culture that includes adequate discussion of climate and concrete action on DEI is a difficult, time-intensive endeavor. We emphasize, however, it is nonetheless a necessary and worthwhile one. We suggest the following starting points:

- *We encourage faculty to invite discussions of climate, community, and DEI issues within their research groups.* Such discussions would help address these topics from the perspective of their manifestation within individual groups. Groups could also discuss activities to engage with the department at large.

- *We encourage departmental leaders to take a more active role in promoting an actively positive climate.* A stronger emphasis from leadership could have a significant impact on people's experiences in our department. Actions might include more regular and explicit promotion of departmental and university resources and faster communication and action from leadership during instances of a breach of DEI values in our department, university, or national or global community.

- *We propose a yearly/semi-yearly departmental seminar on issues and activities related to climate, community, and DEI.* Our department has many initiatives and focus groups that could present their work at such a seminar. Shorter updates during the first few minutes of some department colloquia might also be possible, with different groups presenting in different weeks. Bringing everyone together in this way would be a step toward building a community that knows and values these efforts.

- *We propose inviting more speakers for colloquia, seminars, and workshops focused on topics of climate, DEI, hiring, mentoring, and preventing harassment.* Since we as physicists and astronomers are not experts in these fields, we could benefit from listening to and learning from those who are. A more coordinated approach across our department would help institutionalize the practice, and provide multiple opportunities for learning and growth.

3.3 Issues Related to Mentorship and Teaching

As noted in §2.2, mentorship and teaching were identified as areas where significant improvement was needed. Of the main questions in these areas (Table 4a), only a few had favorability ratings over 50%. A clear majority felt that the department is lacking in mentoring and teaching training, both regarding their own mentoring (43% favorable) and teaching (41%) and regarding the preparedness of their mentors (43%)

and teachers (47%). While favorability ratings for these questions exceed 50% for a few demographic categories, responses were generally much less favorable among transfer student, graduate student, postdoc/academic researcher/visitor, female, non-binary and/or transgender, and non-heterosexual respondents and respondents who reported a disability, with favorability ratings ranging from the mid-20 to mid-40 percents. Of all departmental affiliation categories, transfer students showed the largest negative equity gaps across both sets of teaching and mentoring questions, which is likely an important contributing factor to the attrition rate of such students.

At the same time, a majority of respondents believed themselves to be effective in their own mentoring in most areas (Table 5a), and felt that their mentoring relationships fulfilled their needs and expectations (Table 6a). Note, though, that these questions used a different scale (Very Poor – Very Good) than those in the first paragraph (Strongly Disagree – Strongly Agree), with an option of "Fair" here, which counted as a positive response, as opposed to "Neutral" for the first set of questions, which did not. This may explain the apparent disconnect, since a large number of respondents marked "Fair" for the questions in Table 5a and Table 6a (see Tables A8 and A9 in Appendix A). Again, these areas seem to be tolerable to comfortable, without being actively positive for the majority of members of the department. In addition, there was less than majority agreement with the statement that there are understandable and accessible resources available for people who have issues related to mentoring or teaching, with worryingly high negative response rates among graduate students, postdocs, academic researchers, and visiting scholars.

The Committee recognizes these are complicated issues that are unlikely to be improved through a single approach. Here we suggest a few possible avenues, primarily focused on mentoring.

• *We recommend ensuring that campus resources are widely known, and encourage department members to take advantage of these resources, which allow formal training at both the mentor and mentee level.* One promising set of campus resources comes from Graduate Studies, which has written resources for mentors (https://grad.ucdavis.edu/resources/mentoring/mentor-resources) and for mentees (https://grad.ucdavis.edu/resources/mentoring/mentee-resources). Graduate Studies also provides both recorded and interactive mentoring workshops throughout the year (https://grad.ucdavis.edu/resources/mentoring/mentor-workshops). We suggest incentives for attendance in these workshops, and the creation of a list of suggested readings for all members of the department.

• *We support the creation and encouragement of peer mentoring programs.* A model already exists informally among graduate students, in which more senior graduate students are paired up with first year students. The department could formalize and expand this model for students, graduate and undergraduate, and perhaps add a financial incentive for participation at the mentor level. Postdocs, academic researchers, and faculty should be encouraged to help guide peer mentors and to provide some level of at-large mentoring. The Cal-Bridge peer mentoring program provides a good model for such a program. This program would be especially beneficial for transfer students, who generally perceive the department as less able to meet their expectations relative to mentoring, teaching, and general resources.

