

What can you do to improve the academic workplace for your deaf and hard-of-hearing colleagues?



Universally design your workplace: Our spaces become more inclusive for all when we improve access for any subgroup of our community.

Consequently, by increasing the accessibility of our workplaces for our deaf and hard-of-hearing (HoH) colleagues, we create a better workplace for everyone. This includes hearing folks who have auditory processing disorder, use English as their second language, or are acquiring hearing loss during their careers. *Chances are that someone in your department has hearing loss, whether they've disclosed this or not, and will benefit from your efforts to make your workplace more accessible* (see The Mind Hears [blog post about where are all the deaf and hard of hearing academics](#)). This is why you should universally design your workplace now and not wait until someone who is struggling asks you to make modifications.

Sharing the work: With a google search you can find several resources on workplace accessibility for deaf/HoH employees, such as the Hearing Loss Association of America's (HLAA) very useful [employment toolkit](#). One drawback of these resources is that nearly all of the suggestions are framed as actions for the deaf/HoH employee. *While deaf and hard of hearing academics need to be strong self-advocates and take steps to improve their accommodations, our hearing colleagues can help us tremendously by sharing the work to create accessible workplaces.* Speech reading conversations, planning accommodations, and making sure that technology/accommodations work as intended is never-ending and exhausting labor that we do above and beyond our teaching, research, and service. Your understanding and your help can make a large impact. For example, if a speaker doesn't repeat a question they were asked, ask them to repeat even if you heard the question just fine. The people who didn't hear the question are already stressed and fatigued from working hard to listen, so why expect them to do the added work of asking speakers to repeat? (see The Mind Hears [blog post on listening fatigue](#)). Repeating the question benefits everyone. The changes you make today can also help your workplace align with equal opportunity requirements for best hiring practices (see The Mind Hears blog posts about applying for jobs when deaf/HoH [here](#) and [here](#)). The Mind Hears coordinated the listing of advice for different academic settings below to help you become better allies today.

One size doesn't fit all: If a participant requests accommodation for a presentation or meeting, follow up with them and be prepared to iterate to a solution that works. It may be signed interpreters (there are different kinds of signing), oral interpreters, CART ([Communication Access Realtime Translation](#)), or [Assistive Listening Devices](#) (formerly called FM systems). It could be rearranging the room or modifying the way that the meeting is run. Keep in mind that

what works for one deaf/HoH person may not work for another person with similar deafness. And what works for someone in one situation may not work at all for that same person in another situation, even if these seem similar to you. The best solution will probably not be the first approach that you try nor may it be the quickest or cheapest approach; it will be the one that allows your deaf and hard-of-hearing colleagues to participate fully and contribute to the discussion. Reaching the goal of achieving an academic workplace accessible to deaf/HoH academics is a journey.

Suggestions on this list come from a variety of sources (e.g. [HLAA employment toolkit](#)) but primarily our own experiences. This list isn't comprehensive but provides some guidelines for common scenarios with academia. In 2021 we updated this listing to include remote work settings, which generally are more accessible to deaf/HoH (see blog post on [Lessons learned from the Pandemic](#)). We welcome your comments and suggestions to improve the document; send us an [email](#). If you find that you want to explore a topic in more detail, we encourage you to write a blog post for [The Mind Hears](#)—we will link your post to this list.

Many of the following recommendations are for deaf/HoH folks who speechread. Linda Campbell and the Saint Mary's University staff interpreter have assembled a wonderful collection of short guides for [how to work with a staff interpreter](#) in various academic settings.

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1. Lectures and Conference Presentations

Much of the research and scholarly work carried out in academia is communicated in settings such as conferences and lectures where there are one or more presenters to an audience. The audience is largely passive, but with opportunities for questions and, sometimes, discussion. Being able to understand what is being presented at conferences and lectures is critical for the professional trajectory of deaf/HoH academics, as a way to stay up-to-date in their fields.

1.1 In-person Lectures/Presentations

- Setting up the room
 - Leave sufficient lights on in the room so that the speaker's face and interpreters (if present) can be seen.
 - Make sure to provide choice seating and orientation for deaf/HoH. If they are using signed language they will need to see the interpreter, the presenter and the presentation screen. If they are speech reading, they will need to see both the presenter and the presentation screen as well as the CART screen if using a human captionist.
 - If CART (human captionist) services are provided for deaf/HoH participants, consider projecting the captioning onto a screen so that all in the room can benefit.
 - When available, use "looped" rooms for presentations (indicated by the symbol at right) that allow users of hearing aids and cochlear implants with telecoil functionality to access amplified sound directly
 - i. In the UK and US ([2010 update to Americans with Disabilities Act](#)), loop systems are mandated by law for any public venues that have amplified sound ([summary of US regulation](#)). However, our experience in the US is that few universities have such rooms for meetings and departmental presentations. In contrast, some of us have noticed that in the UK virtually all public institutions (even grocery stores!), have loop systems, but they are almost never turned on. It may be wise to notify the hosts two or more days in advance to make sure the loop system is powered up and turned on.
- The presentation
 - Have presenters use a microphone when it exists; do not let them assume they don't need amplification ([Ramey, 2019](#)). Ditto for audience questions.
 - Check that the microphone system works well before the presentation. A bad microphone system can be worse than none at all.
 - Be prepared for participants to request that their own personal microphone is used by the speaker. This might be worn around the neck or placed in front of them. See



[post on using FM systems at conferences](#) and details on assistive listening device best practices in section 2 of this document.

- Some hearing aids and cochlear implants may not transmit both ambient sound and sound from FM systems and loops at the same time; so don't bother chatting with your deaf/HoH neighbor during the main presentation!!
- Encourage all presenters to use real-time auto-caption with [Google slides](#) or [Microsoft Office 365](#). Our experience is that the AI-based captioning programs perform well in many situations and have less lag than CART. So sometimes even if CART is provided, some folks might prefer using AI-based captioning for some talks (e.g., unaccented voices with clear audio). We provide a guide for using real time auto-caption AI programs [here](#) (also, check out The Mind Hears [post on Captions and Craptions for Academics](#)). If the speaker keeps the slides up then the Q&A will be picked up by presentation auto-captions.
- If speakers are using videos, encourage them either to turn on captioning for the videos (CC button, usually on lower right) or eliminate use of videos without captioning.
- If you notice someone looking at their phone or laptop a lot during presentations, do not assume they are not paying attention - they might be reading captions on their device.
- Q/A or discussion period
 - At the start of the Q/A period, ask the presenters or session chair to repeat the questions from the audience. We've noticed that presenters are often nervous and forget to repeat, so a reminder can help.
 - If the presenter is deaf/HoH, the convener/host should be ready to repeat audience questions.

1.2 Remote Lectures/Presentations

Remote presentations are generally more accessible to deaf/HoH folks than in-person, but a few guidelines ensure good access. In addition to some of the points above (e.g., any videos shown should have captions; it is always useful to repeat questions), we highlight the following, specific for remote presentations.

- The presenter should use a headset or good quality microphone.
- The presenter's camera should be on and their face should be well-lit and fully visible. In particular, avoid having the presenter be backlit or have the camera tilted in such a way that the mouth cannot be seen.
- The presenter should make sure that the input volume of their microphone is not set too low, as that will affect that output volume for all attendants.

- If signed language interpreters are present, make sure their video view is clearly labeled with their role. This will make it easier for users to find and pin the interpreter videos.
- If a presentation is recorded, make sure signed-language interpreters are pinned in the recording, so that the recording will be accessible deaf/HoH folks who sign.
- Always activate auto-captions because this benefits many folks, not just deaf/HoH folks ([Cooke et al., 2020](#)). There are choices about which auto-caption to use, the remote platform software or the presenting software.
 - For the presentation itself, the auto-caption within the presentation software (google slides or powerpoint - see link above for setting this up) is generally better than the auto-captions of the remote platform. Presentation software allow you to change the size and placement of the captions, while remote platforms do not always do so.
 - Whether presentation software captions will pick up Q&A depends on the presenter's set-up. If they are streaming sound through speakers, the presentation captions are likely to pick up the Q&A. If the presenter is streaming sound through headphones or hearing aids, the presentation captioning software may not pick up any Q&A and discussion.
 - In cases where the presentation software captions are closed or insufficient to pick up any Q&A or discussion, make sure to enable auto captions on the remote platform.
- Monitor the chat for any reports of audio or caption problems that you might have the ability to deal with.

1.3 Hybrid Lecture/presentations

Wearing of masks prevents speech-reading, so as long as masks are recommended for in-person interactions, please provide remote participation options as an alternative (and check out The Mind Hears post about [Navigating a Masked World](#)). If good-quality sound technology is used, hybrid and remote participation is generally more accessible than in-person and many deaf/HoH participants will be able to engage in the discussions more equitably. Consider all of the points covered above for in-person and for remote presentations. Also consider:

- Hybrid lectures/presentations can be more accessible to deaf/HoH folk, whether they are attending in-person or remotely, because the hybrid nature of the meeting requires that the presenter use the microphone, and effective microphone usage is encouraged more often. However, if microphone use is not encouraged, the accessibility of hybrid presentations can be worse than that of in-person or remote.
- To make hybrid communication accessible, you need to consider all of the points for both the in person and remote situations described in this document. This is challenging and

will likely require one person managing the remote platform while another person manages the room.

- The biggest challenges for hybrid presentations are centered around the quality of the sound technology and how well participants engage with the technology.
- Good quality microphones and sound streaming technology are essential and benefit all participants. Sound systems that are efficiently integrated with loop or FM systems are ideal (but be aware that not all hearing aid users have access to a loop system).
 - Both in-person microphones and the remote streaming audio should be transmitted through the loop / FM system.
 - Individual microphones often work better than a single or few microphones designed to pick up sound in the entire room, which may just transmit lots of echo and background noise, such as rustling papers. In our experience, the best systems are those where each in-person participant has a microphone that they activate whilst speaking, although passing around one or two microphones is also effective, despite the minor interruptions to the flow of discussion.
- Ensure WiFi is available for in-person participants along with a zoom link to access the session remotely. Some people might find it better to have both the video and auto-captions ± audio streaming alongside the in-person presentation.
- Ensure somebody is monitoring sound quality both in-person and online. If a microphone battery runs out mid in-person presentation, interrupt the presenter and replace the microphone ASAP instead of waiting until the end of the presentation..
- Plan for such technological problems. Consider building a slightly more relaxed schedule that allows time to resolve minor problems.
- To maximize hybrid meeting accessibility for sign-language users, please refer to <https://www.smu.ca/webfiles/BestPractices-VideoRemoteInterpreting.pdf>

2. Meetings and discussions

Much of academic life involves active discussions with colleagues, students, lab groups, funding agency program officers, journal editors, etc. in a variety of settings. Being able to keep up with and fully participate in multi-party discussions is key to deaf/HoH academics successfully carrying out their teaching, research and service missions.

2.1 In-Person Discussions > 10 people (e.g. faculty meeting)

- Check out The Mind Hears [post about the challenges posed by large in-person meetings such as faculty meetings](#)

- Start the meeting with a communication check. *“Is this communication set up working for everyone?”*. Allow adequate time for people to respond, bearing in mind that deaf/HoH folk and those with auditory processing disorder might need a little longer to parse the question and might not reply immediately.
- As much as is possible with a large group, have all participants sit around a well-lit table or set of tables so that they face each other. Make sure participants do not hide their face.
- If a signed language interpreter is present, allow the interpreter and the deaf/HoH person to choose their seating/placement first.
- CART services with human captionist can be helpful for meetings where multiple people are speaking. We have found that having a CART captionist in the room works better than working with a remote captionist. Remote CART requires having several good microphones in the room and most rooms do not provide clear enough access to the speakers for the remote captionist.
- Having a microphone that is passed from speaker and transmitter to a computer can help CART or one of the better-quality real-time auto-captioning software.
- An Assistive Listening Device (aka FM system) can help for such meetings. Using the microphone/transmitter as a ‘talking stick’ ensures that all conversations are amplified. You can also place an omni-directional microphone (or, even better, two linked microphones) in the center of the room to catch conversation around the group, although this might produce lag for some people (check out The Mind Hears [post about FM systems](#)). The National Center for the Deaf has [good guidelines on using Assistive Listening devices in the classroom](#).
 - Note: Unlike looped rooms, FM systems work with specific hearing aids or cochlear implants, so if the meeting has more than one deaf/HoH person using FM, the technology issues can become complex.
 - FM systems provided by the venue should be fit for purpose and designed specifically for hearing aid/cochlear implant use. Systems designed for other uses (e.g. oral language translation) may not work effectively. For example, people who wear behind-the-ear hearing aids cannot use headsets that are commonly provided and will require a neck loop (similar technology to room loops).
 - When using assistive listening devices provided by the venue, provide an opportunity for the user to test they have everything set up correctly. This likely requires a relatively quiet environment and somebody speaking into the microphone until the user confirms they have the correct channel.
 - Speakers may need reminding to speak into the microphone/transmitter.
- If conversation devolves to rapid interjections, the discussion leader should rein in the conversation and recap what was discussed.

- For quick conversations, signaling the next speaker, for example by raising a hand, can help deaf/HoH people know where to look next for speech reading. Hearing aids and cochlear implants are notoriously bad for directionality of sound and some of us only detect sound on one side. While interpreters strive to indicate who is talking throughout conversations, visual signaling can help us track the conversation
- The meeting organizer should check in periodically to ensure that the communication environment is working for everyone.
- A written summary distributed afterwards to meeting participants can ensure that everyone has the same information.

2.2 In-Person Discussions < 10 people (e.g. committee or research group meeting)

A lot of the strategies for larger meetings also work for small meetings. The following include notes specifically for meetings of smaller groups.

- Have participants sit in a circle, so that all faces are visible for speech reading. Conference rooms with long narrow tables can be challenging.
- Use the smallest room possible to accommodate the size of the meeting
- Encourage meetings in rooms with minimized resonance; rooms with carpet and soundproof walls are better listening environments. Also, avoid rooms with a lot of external noise (e.g., busy roads or construction).
- Use rooms with window treatments that can be adjusted to reduce glare so that speakers are not backlit.
- Discourage people from talking over one another in meetings.
- Check in periodically to ensure that the communication environment is working for everyone.
- Deaf/HoH people are notoriously bad at catching jokes, as comments are typically made more quickly than we can track conversation. It can be helpful to repeat jokes for your deaf/HoH neighbor.
- Context is a big part of communication for deaf/HoH people. Avoid big tangents during discussions, and be prepared to repeat or write down names of people or places.
- Do not expect deaf/HoH to be the note-takers at any group meeting, as many of us need to have our eyes on the speaker, the signed language interpreter, or the captions, which precludes taking notes; however, a written summary distributed afterwards to meeting participants will benefit all and will ensure deaf/HoH individuals have the same information as everybody else.

2.3 Remote Meetings (small or large)

- Make sure the platform/software for the meeting is the one preferred by the deaf/HoH participant. Some platforms offer closed captioning and some do not. Some platforms are better set up to allow participants to pin the videos of both the speaker and the signed language interpreter.
- Enable either auto-captions or CART captions in the remote platform.
- Invite everyone to turn on video, if they feel comfortable, and strongly encourage participants to turn on their video while speaking. This helps with speech-reading but also provides greater connection to the speaker.
- If signed language interpreters are present, make sure their video view is clearly labeled with their role. This will make it easier for users to find and pin the interpreter videos.
- Ask participants to have their face well lit for speech-reading and a good microphone (see The Mind Hears [blog post about accommodating a pandemic](#)). Make sure that participants' mouths, in particular, are in view of the camera when they are speaking and make sure participants aren't backlit.
- Using the raise hand feature is valuable for any group and slows the conversation pace down a little, which greatly benefits deaf/HoH participants.
- Share your meeting agenda ahead of time and don't use screen share to display the agenda. Since everyone will have the agenda, not screen sharing can allow for the videos of each participant to be larger, which eases speechreading.
 - If the meeting diverges from the order outlined in the agenda, clearly explain what is happening and emphasize which agenda item is being discussed.
- Ask each participant to check in with the auto-caption while they are speaking. If they speak too fast and the caption starts to garble, they should notice this and slow down. If they speak a proper name that is not captured by captions, they should make sure to spell that out, or type it into the chat.
- Meeting hosts should pay attention to (or assign someone to attend) the written conversations in the chat box, which are more accessible than oral discussion for deaf/HoH participants (see [blog post on Lessons learned from the Pandemic](#)).
- In meetings with lots of participants the videos become quite small and difficult to speechread (see The Mind Hears blog posts about remote teaching [here](#) and [here](#)). Deaf/HoH participants that manage small remote meetings just fine may need accommodations for large meetings.

2.3. Hybrid meetings

Many of the technological considerations for hybrid discussion meetings are the same as for hybrid presentations, so please check the relevant sections above. In addition:

- Sound quality and integration of different audio sources is critical to the success of hybrid discussion meetings.
- If the hybrid meeting is small, avoid the temptation to “make do” with just bringing a laptop into the room and streaming sound through the laptop speakers. Any in-person deaf/HoH folk will struggle to hear what is said by the remote participants. Depending on the individual’s hearing loss profile, use of assistive devices with low-quality, “tinny” speakers may even cause physical discomfort and pain!
- Ideally, use a looped room with microphones and where the audio from both the in-person microphones and the computer connecting the remote participants is streamed through the loop system.
 - If the loop is accessed via a loop area rather than a personal neck-loop, ensure that the loop area has a clear view of both the video feed and the in-person participants.
- Ensure the video feed is large enough to be easily visible to allow speech-reading. Ideally provide multiple screens on different sides of the room so that in-person participants can more easily follow discussions between other in-person and remote participants.
- Encourage in-person participants to raise their hands before speaking so that remote participants can tell who is speaking.
- Be aware that the in-person contingent is likely represented in the remote meeting as a single, wide angle video which does not allow speech reading. Make sure captions are enabled and encourage speakers to check in with the captions, and slow their speech if necessary.
- To maximize hybrid meeting accessibility for sign-language users, please refer to <https://www.smu.ca/webfiles/BestPractices-VideoRemoteInterpreting.pdf>

3. Conversations and networking

Conversations with work colleagues that occur before/after meetings, as part of social gatherings, and as impromptu encounters, such as in the hallway, are critical for networking and career development. This is where we learn that tacit knowledge of our workplace that helps us strategize career building. This is also how social bonds in the workplace and in our professional circles are strengthened. Often these conversations are not accessible to deaf/HoH academics, which compromises their success.

3.1 In-person Conversations

- Face people while conversing so that they can speech read.

- If the deaf/HoH person is using a signing or oral interpreter, direct all conversation to the deaf/HoH person, not the interpreter. [See post “Who am I at a research conference: the deaf person or the scientist?”](#)
- Don’t bother trying to whisper to your deaf/HoH at a social gathering. Whispering hardly ever works because the sound and speech reading information are so distorted.
- When in a noisy room:
 - Some people will try to speak directly into another person’s ears, sometimes cupping their hands for added focus of their voice. This strategy won’t work with deaf/HoH people, because in this situation we can’t speech read your face.
 - Consider going to a quieter environment. If you are arranging a social event consider booking rooms with carpets and soft furnishing to reduce background noise.
- Avoid covering your mouth. If you are chewing, please wait to speak until you are done chewing. Also avoid blocking visibility of your mouth (e.g., with your cup or hand) at gatherings. During the pandemic, speech reading became impossible for many of us with the use of masks (see The Mind Hears [post on Navigating a Masked World when you are deaf/HoH](#)). Take this into account when necessary and have an alternate means of communication available, such as writing on a paper or speaking into a speech-to-text app on a phone (see below).
- With mask-wearing, more deaf/HoH are using speech-to-text apps on their phones or other devices ([check out our interview of the founders of one such app](#)). Numerous such apps exist, and it is beneficial if hearing folks also install these on their phones to use in cases when oral communication is not ideal. Deaf/HoH folks who are using speech to text apps will not pay attention to your face because they are reading your words with the app. Keep in mind that they are still listening to you.
- If somebody asks you to speak into a personal microphone that they carry, please do so. If you wear it around your neck, remember to take it off and return it when you leave (especially if you are going to the toilet!)
- If a deaf/HoH person asks for repetition:
 - Please repeat as closely as possible what you just said. Sometimes we hear part but not all of a sentence. If you change up the words to reframe what you said, we are back to square one.
 - Never say “*Oh, it’s not important.*” This conveys that you don’t value our participation in the conversation. So even if you think your comment is not worth repeating, please repeat yourself to avoid excluding your colleague.
- When a deaf/HoH person joins the conversation, it’s helpful to give them a little recap of the current topic of discussion. Otherwise a huge amount of our energy will go into trying

to identify the topic being discussed, making it impossible to participate fully in the conversation.

- Hearing aid and cochlear implant batteries go dead at the most inopportune times. Most of us go through one or more batteries per hearing aid each week; the chances of this happening while we are in a presentation, meeting, or conversation are quite high. As we search for and replace the fiddly batteries, please keep in mind that we are missing out on the conversation.

3.2 Incidental conversations (e.g. passing in the hallway)

- When greeting your deaf/HoH colleagues in passing, give a wave. We may not hear a quiet greeting. This is even more important while we are wearing masks. Not only is your greeting more muffled, but we don't have any speech reading cues to signal that you've said something.
- During indoor mask mandates, invite your deaf/HoH colleague to step outside to converse where, with social distancing, it may be safe to converse without a mask.
- Getting our attention:
 - Not all deaf/HoH people wear hearing aids throughout their workday. Some of us enjoy periodically being able to take out our hearing aids or turn off our cochlear implants and focus in the quiet. Alternatively, if we are working at our desks, we might be streaming music or other media directly to our hearing aids.
 - Visually get our attention and give us time to adjust before talking to us. You can do this by stepping into our field of view and gently waving your hand where we can see. This is more pleasant than being shouted at.
- Our communication skills can vary with fatigue level. The cognitive fatigue of speech reading is taxing so that after a few hours of teaching and meetings with spoken conversation, we may avoid all conversations or switch from speaking to signing (see The Mind Hears [post about How Much Listening is Too Much](#)). We also might need to take a break from our technology (e.g., hearing aids) due to fatigue, badly functioning technology, batteries running out etc. Some of us have hearing loss that fluctuates over time. Please don't be surprised if our preferred communication mode and ability to navigate hearing spaces changes (see The Mind Hears [post about The Mental Gymnastics of Hearing Device Use](#)).
- Not all deaf/HoH people speechread. Some of us rely on writing notes or using voice recognition apps on our mobile devices; you may be asked to communicate using modes unfamiliar to you. A motto of the deaf community: *use whatever form of communication works*.
- Not all people are easy to speechread (see The Mind Hears [post about understanding unfamiliar accents](#)). People with facial hair and people who either don't move their lips/face or over-enunciate can be very difficult to understand. Some of us hear high

pitched voices better than low and some of us hear low voices better. For better or for worse, many of us avoid conversations with people we don't understand even though they may be wonderful people. It is not rude to ask if you are easy to understand and how you could be better understood.

The spectrum of what it means to be Deaf and Hard of Hearing is extremely vast, diverse & situational. Some of us speak very well but have lousy hearing. Some of us prefer to express ourselves using signed language. Some of us use technology (e.g. hearing aids or cochlear implants) all the time to help us hear, while others do not. *You can be the best ally to your deaf/HoH colleagues by not making assumptions of how deaf/HoH should navigate the world.*

You may have noticed that all of these considerations not only increase access for deaf and hard of hearing folks, but also make these situations more inclusive for all participants, such as non-native English speakers. Some of these strategies ensure that the loudest in the group doesn't monopolize conversation and allows space for less confident participants. If you make your workplace more accessible for your deaf and hard of hearing colleagues, you will make a more accessible workplace for everyone.

[Other resources for deaf/HoH including papers about d/Deaf in academia](#)

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