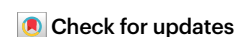


# Illuminating the deaf experience at STEM conferences

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Deaf professionals experience inequitable access at conferences, but conference hosts can learn to recognize and understand the contributing barriers. Establishing clear accessibility protocols can enhance organizational success and ensure a successful conference.

Professional conferences provide many benefits to scientists, including opportunities to network, improve communication skills, and learn about cutting-edge research. But for deaf and hard of hearing (DHH) individuals, how much of the conference experience is genuinely accessible?

As deaf professionals (DPs) and professional interpreters, we believe a deeper discussion is needed about what access means for DPs and the barriers that impede it. These barriers include a lack of standardized conference accommodation procedures, distinguishing between qualified and unqualified service providers, and navigating implicit stigmas against the DHH community. DPs' accommodations depend on their needs and preferences, including American Sign Language (ASL) interpreting, Computer Aided Real-Time Transcription, and assistive listening devices<sup>1</sup>. These accommodations may also benefit non-DHH conference attendees; for instance, open captions provide clarity in environments with poor acoustics or background noise, serve as a written record for later reference, and foster an inclusive environment. While there are various accommodations for DPs, we will primarily refer to ASL interpretation and suggest actions that optimize the conference experience. The guidelines discussed in Fig. 1 can also apply to other access services.

## Standardizing accommodation procedures

Many countries have laws around accommodations. In the United States, conferences are required under the Americans with Disabilities Act (ADA) to provide accommodations<sup>2</sup>. In reality, access services are often inadequate and inconsistent owing to a lack of standardized best practices.

Generally, DPs are well-versed in self-advocacy and understand that they must contact conference organizers three to six months in advance to formally request services. With improved understanding and planning, conferences can efficiently procure qualified services to meet the DPs' accommodation needs.

For DPs returning to a previously attended conference, consistency in service quality is not always guaranteed. The unpredictable accessibility experience could arise from many organizational challenges: unclear funding sources for accommodations, changes in leadership, inconsistent standards for agencies used, or changes in conference format.

To establish consistent, accessible experiences for DPs, we recommend conferences adopt standard operating procedures (SOPs) to ensure appropriate access service accommodations. Several existing resources detail when and how to procure access services which may be used as a template for developing SOPs<sup>2</sup>. To ensure equitable access for DPs, conferences need a designated accommodations coordinator, established SOPs, and an allocated budget for access services. These measures provide consistency between conferences and relieve DPs from repeating the time-intensive process of educating coordinators with each new request.

## Defining 'qualified' service providers

Conferences are highly technical with intense schedule demands, so qualified interpreters need to be able to quickly pick up on discipline-specific concepts in both ASL and spoken English to provide accurate interpretations.

As an important note, DPs may already have their preferred designated interpreters who understand the DP's communication style. This is often the easiest approach for conference organizers as they are directed to the ideal interpreters for the person's needs.

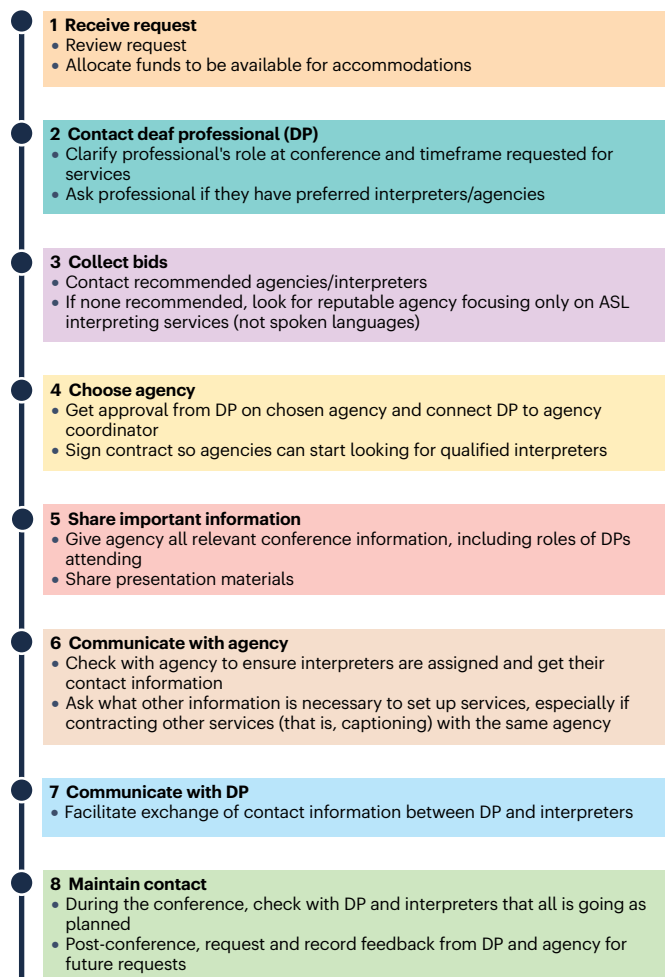
If the DP does not request specific interpreters, there are three key criteria for conferences to consider when sourcing interpreting services: credentials, experience, and consistency. As such, conferences should contact a reputable agency with experience coordinating specialist interpreters. Agencies then assign qualified interpreters based on their credentials and prior experience, with the DP ultimately given the chance to sign off the selected interpreters. Additionally, requesting a consistent team of interpreters throughout the conference is crucial. This is logistically more efficacious and would allow the DP access to supplemental conference activities such as networking events.