• *We urge the department to encourage faculty to have discussions with senior graduate students, postdocs, and researchers, emphasizing the importance of embracing mentorship roles themselves.* Such discussions would impart to more senior (non-faculty) department members the importance of mentoring, sanction a forum for developing their mentoring skills, and provide multi-level support for more junior members. While such activities may primarily be encouraged within individual research groups, they should also receive support from the department at large.

• *We suggest establishing a formal process for graduate students to meet with candidates being interviewed for faculty positions and provide feedback to be submitted and considered during the hiring process.* This process worked well during the 2021 Condensed Matter Theory search, during which the graduate Diversity and Inclusion in Physics and Astronomy group coordinated graduate student discussions with candidates centered on mentoring and DEI-related issues. This process should be open to all graduate students in good standing, and participation should be encouraged by department leadership.

• *We recommend that feedback in the form of evaluation letters from junior members of research groups – particularly graduate students, postdocs, and academic researchers – be solicited and considered as part of the merit and tenure review process.* Department leadership should actively encourage junior members of the department to engage in this process, which should be organized in a way that ensures confidentiality as much as possible. As an example, the UCLA Astronomy & Astrophysics Department has such a process in place, which could serve as a model.

Since some of these are longer term approaches to addressing this area of need, the Committee strongly suggests the following activities:

– Faculty and students should take advantage of the resources provided in the new departmental mentoring guide https://physics.ucdavis.edu/application/files/6916/0980/8714/GraduateMentorshipGuide.pdf.

– Mentors and mentees should articulate their expectations consistently and clearly.

– Mentors should schedule regular meetings with their mentees.

– Mentees should be encouraged to connect with other graduate students, especially more senior ones, even outside their immediate research group, to provide an additional layer of mentoring/perspective.

– Relevant resources should be provided, including logistical support, conflict resolution, funding opportunities, mental health support, professional development activities, and relevant conferences.

– Opportunities should be provided, if possible, to work with scientists outside the department.

– Mentors should regularly talk to their mentees to understand if there are areas they feel they are not being sufficiently supported.

Additionally, we believe that the lack of formal avenues for addressing issues with teachers and mentors is a significant problem, exacerbated by the loss of the department ombudsperson. A number of different models may be appropriate here to help provide recourse, including a designated faculty teaching/mentor liaison trained to discuss issues and to act as a conduit to university-wide resources, such as the UCD Office of the Ombuds (https://ombuds.ucdavis.edu/). Establishing this position could provide valuable experience and perspective to those with issues and help members of the department understand how certain resources work and decide whether those resources are right for their situation. In order for such a position to be successfully implemented, training should be required through the UCD Office of the Ombuds, which offer both interactive workshops and online courses, and/or through other UC-wide resources. In addition, since those acting as a liaison would still be considered "Responsible Employees" for the purposes of reporting and are thus not necessarily a confidential resource, liaisons must be trained to be extremely careful and consistent in their approach to interactions with departmental personnel. This means both apprising themselves of all mandatory reporting requirements and clearly disseminating those requirements to anyone who approaches them regarding an issue.

3.4 Harassment and Exclusionary Behavior

The percentage of department members who reported harassment or exclusionary behavior was small (Q. 30), but for those who did, the experiences were likely to recur (Q. 32), and the behavior was perceived to be identity based (Q. 51). Most department members experiencing harassment or exclusionary behavior did not know where to turn to for help (Q. 49–50). Thus, we underscore the recommendation made in §3.1 that the department create a guide explaining the resources available from the department and the university and encourage members to use these resources if they experience harassment or exclusionary behavior. The resource guide should include university resources such as the UCD Office of the Ombuds, Harassment & Discrimination Assistance and Prevention Program (HDAPP, https://hdapp.sf.ucdavis.edu/), and department contacts such as the chair, vice-chairs, and any faculty designated as liaisons for conflict resolution. For each resource or contact, there should be an explanation of what can be expected from reaching out, and confidentiality, mandatory reporting, and the possibility of mediation or discipline should be addressed. After creating this resource guide, the department should ensure wide dissemination by:

> – Displaying these resources on the department website on a page directly accessible from the home page, and on course syllabi and Canvas pages
>
> – Introducing these resources to all new members of the department at the point of initial contact with the department (orientation where applicable, less formal settings otherwise)
>
> – Providing a reminder of these resources to current department members during a department town hall, colloquium, or other venue that will reach all members

4 Other Areas of Note

In this section we discuss other results from the BIA report. While our committee has no specific recommendations in these areas at this time, we believe they are important to note, and should be explored in more detail in future climate surveys.

4.1 Disability Accommodations and Support for Learning Needs in the Department

Survey respondents who reported a disability were asked to rate how easy it was for them to secure official or unofficial disability accommodations in the department (Table A2, Appendix A). While a sizable portion of respondents agreed that it was easy to secure official accommodations (36%), the largest percentage of respondents (46%) felt neutrally about securing unofficial accommodations in the department. Since there are many reasons members of the department who have disabilities may be unable to secure official accommodations through the Student Disability Center or Disability Management Services, this suggests that our department still has more work to do regarding accessibility.

On another note, for those respondents reporting a disability (including neuro-divergent individuals), the largest percentage of respondents (44%, Table A2, Appendix A) agreed that their "learning needs have been supported in classes/research within the department." This is encouraging, but it is not a majority, and 17% of respondents disagreed with the same statement. We also note that 79% of respondents who reported a disability and indicated that mental health/emotional support was lacking (Table/Figure 8j).

4.2 Reality vs. Perception in Department Climate

One set of questions in the survey asked respondents to rate "How do you believe the following groups view the climate in the Department?", which was contrasted with the first question of the survey regarding whether the departmental climate was comfortable. The results of this contrast are summarized in Table/Figure 3 of the BIA report and are certainly provocative: across all departmental categories, respondents consistently thought that other groups in the department perceived the climate more negatively than their own responses seemed to indicate.

We caution, however, that the two sets of questions were not equivalent. In the former case, the climate needed only to be comfortable to receive a high favorability rating; in the latter, "positively" or "extremely positively" were the only answers that were tabulated as being favorable. In fact, a substantial fraction of respondents (approximately 30-35% for most categories) marked "neither positively nor negatively" (Appendix A, Table A6), which is effectively the size of the negative equity gaps shown in Table 3. This result underscores the comfortable but not actively pos-

itive nature of the climate as perceived by a large number of respondents, both for themselves and for others.

4.3 Women and URM Demographic Representation in the Department

While this report is not designed to address recruitment and retention of underrepresented groups in physics, we believe it is important to highlight the departmental statistics we obtained as a result of this survey and how these compare to national averages. Note that for both women and underrepresented minorities, we are unable to break down statistics into smaller subgroups within the department (undergraduate, graduate students, etc.) or more finely grained categories (African Americans, Latinx, etc.), because the numbers are too small enough to allow confidentiality.

First, the percentage of respondents who identified as URM (where URM describes respondents reporting race/ethnicity as Black, African-American, or African; Hispanic/Latinx; or Native American, Indigenous, or Pacific Islander) across all levels of the department is about 13% (from Table 1A, Appendix A[3]). This is roughly comparable to the national average number of URMs in physics as reported by APS (https://www.aps.org/programs/education/statistics/urm.cfm), considering the undergraduate population to be dominant by number (confidentiality concerns prevent us from doing a like comparison). While we only have coarse-grained data with several issues that prevent a completely methodologically sound comparison, URM members of the department appear to have responded roughly as often as non-URM members. It appears the department is about average in terms of recruitment of URM members, at least among the undergraduate population, relative to other universities. However, this population is primarily drawn from California residents, who skew approximately 30% nonwhite (https://www.census.gov/quickfacts/CA), underscoring the need to improve in this area.

Second, the percentage of respondents who identified as female was about 29% (Table 1A, Appendix A), though those identifying as female were also overrepresented among the respondents by approximately 5% relative to those requested to take the survey (i.e., females were more likely to take the survey). Taken at face value, these numbers are slightly lower than the national average of Bachelor's and Ph.D. degrees earned by women in Physics & Astronomy as reported by AIP (https://www.aip.org/statistics/reports/women-physics-and-astronomy-2019). Con-

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[3]Note that the multiracial and other designations are included in the percentage reported in Table 1A, whereas the number here refers to only those in the race/ethnicity categories that comprise the URM designation

versely, while we cannot source official numbers from the report due to confidentiality concerns, the percentage of women among faculty in the department slightly outpaces the (2014) national average as reported by AIP.