

Inclusive Astronomy 2

Remote Participation Report

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Overview

As an initiative by the Space Telescope Science Institute (STScI) Women in Astronomy Forum (WiAF), a survey was conducted with STScI's large number of research staff to identify the main factors that affect a scientist's ability to attend conferences. The results of the survey formed the basis of a white paper ([Prichard et al., 2019](#)) that made several recommendations to increase diversity among conference participants. These recommendations were to 1) provide remote

participation, 2) ensure gender balance and diverse representation of organizers and attendees, 3) provide flexible funding for dependent care support, and 4) provide additional funding for participants to attend the meeting. In the recommendations from Prichard et al., 2019, we suggest that remote participation should be an industry standard and that if it is not possible to implement due to logistical constraints at different locations, justification should be given to participants as to why.

The [Inclusive Astronomy 2](#) (IA2) conference took place at STScl in the Bahcall Auditorium on October 14–15, 2019. In an effort to ensure this conference was as inclusive as possible, all four of the recommendations from Prichard et al., 2019 were explored. All but flexible funding for dependent support were possible to implement in time for the conference. As similar remote participation practices were adopted for individual talks at STScl, it was decided to trial remote participation at IA2 and to report back on how best to implement it at future STScl meetings. Following the success of implementing remote participation at IA2, **the WiAF is now expanding the recommendation to say that remote participation should be implemented as standard for every STScl-led meeting.**

This report outlines high-level recommendations for remote participation, remote participation options at STScl, application of these options for IA2, review of remote participation at IA2 and feedback from participants about their experience with it. We conclude with recommendations for implementing remote participation at future STScl-led and other meetings.

High-Level Recommendations for Remote Participation

Based on remote participation usage at IA2, the following are high-level recommendations for its implementation at future meetings.

- Consider having two modes of remote participation:
 - one-way public webcasting where talks are streamed live and recorded,
 - two-way interactive remote participation for conference participants unable to attend in person.

One-way public webcasting recommendations

- Consider recording talks; recordings allow people who could not attend in person or participate online during the conference to access the information later.
- Ensure you have express permission from all presenters for their talks to be recorded and publicly webcast, and allow this to change at any time.

Two-way remote participation recommendations

- Ensure you have express permissions from all presenters for their talks to be shared with the two-way remote participants.

- Allow for in-room participants to switch to two-way remote participants up to and during the conference.
- Give the option for presentations to be given remotely.

Remote Participation Options at STScI

We opted for two levels of remote participation at IA2 that were already offered for other applications at STScI: 1) a one-way public webcast for talks to be streamed, 2) a two-way remote participation link for conference participants unable to attend in person. We outline the differences and methods used for both.

1) One-way public webcast

- Hosted using STScI's Panopto webcasting service.
- The recordings are available from here with more information: <http://www.stsci.edu/events/webcasts>.
- The webcasts are live-streamed, recorded and archived.
- The recordings are usually posted to the webcast page between 1–2 days after the end of the meeting.
- Express permission from the speakers to record and post their talks is obtained using a form drafted and sent out by the STScI Events Planning Group (example for IA2 in [Appendix A](#)). If the form is not received, the talk should not be streamed or recorded.
- The public webcast is switched on and off by people in the audio-video (AV) booth at the back of the Bahcall Auditorium.
- There can be a slight delay on the live stream of ~20s to several minutes.
- The picture and sound quality is good, often better than two-way platforms.

2) Two-way remote participation

- Hosted using Webex in the Bahcall Auditorium, an entirely separate platform from the one-way public webcast.
- The two-way remote participants are monitored by a moderator who sits at the front of the Bahcall auditorium.
- Remote participants can watch the talks in real time, submit questions for the discussions and speakers, and present remotely.
- Participants need to be sent a Webex link in advance of the meeting with some basic information about connecting.
- Two-way remote participants needed to register in order to control numbers but this can be free of charge, or at a low price point, as set at the discretion of the organizers with the Events Planning Group.

Application of Remote Participation Options at IA2

At IA2 the confidentiality of the conference participants was the highest priority of the organizers, particularly given the potentially sensitive and personal nature of talks and discussions. A few additional steps were taken for remote participation at IA2 that we outline below. These were to ensure confidentiality was maintained and they would probably not be needed for a typical science-related meeting.

1) Public webcast usage at IA2

Implementation:

- To ensure all participants felt they were in a safe space and could ask questions openly, we paused and muted the live webcast for every speaker Q&A, panel session or discussion.
- Turning the stream off was indicated from the front of the room to the AV team at the back of the room. When not streaming, an intermission slide was displayed and the sound feed was muted.
- Given the nature of IA2, some speakers wished for their talks not to be publicly webcast. Anyone who indicated they did not want their talk recorded was asked if they were happy to share their talk with the two-way remote participants along with a copy of the signed agreement they were subject to, to reassure them that their confidentiality would be maintained.

Issues:

- The webcast posted by the AV team after IA2 required additional post-processing, the sound was not always muted for the questions. These were edited down following a request to do so.
- Speakers were not very efficient about submitting the permission forms for being recorded, there were some at the registration desk and additional emails had to be sent to remote participants ahead of their talks.

2) Two-way remote participation at IA2

Implementation:

- To ensure a level of trust between the in-room and two-way remote participants, transparency and confidentiality was the priority to enable the two-way remote participants to view all of the conference.
- The two-way remote participants were asked to read and sign the Two-Way Remote Participation Agreement in [Appendix B](#). This stipulated the link could not be shared or recorded, they should be in a private space with their videos on

where possible, they were being monitored throughout the meeting, the arrangements were subject to change at the discretion of the organizers etc.

- Two-way remote participants were asked to submit their questions to speakers through Slack so that the in-room participants were aware of who was asking what.
- The videos of the two-way remote participants were displayed on TVs to the sides of the main screen for the first day of the conference as the in-room participants became familiar with the set-up and who was online.
- A list of the names of all two-way remote participants was posted to Slack along with more information about remote participation prior to the start of the meeting.

Review of Remote Participation at IA2

Total numbers of participants at IA2:

- A **total of 150 people were registered** for the meeting (in-person and remote).
- A **total of 142 people participated** in the meeting (in-person and remote).

A summary of the numbers of one-way public webcasting at IA2 is given below:

- During the conference, no one followed along on the live stream (most likely due to the stop-start nature).
- Since the meeting there have been (as of November 19, 2019):
 - **541 views or downloads** of all the available videos (this includes multiple views/downloads),
 - a maximum of **51 unique viewers** on a single video (the main video stream with all the talks),
 - across all the videos (the main stream and individual talks), there have been **276 individual viewers** (likely to be some overlap between the separate videos).
- **2 out of 24 presenters** opted for their talks not to be publicly webcast or recorded.

A summary of the numbers of two-way remote participation at IA2 is given below:

- Prior to the meeting, **12 people were registered** as two-way remote participants.
- An additional **4 local people** indicated they may join both in person and as a two-way remote participant.
- During the meeting, a **further 3 people** requested to be a two-way remote participant due to last-minute changes in personal circumstances.
- Of these **19 people expected** online, **13 people connected** over the course of the conference.
- There were **3 remote presenters** at IA2.
- **All presenters** allowed their talks to be viewed by the two-way remote participants.

Overall, the trial of remote participation at STScl for IA2 was a success. People engaged well with the remote presentations. There were a wide variety of reasons that the two-way remote participants could not be present in the room. As shown in Prichard et al. 2019, these reasons affect different demographic groups disproportionately. The remote participants were grateful to be able to participate remotely at IA2. The in-room participants seemed comfortable and familiar with the two-way remote participants, and as a result the two-way remote participants viewed all of the conference, even the talks for which the presenter did not want their talk recorded.

We asked the conference participants for feedback on their experience at IA2 with a post-conference survey. There were questions relating to remote participation for all participants to answer, below is a summary of some of the anonymous responses.

- *How satisfied were you with the remote participation arrangement?*
 - Average = 7.84/10 (25 responses from in-room and remote participants)
- *If you used the remote attendee participation option at any point, how satisfied were you with the Webex performance?*
 - Average = 7.14/10 (7 responses from remote participants)
- *If you used the public webcast option at any point, how satisfied were you with the webcast performance?*
 - Average = 7.17/10 (6 responses from remote participants)
- *Did you feel that the remote participation options preserved the privacy of all attendees both remote and in person?*
 - Yes (16 responses, 42%)
 - No (3 responses, 8%)
 - Not sure (19 responses, 50%)
- *Please provide any other ideas or feedback about remote participation here: (16 responses in total, shortened and organized into the key themes)*
 - Regarding the use of remote participation:
 - *“I do think it was important for the organizers to offer remote participation.”*
 - *“It seemed like it worked pretty well to me, but I was there in the room”*
 - *“Felt like it could have been utilized more... Perhaps if this kind of participation is developed, it could solve the issue of not having enough conference space.”*
 - *“I think it was great to permit remote participants”*
 - Regarding advertisement of the public webcast link:
 - *“a colleague... never got the link sent to them and were disappointed”*
 - Regarding remote presentations:
 - *“I think the remote presenter went very well”*
 - *“Don't allow remote presentations. They weren't good.”*
 - *“Remote presentations were difficult to hear.”*
 - Regarding scheduling:
 - *“It should have been more clearly announced in advance which talks were not going to be publicly webcast.”*

- *“Please remember that 8am on the east coast is 5am on the west coast. That’s less than ideal for western remote participants.”*
 - Regarding connecting in-room and remote participants:
 - *“I liked when all the remote attendees were visible during one of the first talks. I wish there was more facilitated interaction with people who could not attend in person.”*
 - *“There was some confusion about having our webcams on and where/how we’d be displayed, which is my only complaint.”*
 - *“I felt I had less privacy being displayed on my webcam than I would if I were semi-anonymously sitting in a large lecture hall in person...That said, having the visual made me feel more like I am “part of” the conference.”*
 - *“I would not have felt as connected to the conference without the Slack channel, so I highly encourage that in the future.”*
 - *“it was very important to have everyone, at all times, use mics. The attendees were almost perfect about doing that, there were only a few times... that we could not hear.”*
 - *“I wish the in person audience had more contact with the remote participants”*
 - *“the remote viewer was awkward”*
 - *“I think it is important to remind remote participators about appropriate tone--if you wouldn’t say it in person don’t say it via slack.”*
 - Regarding privacy:
 - *“A bit too much emphasis on privacy. Would have liked to know who was talking during questions and discussion.”*
 - *“I do think the identities of people in the room were protected and it’s for the best not everyone announced themselves before speaking”*
 - *“I think that it is very good to have [remote participation] and in the same time to keep privacy between the talks.”*

Setting Up Remote Participation for Meetings

Given the relative success of running remote participation for IA2, and learning from the feedback we received, below are a suggested set of steps for organizers on the ways to implement it for future conferences.

1. Set up a meeting with the audio-video (AV) team at the chosen venue at the start of planning the meeting to discuss the possibility of remote participation.
2. Find out the AV setup for the space and remote participation options available far in advance of the conference. If the AV setup is insufficient in any way (e.g., bandwidth, software not set up, hardware not available), investigate ways it could be implemented within the time and budget constraints.
3. Set a price point for remote participation registration, either:
 - a. free,

- b. at a low level to deter large volumes of people opting for remote participation (if needed),
 - c. at a level to cover any costs involved in implementing remote participation (if they exist).
4. Once the arrangements are set, and preferably prior to registration, offer two-way remote participation as an option for all invited participants and/or offer the option of the public webcast as a one-way remote participation option for everyone.
5. Post information about remote participation options on the conference website along with any relevant links and distribute further if required (example for IA2 in [Appendix C](#)).
6. If using, ensure that all two-way remote participants have signed/acknowledged a remote participation agreement (example for IA2 in [Appendix B](#)).
7. For presenters, ensure they have completed their forms granting permission to be recorded and publicly webcast (example for IA2 in [Appendix A](#)). For any presenters not wishing to be publicly webcast, ask if they agree to their talk being shared with the two-way remote participants (and send them a copy of the agreement for reassurance if required/using).
8. When finalizing the conference schedule, put remote presenters after breaks to ensure final checks of their setup prior to their talk to avoid delays.
9. Be mindful of the remote presenter's and participant's timezones when setting the schedule.
10. Around 3 weeks before the meeting, meet with AV to discuss the final arrangements of the remote participants, how many two-way remote participants are expected, how many presenters are remote, if and when the public stream should be switched off etc.
11. A few weeks in advance, set a time the week before the conference for all remote presenters to run checks on their video feed, presentation, audio connection etc. with the AV team in the conference location.
12. Two weeks in advance, get AV to set up links for the one-way public webcast and two-way remote participation. Post the links for the public webcast on the conference website and send to anyone interested in following along via the one-way webcast link.
13. The week before the conference, share the two-way remote participation link with all two-way remote participants along with some basic information, conference schedule, and tips for connecting/presenting remotely that can be crafted with AV. Example of these tips is below:
 - a. Always use a headset/microphone to ensure the best sound quality
 - b. Be aware of your environment
 - c. No backlight
 - d. Minimize background noise
 - e. Mute your mic unless talking
 - f. If possible use a wired network
 - g. Be aware that you are likely to be seen by many other people including those attending in the auditorium.

14. Create a live document of the schedule indicating when the public stream should be switched on and off (depending on the permissions from the speakers which may come in late). Send this to the AV team.
15. Have a method for two-way remote participants to ask questions, either through the Webex (or other platform) monitor, or a more public forum (e.g., conference Slack, highly encouraged to increase connectivity between all participants) and ensure an organizer is monitoring this at all times.
16. If required, display the online participants, post their names to a conference workspace (e.g. Slack), or let other participants know who is in person and who is remote at the meeting (e.g. a participant list) to facilitate interaction.
17. Connect to the two-way remote participation link at least an hour before the meeting starts to allow people to troubleshoot connecting to the system before the talks begin.
18. Ensure that the people online are only those expected as two-way remote participants.
19. Announce clearly at the start of the conference what the arrangements for remote participation are to all in-room participants.
20. Ensure all speakers are using a microphone, that it is switched on, and that the remote participants can hear the sound feed clearly. An over the ear mic has the best sound quality and consistency, then a lapel mic, and lastly a hand-held mic (only use this option if no others are available).
21. For all questions asked by in-room participants, ensure they have a microphone before talking or the question is repeated by the presenter/moderator into a microphone. For all questions submitted online by remote participants, the moderator should relay these questions to the room over a microphone.
22. During the meeting, indicate to the AV team when the talks should be publicly webcast and when they shouldn't. Even though they should have a schedule, this is a fail safe and also lets all the people in the room know when they are being streamed publicly. You may also wish to turn the stream off for questions to allow people to speak freely.
23. Monitor whether everyone online can hear the presenters and watch out for any issues they may be experiencing over the connection that could be fixed in the room.
24. After the conference, gather feedback from in-room and remote participants about their experiences at the conference, including remote participation, and look for ways that remote presentation could be improved.
25. Build on these recommended steps and pass onto future meeting organizers.

Appendix A: IA2 Speaker Consent Form for Public Webcasting



Event:	Inclusive Astronomy 2
Date(s):	October 14-15, 2019
Place:	Space Telescope Science Institute - Bahcall Auditorium

I am a presenter/speaker for the above event. I understand the lecture(s) will be recorded for the purpose of being used and distributed in various formats by the Space Telescope Science Institute for educational purposes, including, but not limited to the classroom, television, the Internet, and any other communications medium currently existing or later created.

I give my permission and authorize the Space Telescope Science Institute, to videotape, audiotape, photograph, record, edit or otherwise reproduce my presentation, and to use it in the formats and for the purposes stated above. My permission may be withdrawn at any time upon my written notice to the Space Telescope Science Institute. Within 30 days of my request, my audio and/or video webcast will be removed from access.

I agree to indemnify and hold harmless the Association of Universities for Research in Astronomy, Inc. (AURA, Inc.) operating the Space Telescope Science Institute, their employees and representatives against any and all claims arising out of my presentation, including, but not limited to, claims of copyright infringement, defamation, and misrepresentation. I declare I have read the above, fully understand its meaning and effect, and agree to be bound by it.

Signed:		Date:	
Name:			
Institution:			
Address:			
Address:			
City/State/Zip:			
Phone:			
Email:			

Space Telescope Science Institute • 3700 San Martin Drive • Baltimore, MD 21218 Event Coordinator: Sherita Hanna Email: hanna@stsci.edu Tel: 410-338-5079

Appendix B: Inclusive Astronomy 2 Two-Way Remote Participant Agreement

This agreement is meant for all selected participants of the [Inclusive Astronomy 2](#) conference who wish to be a two-way remote participant. For more details of two-way remote participation, please see the acceptance email and the [remote participation](#) page of the website. If you wish to be a two-way remote participant, we require that you read the below expectations and sign this agreement in acknowledgement of them. This is done to protect the confidentiality of all conference participants and to provide the best experience for those participating remotely by building a level of trust between the two-way remote and in-room participants. If you have any questions regarding any of the following points or two-way remote participation, please contact Laura Prichard (LOC Co-chair, lprichard@stsci.edu).

Expectations for two-way remote participants:

1. The two-way remote participation links will be unique to each remote participant and should not be used by anyone other than you.
2. A monitor will ensure that only the named remote participants in agreement with these expectations are online.
3. Do not record or share anything from the two-way remote participant video feed.
4. All in-room participants will be aware of who is online as a two-way remote participant at all times.
5. Have your video on at all times (or wherever possible) to aid with transparency and the confidentiality that we are trying to ensure with these expectations.
6. Be in a private space while connected as a remote participant and if you are not alone, please use headphones if listening to the video feed.
7. As a conference participant, you will be invited to the IA2 conference Slack. We request that you ask all questions related to talks through Slack for transparency.
8. The two-way remote participation video connection will be switched off for all talks for which the presenter does not wish to have it streamed to two-way remote participants.
9. The arrangements for the two-way remote participation are subject to change and at the discretion of the organizers as we work towards making this the best option for all participants and presenters.

If you agree to the above expectations for two-way remote participants, please sign, date and return this agreement to Laura Prichard (LOC Co-chair, lprichard@stsci.edu).

Signed: _____

Print name: _____ Date: _____

Appendix C: IA2 Website Text on Remote Participation

Webpage: <https://outerspace.stsci.edu/display/IA2/Remote+Participation>

Ideally, everyone who would like to participate in the conference would be present for the talks and discussions. This is not a possibility due to space and resource limitations, so we are therefore offering two levels of remote participation.

Public Webcasting

The first is a public webcasting link (available below). Our goal is to enable anyone to engage with the talks, which will hopefully expand the impact of this conference. The webcasting will be a one-way video link with a short (~few minutes) time delay. This is made possible by the talented A/V folks at STScI that record and broadcast many talks and workshops each year: <http://www.stsci.edu/events/webcasts>. This webcasting connection will be switched off during any talks for which the presenter does not wish to have it streamed publicly. To maintain confidentiality and ensure a safe space for the conference participants to engage with the speakers and in discussions, we will not be webcasting questions, panels or discussion sessions. The conference schedule is available [here](#), bear in mind that there may be a short time delay.

Publicly webcast talks from IA2 are available here:

<https://cloudproject.hosted.panopto.com/Panopto/Pages/Sessions/List.aspx#folderID=%228a596217-c20e-4a03-b83a-aa8801332a6b%22>

Two-Way Remote Participation

For our second method, we are doing a trial run of two-way remote participation. For those people who are selected to attend, but are unable to be physically present, we will establish a two-way video link and chat room. All remote participants will sign an agreement to ensure it is used ethically and respectfully. We expect the exact implementation details to change as we approach the conference date. While we wish we could offer this option to everyone who has expressed interest in the conference, we do not currently have the capacity to support it for all 100+ people that were not selected to participate. After the conference, we will report on our experiences and issue recommendations, hopefully enabling future Inclusive Astronomy conferences and other meetings to reach a broader audience. If you have any questions regarding two-way remote participation, please contact Laura Prichard (LOC Co-chair, lprichard@stsci.edu).