In today's landscape, once the access need has been highlighted, conferences must request bids from agencies as soon as possible. This reflects the substantial ASL interpreter shortage across the US<sup>3</sup> and the lack of standardized ASL tools for STEM concepts, thus requiring DPs to teach their own signs to interpreters<sup>4,5</sup>. Additional qualifications such as prior STEM conference experience can further narrow the pool of qualified interpreters, thus creating a bottleneck where demand exceeds supply. While the DHH community is moving the dial on adding specialized STEM interpreting tracks to interpreter training programmes and developing community-driven ASL STEM dictionaries, the current shortage means that agencies need plenty of time to find and book qualified interpreters.

## Dismantling bias against DPs

For some DPs, deciding whether to use spoken English or sign language at conferences can present a double-edged dilemma. If the DP chooses

### Conference access timeline



**Fig. 1 | Visual checklist for conference organizers.** See also the recommended checklists for DPs and interpreting agencies in the Supplementary Information.

to present in ASL but an unqualified interpreter uses the incorrect register or terminology, the audience may inaccurately judge the DP's competency because of the distorted message.

DPs may also have the option to voice for themselves and decide how they want to phrase their words. Still, the accents of many DPs (known in the community as the 'deaf accent'), akin to other non-standard accents in English-speaking countries, could be subject to similar accent biases<sup>6,7</sup>. To our knowledge, however, research specifically on bias against the 'deaf accent' is nonexistent.

To improve their interactions, conference attendees can keep in mind a few tips when conversing with DPs through an interpreter: look and speak directly to the DP (not the interpreter); keep facial cues visible; speak articulately at a normal pace; and understand that there will be natural delays with interpreter-mediated communication.

Awareness of respectful communication etiquette and any potential stigmas can vastly improve the DP's conference experience.

### Evolving conference experiences

Since the establishment of the ADA, incredible breakthroughs in technology have enabled the participation of DPs in the workforce. In addition, broader advocacy efforts performed voluntarily by DPs and interpreters, such as sharing their stories or hosting conference workshops focused on accessibility initiatives, have increased public awareness of the deaf community. By building on these advances, strengthening cooperation between meeting coordinators, event attendees, and DPs can ensure an enjoyable conference experience for all. However, current barriers of nonexistent access standards, a provider shortage, and unconscious biases still need to be tackled. Ultimately, the inclusion of DPs enriches the research environment by contributing new perspectives in tackling scientific questions and fostering an overall culture of accessibility.

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### References

- Lempka, C. Employees who are deaf and hard of hearing: Perceptions of workplace accommodations. *Ursidae: Undergrad. Res. J. Univ. Northern Colorado*. **5**, 6 (2019).
- Conferences, Conventions, and Workshops* (National Association of the Deaf, 2022); <https://www.nad.org/wp-content/uploads/2022/11/Conferences-Conventions-and-Workshops.pdf>.
- McDermid, C., Williams, L. & Ortega, E. D. M. Sign language interpreting within a North American context. In *Handbook of Sign Language Translation and Interpreting* (eds Stone, C. et al.) 552–566 (Routledge, 2022).
- Ensuring deaf access in science. *Nat. Rev. