

2022 CEDAR workshop report

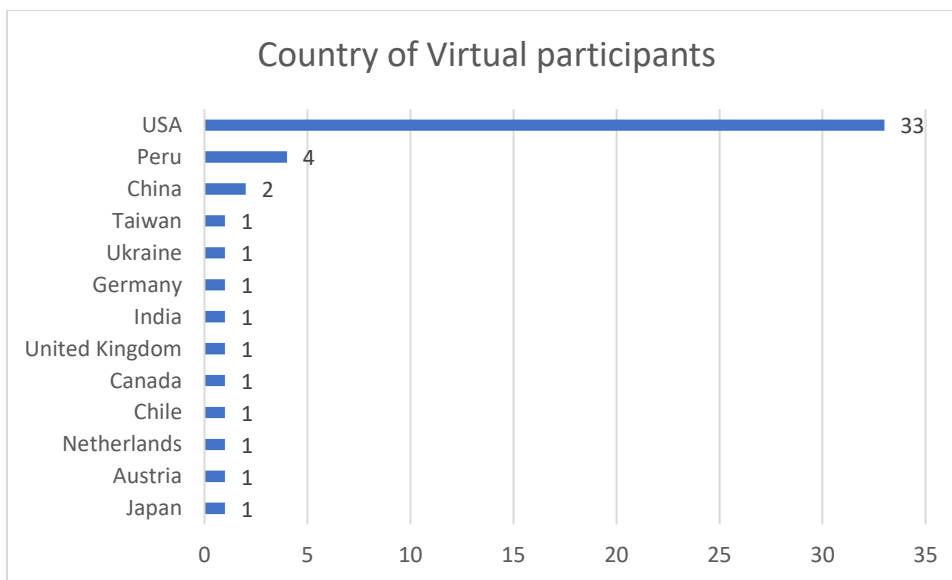
The CEDAR workshop 2022 was held at the Line hotel in Austin, TX from 19-24 June 2022. This was a in-person workshop with a remote option after the 2020 and 2021 fully remote CEDAR workshop. Note that in 2022 the GEM workshop was in parallel to CEDAR in Hawaii.

Participation

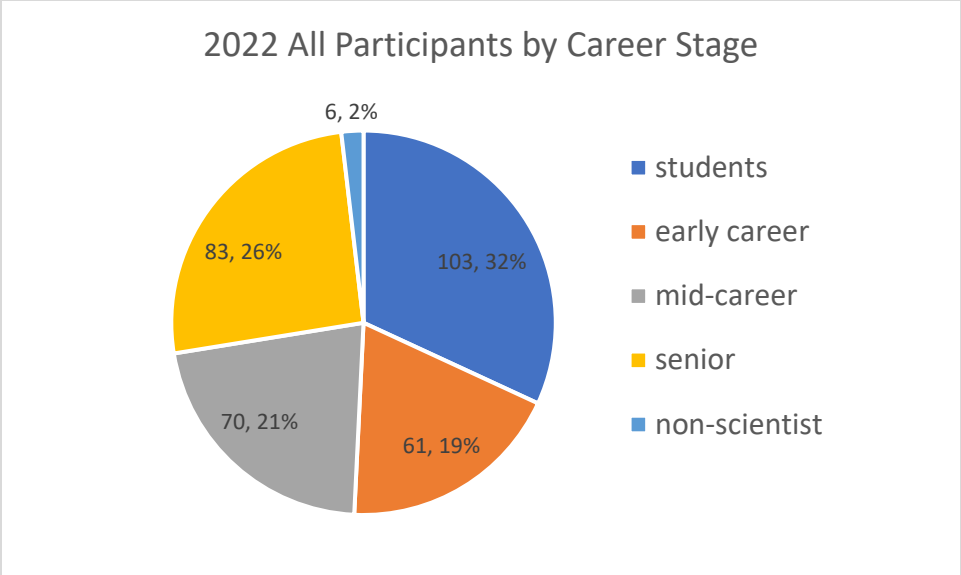
324 participants registered which came from 20 countries. All countries with decreasing participant numbers are: USA (250), China (15), Peru (12), Taiwan (7), United Kingdom (6), India (5), Canada (4), Germany (3), Brazil (2), Puerto Rico (2), Norway (2), Egypt (1), Denmark, Sri Lanka, Chile, Ukraine, Austria, Korea, Japan, Netherlands.

- **20% of CEDAR meeting attendees come from outside the US.**
- **15% of meeting attendees (49 attendees) participated fully remote.**

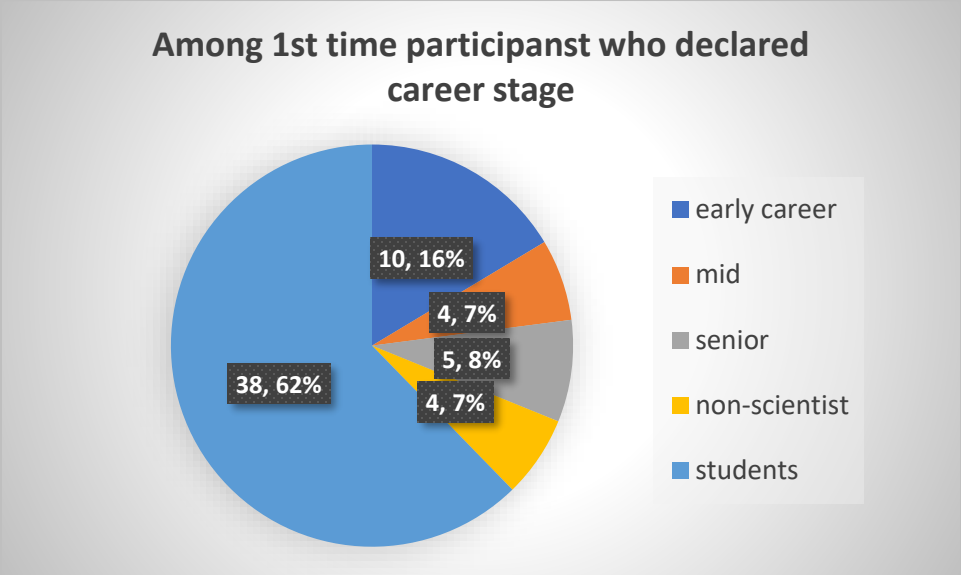
Virtual participants came predominantly from the US. Virtual participants were mainly at the senior career level (20 participants) and then almost equally distributed between students, early and mid-career level with 8,9,9 participants, respectively (not including attendees not specifying the career level).



There was an almost even distribution between students (32%), early career (19%), mid-career (21%) and senior (26%) scientists among the participants. The non-scientist number decreased compared to the fully remote workshops in 2021 (5% in 2021, 3% in 2020). Otherwise, the distribution of career level is similar between 2021 and 2022.



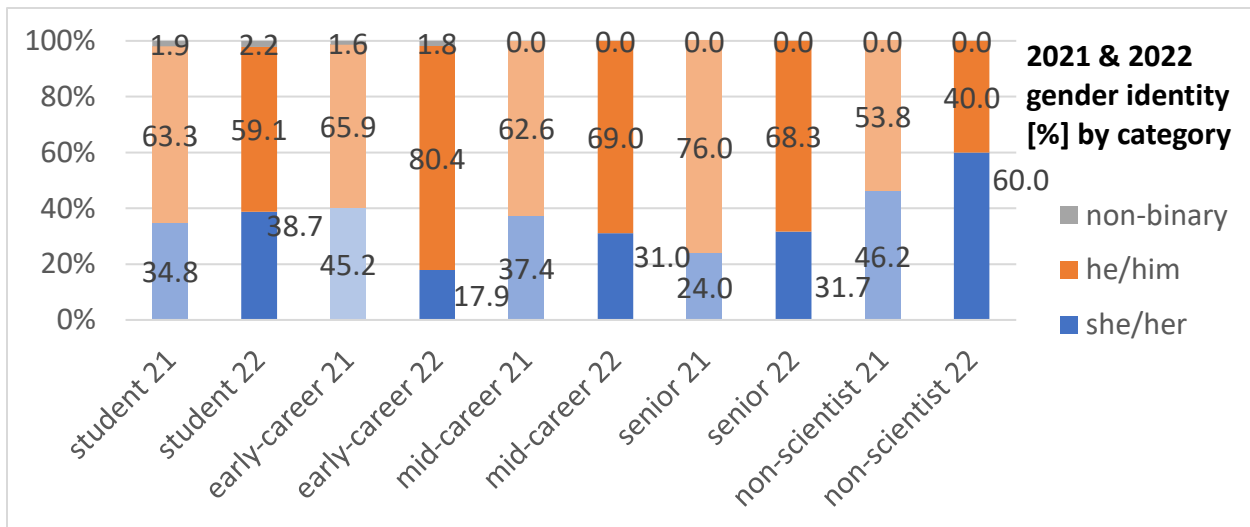
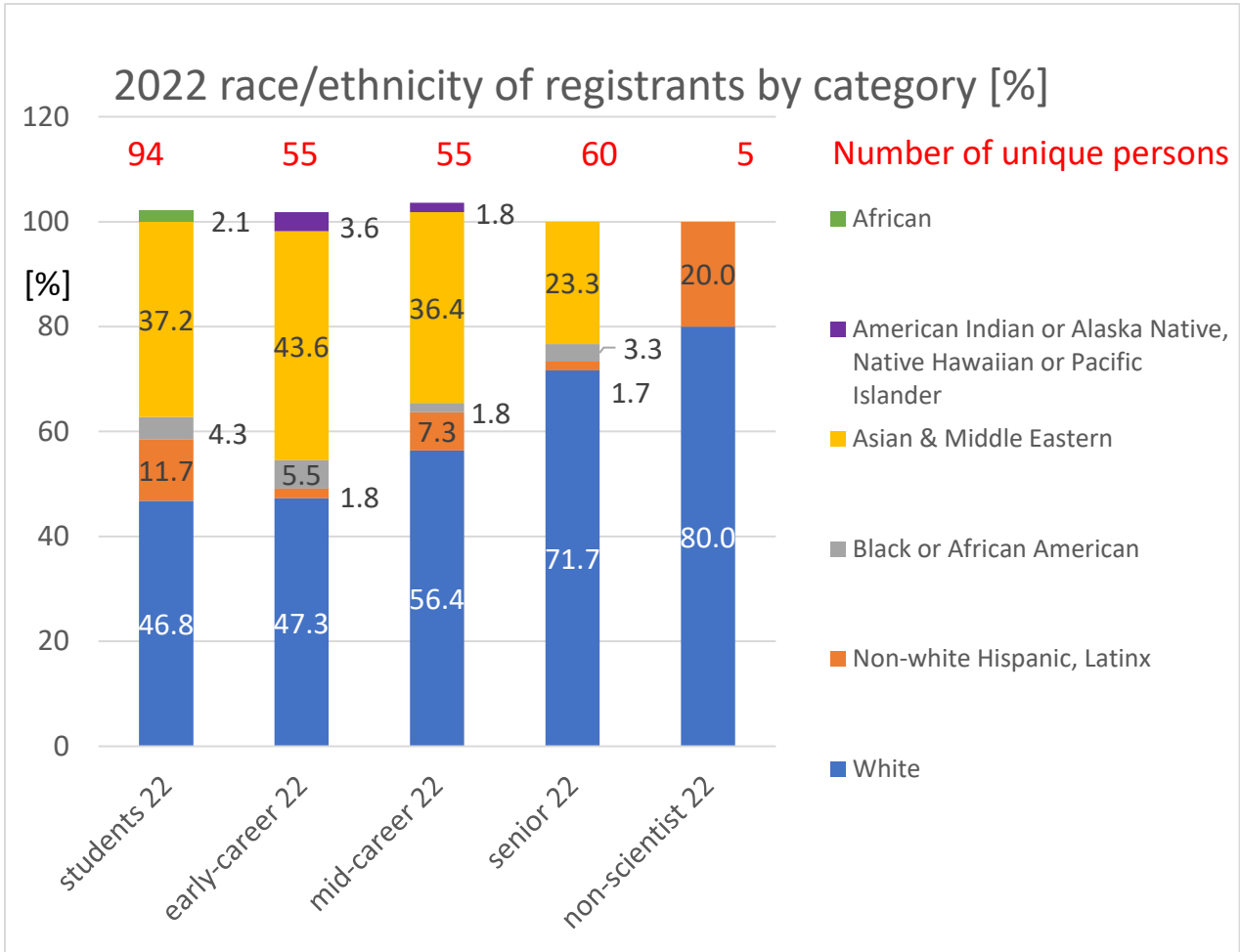
27% of CEDAR participants were first time attendees (62 out of 288). Most of the first participants are students (62%) highlighting that CEDAR is a preferred meeting for students.



Diversity, Equity and Inclusion at CEDAR

Since 2021 CEDAR gathers demographic information provided voluntarily by participants. This was one of the actionable items from the CEDAR DEI task force established in 2020. The justification and demographic question have not changed much between 2021 and 2022. The race/ethnicity categories were slightly adjusted by only providing “Asian & Middle Eastern” and no further specification.

Race / ethnicity: More than **80% in each career stage of participants self-identify as White and/or Asian & Middle Eastern**. At the senior level almost all self-identify as White and/or Asian/Middle Eastern. The diversity is slightly increasing for the students. Note that we count race/ ethnicity not persons and therefore the total can be more than 100%.



Gender identity: Up to 2% of participants self-identified in the student and early career category as non-binary. In the mid- and senior level, the percentage was not significant. Approximately 60-70% self-

identify as male at all career stages. The numbers between 2021 and 2022 do not differ much except that there was a significant decrease in female early career scientist in 2022 compared to 2021 (27% decrease).

This was the first year we were able to conduct a comparison between two CEDAR workshop year considering one was fully remote while in 2022 it was in-person with a remote component. Analyzing the demographic data we learned that it is a challenge to have consistent registration questions between years to extract comparable numbers (e.g., in 2022 the registration system was updated and not all questions were carried over in the same way). In addition, comparing to numbers collected by other organizations such as NSF & AGU is not straight forward since categories (e.g. race/ethnicity, who participates in survey) are defined in a different ways.

DEI related presentations: The CSSC with input for the DEI task force decided to include a DEI focused talk by Dr. Tehama Lopez Bunyasi (George Mason University) about [“Equal Opportunity? The legal inequality of public education & its relationship to the STEM fields”](#) in the plenary session. The student workshop included a talk [“Active allyship in STEM”](#) by Dr. Aaron Pina, the Deputy Program Scientist at NASA Earth Science Division.

The DEI task force and the students organized an evening group discussion about the meaning of “Juneteenth” It was very well attended even though it was later in the evening. It was very appropriate as CEDAR fell on the newly observed Juneteenth holiday.

The DEI task force and CEDAR community members organized a DEI focused workshop [“Continuing to evolve: DEI \(Diversity, Equity, and Inclusion\) in CEDAR”](#) with four speakers: Dr. Fran Bagenal (CU Boulder, LASP), Dr. Debalina Maitra (ASU), Dr. Audra Hernandez (UW Madison), Prof. Erika Marin-Spiotta (UW Madison). To be more accessible the DEI session could be attended remotely and was [recorded](#). This was the third year a workshop was organized which fosters that DEI becomes an integral part of the CEDAR community.

Workshops

Student workshop took place Sunday June 19 and was fully hybrid. The student representatives Meghan LeMay (BU) and Zishun Qiao (ERAU) organized it based on the student’s feedback from last year. Last year format of Lightening rounds with short talks was continued. The topics were “Back to Basics”, “Hands-on



Figure 1: 2022 CEDAR students

Tutorials of “Instrument/Models”, and “Communicate your science”. On Monday the students had lunch with scientists to provide additional networking opportunities. The students also self-organized and went canoeing on the lake next to the venue.

In addition, the students are working on a CEDAR newsletter and provided student volunteers an opportunity to be co-

convener on selected workshops. This is a great opportunity to grow in the community and take on new responsibilities.

CEDAR individual workshops Community members proposed 36 unique workshops ([full list is here](#)). Since 3 of these are Grand Challenge workshops which are 2x2h, the total time slots were 39x2h. The CSSC chair and CEDAR organizer suggested merging workshops which are closely related but this was not successful as only one workshop merged. In the end it was decided to reduce the plenary time to accommodate all workshops. Even though workshop proposals are immediately posted there is not enough coordination between potential proposers to reduce the number of workshops. The workshops in the plenary room could be attended remotely and were recorded. No such A/V support was not available in the smaller rooms and several workshop conveners used their own zoom connection.

The CEDAR prize lecture was given by Larry Lyons (UCLA) about [Reading the Aurora: A tool for Interconnections](#) ([video](#)) and the CEDAR Distinguished Lecture by Anthea Coster (MIT Haystack) about [System Science from Above and Below: Past, Present, Future](#) ([video](#)).

The CSSC solicited 3 Science highlights and 3 early career science highlights. The highlight cover a broad range of science topics. In addition, the CSSC selected a new GC workshop, which is led by Yue Deng with the topic “[Interhemispheric asymmetries & high latitude forcing](#)”. The new GC workshop provided a tutorial in the plenary session. The CONCERT and Poynting flux GC workshops gave reports in the plenary session, and the multi-scale GC workshop which ended last year summarized the result and provided an outlook of future work.

Poster session

149 posters were shown at CEDAR 2022 for comparison there were 130 posters in 2021 (remote), 2019: 162 posters, 2018: 151 posters; 2017: 153 posters; 2016: 171 posters. This is slightly less than in 2019 the last

in-person meeting. **66% of the presenters were students** (98 student posters). There were a Tuesday MLT and Wednesday IT poster session. The CSSC organized the student poster competition with 39 and 34 students in the competition on Tuesday and Wednesday, respectively. [The poster winners were announced](#) Friday morning

- MLT 1st Prize **Zishun Qiao** (ERAU) [Southern Hemisphere \(SH\) Midlatitude MLT response to the 2019 SH SSW, revealed by two meteor radar observations and SDWACCM-X simulations](#)
- MLT 2nd Place **Claire Gasque** (UC Berkley/ SSL) [Volcanic Disruption of the Equatorial Ionosphere: ICON Observations of the Tonga Eruption](#)
- MLT Honorable Mention **Shaun Dempsey** (U Bath / British Antarctic Survey) [Interannual variability of the 12-hour tide in the mesosphere and lower thermosphere in 15 years of meteor-radar observations above Rothera](#)
- MLT Undergraduate Award **Ishita Solanki** (UT Dallas) [Autonomous Platform for Distributed Ionospheric Studies and Citizen Science Initiatives](#)
- IT 1st Prize **Yu Hong** (UT Arlington) [Interhemispheric asymmetry of the ion-convection boundary expansion during the 8-10 October 2012 storm](#)
- IT 2nd Prize **Arunima Prakash** (CU Boulder) [Interannual and Diurnal Variability of PMCs Using 10 years of Lidar and 14 years of CIPS Observations at McMurdo, Antarctica](#)
- IT Honorable Mention **Binghui Wang** (UIUC) [Topside F-region O+ and H+ drifts inferred from Arecibo ISR long pulse echoes](#)
- IT Undergraduate Award Reynaldo Rojas (Universidad de Ingeniería y Tecnología) [Forecasting Spread F at Jicamarca](#)
- IT Undergraduate Award **Diego Sanchez** (NJIT) [An Investigation of Traveling Ionospheric Disturbances Detected with Ham Radio Transmissions](#)

Special thanks to the head judges, Jia Yue, Lindsay Goodwin, Matt Zettergren, Endawoke Yizengaw and 27 judges.

No remote option for poster presentations was provided as the last 2 years of remote meetings showed that remote posters are not very efficient to receive feedback and have discussions.

Dissemination of information & material

CEDAR Science YouTube: CEDAR posts all recordings on its YouTube channel. Since sessions recordings can be long bookmarks are used. The 2022 recordings got between 20-25 views between August and October 2022 (2.5 months). The links to the recordings are provided in the agenda together with a link to the presentation pdf if available.

CEDAR Slack Channel CEDAR has a slack channel which is used for announcements, student opportunities, and providing timely information about the workshop. Everybody who joined the channel can post.

Cedarscience website CEDAR fully transitioned away from the wiki websites and create a new website <https://cedarscience.org/> All workshop material and information are posted on the website.