

2022 SSRL & LCLS User Survey Report

SSRL and LCLS User Executive Committees (UECs)

29th September 2022

FINAL

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1. Survey creation and objectives

The idea of a Climate Survey was presented to the LCLS Users' Executive Committee (UEC) in July 2021 by then-UEC Chair Emma McBride, and through advice of Sarah Holder, a former member of the SLAC diversity, equity, and inclusion (DEI) office. Considering the societal discussions surrounding DEI, it was suggested that a survey of the user population might be a valuable tool to measure the makeup of the user community, their sentiment in relation to these issues, and other aspects of the user experience at SLAC facilities.

Taking inspiration from other valuable resources - such as the Stanford IDEAL survey or the American Physical Society IDEA network - the aim was to create a survey that would be useful for the international User Community (that extends outside both Stanford and the US) to assess if there were areas where attention or improvement/training were needed. While the User Office asks end-of-run information which includes DEI related questions, this questionnaire is only directed to the experiment's spokesperson or PI. The aim was instead to create a survey that would capture the experience of all Users regardless of their age or experience level, allowing in particular students and postdocs to raise their concerns, and to do so anonymously. Following consultation with the LCLS and SSRL UECs the decision was taken to broaden the survey to include other experiences such as accommodation and other user experience outside of solely DEI.

The stated goals of the survey were as follows:

- General demographic data collection
 - A better understanding of the user community population, which might not otherwise be available through formal reporting methods
 - Are there populations that are underserved by the facilities and/or the UECs?
- Questions about 'climate' at Users Meetings and at the SLAC user facilities
 - Examples would be feedback on comfort level, being listened to, experiencing, or witnessing bullying, harassment, microaggressions, etc.
- General feedback on the user experience at the facility
 - What can be improved, what barriers to access exist
 - Issues that impact active users and/or success of research
- Identify opportunities for improvement in future UEC communications
 - Are UECs effectively serving the community, how can UECs best communicate with users

2. Survey format & questions

The LCLS and SSRL UECs established a small working group to develop the survey format and questions, with input from the SLAC DEI Office and support from LCLS User Administration.

- Emma McBride (2021 LCLS UEC Chair)
- Eddie Snell (2021 SSRL UEC Chair)
- Elisa Biasin (2021 LCLS UEC Vice-Chair)
- Ben Ofori-Okai (2021-2022 LCLS UEC Post-Doc Representative)
- Sarah Holder (SLAC DEI Program Manager)
- Paul Jones (LCLS User Program Coordinator)

In addition to reference materials from previous surveys of the user community, the committee obtained examples of similar surveys conducted by other academic and non-academic organizations.

The survey was constructed using the Qualtrics survey tool, licensed to SLAC personnel through Stanford University (<https://uit.stanford.edu/service/survey>). The questions were designed to collect data across several topical areas:

- Background data on a users' involvement on proposals submitted to, and experiments conducted at, the facilities
- Feedback on the experience as a member of the User community (community engagement, UEC communications)
- Experiences in relation to harassment and discrimination
- Feedback on the experience as a user at the LCLS, SSRL and MeV-UED facilities (submitting proposals, conducting experiments, accommodation & travel)
- Demographics

Questions were made specific to 3 different SLAC facilities: LCLS, MeV-UED, SSRL. We note that LCLS and MeV-UED users are both represented by the LCLS UEC, but the facilities are quite distinct and therefore the questions related to these facilities were kept separate in the survey. Question logic was applied to ensure only relevant questions were asked (e.g., if a user had earlier stated that they were an SSRL user but not an LCLS user, only questions about the experience as an SSRL user were asked). In addition, respondents could access questions specific to each facility (LCLS, MeV-UED, SSRL) only if they had used the facility in the last 3 years. A copy of the full list of survey questions is included as an addendum to this report.

3. Survey Distribution

The SSRL and LCLS user offices provided access to the mailing lists used to communicate with the User Communities for SSRL, LCLS, and MeV-UED. These lists represent approximately 12,500 email addresses and include people who have submitted proposals but who have not participated in experiments, active facility users, recently active users, and people who have asked to be added to the user facility mailing lists as prospective future users. Inclusion on these mailing lists is voluntary, and users can remove themselves from these mailing lists at any time.

Due to the way these mailing lists are managed and maintained, it is difficult to ascertain exactly how many unique individuals these lists represent. Due to the overlapping scientific capabilities of the facilities, there is naturally some overlap across the mailing lists, as well as people who use different email addresses for their subscriptions to each mailing list. Additionally, some email

addresses were found to be no longer valid. As a result, we cannot determine an exact number of individual people that received the survey.

To help promote the survey and incentivize participation, facility management agreed to provide funding for US\$50 Amazon gift cards to be awarded at random to ten (10) of the survey respondents. Entry into the prize drawing was optional, with a link to the entry form provided upon survey completion, and therefore did not compromise the anonymity of the survey. A drawing of winners was held during the LCLS UEC meeting on March 25, 2022 and prizes issued on March 28, 2022.

4. Data Collection

Responses to the survey were collected between December 15, 2021 and March 11, 2022. Survey responses were anonymous. In order to maximize anonymity and the perception of anonymity, email addresses were not collected as part of the survey response. Subsequently, it is possible that members of the User Community could have completed more than one response, though there is little evidence that this was the case; where similar or identical responses to questions were identified, responses to other questions indicated that these similar views were shared between different people.

It is important to note that voluntary survey completion is not a reliable random sampling method for data collection. Responses collected in an open survey format cannot be assumed to reflect feedback from a representative sample of the surveyed population. In other words, survey participants represent a self-selecting subset of the target population: some Users choose not to receive mailings from SSRL or LCLS, others may have received the invitation to complete the survey but choose not to do so for a variety of reasons (time commitments, personal preference, etc.).

To assess the value of the collected data, especially with respect to DEI, there were consultations with Brian Cook, Director of Assessment & Program Evaluation at Stanford University. According to Cook and based on previous surveys conducted by Stanford University, the community members most impacted by an issue (e.g. discrimination, harassment) are less likely to respond to surveys which ask questions about those issues. This may be due to a preference not to discuss or share their own personal experiences through the survey medium, fear of retaliation or loss of anonymity, or other unknown reasons. As a result, i) instances of unpleasant, unprofessional, or unacceptable behavior may be under-reported in the data; ii) the scale and impact of these behaviors is impossible to assess through a survey of this kind, and the nature of their impact cannot be quantified as every person has a different experience and may react differently to the same situation. Nonetheless, it was considered important to ask questions on these topics, to help the UEC understand more about the instances of these behaviors that people were willing to provide information and consider whether UEC actions could help prevent future instances from occurring.

5. Data analysis

A small working group was established to conduct the analysis of the collected data:

- Peihao Sun (LCLS UEC member, Students' Representative)
- Nicholas Hartley (LCLS UEC member)
- Elisa Biasin (2022 LCLS UEC Chair)
- Paul Jones (LCLS User Program Coordinator)

The data were collected in an excel file, with exception of the answers to the open questions which were kept separate and analyzed separately (see below). Computer programs were utilized to analyze and crosscut the data. For certain questions, the responses are reorganized to increase legibility. For example, 'agree/disagree' and 'somewhat agree/disagree' answers are considered together as 'agree' and 'disagree', respectively. The number of responses to each question may vary for several reasons. Firstly, not all respondents answered all the questions, while some questions may allow multiple answers. No omission or repetition of responses was put in place during the analysis.

Plots were created as a result of this analysis and made available to SLAC UECs and Management for follow-up discussions. These plots are also published as an addendum of this report, with the exception of the results about experiences in relation to harassment and discrimination because of the concerns described in Section 4 (however, the key findings on this topic are reported in the section below). The plots are published with colors from the SLAC palette, taking into consideration colorblindness and contrast.

Parts of data have been crosscut based on gender, career stage (i.e. postdocs/students vs. others), and location of Users' institution (i.e. US-based Users vs. international Users). This analysis is not published with this Report, but key findings are included in Section 6, if any was found. Because of the concerns of data validity expressed in Section 4, as well as fear of anonymity loss, the data were NOT crosscut based on race/ethnicity.

After removing information (i.e. names, experiment numbers, etc.) that could compromise anonymity, the answers to the open questions were collected separately from the main data. The survey written responses were broken out to include the user facility/facilities used by each survey respondent. These written comments are not published with this report, but were utilized in support of the key findings described in Section 7 and taken into consideration during follow-up SSRL and LCLS UEC meetings.

6. Survey Results

In this Section, we report key findings from the analysis of the User Survey Data. The analysis of the data has been conducted as described in Section 5 and a more comprehensive picture of the results is given by the plots published as an addendum of this Report.

Numbers and Response rate

- 424 Users responded to the Survey.

- Among these, 386 responses were from Users that had either submitted at least 1 proposal, or participated in at least 1 experiment in the last 3 years.
- The 386 responses from recent users and proposers represents approximately 10% of unique SLAC users from the same time period. Specifically:
 - 210 responses were from LCLS users (~20% of unique users in the 2019-2021 period)
 - 205 responses were from SSRL users (~7% of unique users in the 2019-2021 period)
 - 46 responses were from MeV-UED users (~25% of unique users in the 2019-2021 period)
- 26% of responses are from students and postdocs. Only ~15% of respondents identify as female. Since this demographic information is not collected for all user community members by the User Office, we are not able to say how representative this sample is.

Harassment and discrimination

Because of the concerns and consideration described in Section 4 above, it was decided not to publicly report number/statics concerning the episodes of harassment/discrimination at SLAC. The major findings from the analysis of these data are as follow:

- Users from all facilities, and at all career stages, have witnessed and/or been subject to a variety of forms of harassment, including harassment on the basis of race or gender.
- Among those that responded, users who identify as female have witnessed and/or experienced gender-based harassment and discrimination at noticeably higher rates than those who identify as male (greater than 3 times). As noted above, this is likely to undercount the problem.
- Among those that responded, the percentage of students who have witnessed and/or experienced sexual and/or racial discrimination is higher than that of Users from other career stages.
- Nearly 1 in 4 people are not familiar with how to report incidents related to harassment and discrimination.

Facility climate

- Across all facilities, more than 60% of respondents are satisfied with the diversity of speakers and awards at the User Meeting, and with the level of activities in terms of professional development.
- 87% of SSRL Users, 78% of LCLS Users, and 74% of MeV-UED Users feel that they are part of the SLAC User Community.
- Underlining the importance of the Users' Meeting, 70% of respondents across all facilities believe that it is an effective way of engaging them in the User Community.
- While 60% of respondents believe that options for interactions with the UEC are effective and appropriate, the same number of respondents is also in favor of more frequent communication between the UECs and the User Community. It appears that there is higher demand among SSRL and particularly MeV-UED users for more frequent communication from the UEC.

Proposal

- Across all facilities, 90% of respondents are satisfied about the communication with the user offices and the provided guidelines for submitting proposals.
- Across all facilities, more than 80% of respondents acknowledge that the support from facility staff during proposal preparation was useful.
- Across all facilities, the proposal submission and review process are mostly seen as fair and impartial. 55% of SSRL and LCLS users and more than 80% of MeV-UED users found the comments from the PRP useful for a future resubmission.

Experimental support

- **SSRL:** SSRL respondents show a very high level of satisfaction with respect to the support provided during experiments, at all levels. The lower satisfaction rate is for data acquisition and analysis support, which remains above 85%.
- **LCLS:** The level of support from LCLS is substantially lower than for SSRL. ~85% of LCLS respondents believe that there is sufficient sample delivery and beamline staff support during the experiments. ~75% of LCLS respondents consider the support for laser systems sufficient. The lowest satisfaction emerges with respect to the data acquisition and analysis support and documentation: only ~60% of LCLS respondents consider it sufficient. This is an area that LCLS is currently working on, in particular with regards to preparation for higher repetition rate operation with LCLS-II, so it will be important to note whether this improves in the future.
- **MeV-UED:** ~85% of MeV-UED respondents believe that there is sufficient sample delivery and beamline staff support during the experiments. ~75% of MeV-UED Users consider the support for laser systems and data acquisition and analysis sufficient.

Facility Infrastructure:

- **Remote participation:** More than 60% of SSRL respondents are in favor of fully remote experiments being offered at SSRL in the future, and more than 80% believe that remote participation tools (e.g. nomachine and slack) are sufficient to run remote experiments. On the contrary, less than 30% of LCLS and MeV-UED users are in favor of fully remote experiments, with slightly fewer (~70%) satisfied with the available remote tools.
- **Food options and kitchen areas:** There is dissatisfaction about the food options at SLAC, particularly from LCLS and MeV-UED respondents. LCLS and MeV-UED respondents also indicate that there are no sufficient kitchen areas available for users. ~15% of respondents felt that a lack of food options inhibited their ability to perform an experiment.
- **Rest/break areas:** ~85% of SSRL users find that rest area / break facilities for users are sufficient, while less than 50% of LCLS and MeV-UED users believe so.
- **Others:** A lack of lactation accommodation is identified by LCLS Users.

Accommodation and Travel

- Travel cost is found to impact several aspects of user experience, for instance users must limit both their time at the facilities, as well as the number of users who join the

experiments with students/postdocs often penalized. As might be expected, these issues affect international Users more substantially.

- The Arrillaga Recreation Center at SLAC (ARCAS) is not much exploited by users, with only 20% of respondents saying they had used it during a beamtime, and over 30% not aware that this was an option for users.

7. Action Items

The SSRL and LCLS UECs have initiated dialogues with the SLAC management in the light of the results of this Survey. Some current actions/topics of discussions are reported in this Section. We note that this is not an exhaustive list and that efforts to improve Users' experience are ongoing at the time of publication of this Report.

Improve communication between UECs and User Community

Both LCLS and SSRL are exploring different ways to enhance the communication with their respective User Communities, as this appears to be a desire of the User Community.

To favor bottom-to-top communication, the UECs have established an email address that Users can use to directly communicate with the UECs:

LCLS UEC: lcls-uec@slac.stanford.edu

SSRL UEC: ssrl-uec@slac.stanford.edu

The initial plan will be for these messages to be dealt with by the relevant UEC Chairs, and raised with the wider UEC or SLAC Management if necessary. Depending on how much feedback is received, a more formal process for dealing with these messages may need to be considered in the future.

Several ideas are being considered to improve top-to-bottom communication. There are ongoing efforts to improve the effectiveness of User Meeting plenaries, Town Hall, etc. and to improve navigation to the UECs online pages through the facilities websites. The idea of a quarterly/half-yearly newsletter on achievements, plans, etc. is being explored. We remind the LCLS Users that the UEC Meetings Notes are published online at <https://lcls.slac.stanford.edu/lcls-users-organization>.

Harassment and Discrimination

The UECs and the User Organization are committed to a zero-tolerance policy to episodes of harassment and discrimination. In the light of the results from the Users Survey, a working group was formed to discuss these issues:

- Elisa Biasin (2022 LCLS UEC Chair)
- Peihao Sun (LCLS UEC member, Students' Representative)
- Nicholas Hartley (LCLS UEC member)
- Paul Jones (LCLS User Program Coordinator)
- Graham George (2022 SSRL Chair)
- Liane Moreau (SSRL UEC member)
- James Evans (SSRL UEC member)
- Mike Dunne (LCLS Director)

- Paul McIntyre (SSRL Director)
- Natalie Holder (SLAC Chief Diversity Officer)

The following actions were identified in response:

- Introduce a mandatory 'Respectful Workplace' training for facility Users.
- Update facility websites to improve visibility of contact information, resources and tools for users who may need to report issues.
- Educate User Community about DEI 'assignments' for facility staff (i.e. Kayla Nihn @LCLS, Chris Tassone @SSRL – see <https://inclusion.slac.stanford.edu/dei-office>) – available as an informal resource for conversations about DEI, but **not** a formal incident reporting channel. Education of the User Community about these resources will be achieved, for instance, through communication at Users' Meeting, emails notification, and advertising flyers to be placed at experimental end-stations and SLAC facilities.
- Create an open web form to collect feedback from users, allowing anonymous submissions.

The realization of these actions is planned through fiscal year 2022/2023.

Other actions

- The results of the User Survey indicate that support for Data Acquisition and Collection during experiments should be improved. In response to this:
 - The LCLS UEC has introduced a 'Data Analysis Workshop' at the User Meeting with direct involvement of data analysis LCLS experts. The sessions will be recorded and published online for future User access.
 - The organizers of the Ultrafast X-ray Summer School (UXSS) have introduced data analysis workshops.
 - UEC is following closely the developments related to the LCLS-II commissioning.
- Members of the UECs organized a new workshop at the 2022 User's Meeting that engages early career researchers with SLAC scientists and other experts in the field to share research and an introduction to SSRL and LCLS capabilities. We hope that this will make early career researchers feel more connected to the SSRL/LCLS community and improve engagement at all career levels.
- The LCLS UEC has started a discussion with LCLS management in order to improve Users' experience at SLAC in terms of food options, availability of kitchen facilities at beamlines, as well as rest areas and lactation rooms, etc. With respect to this topic, we would like to make the Users aware of the following:
 - Two types of sleeping pods are due to be placed in the Trailer 24, outside the Near Experimental Hall (NEH), where the current lounge/kitchen area is located. We hope that people will try these out and give us feedback on which one they like since we are doing a trial on them.
 - There is now a lactation/mother's room in building 901. This is not immediately in the LCLS building, but hopefully still close enough to be of value.

- The SLAC cafeteria is resuming operation after the COVID period. There is awareness that this is inadequate for a 24-hour facility, and alternative options are being explored, such as LCLS-based fresh-food vending machine, etc.
- Over the longer term, there is possibility for the top floor of the NEH (penthouse) to be converted into a kitchen/dining/rest area.
- Finally, we would like to remind the Users' that they can use Arrillaga Recreation Center at SLAC (ARCAS) when visiting the facility.

Future directions

The UECs thank the Users that have taken the time to complete the Survey and are committed to use the results to continue improve Users' experience at SLAC. The UECs encourage the Users to provide additional feedback to the UECs, in response of the publication of the Survey results and of this Report, as well as for any other topic. Future follow-up will be provided at the Users' Meeting and through emails. Future community surveys are likely to be used to measuring progress.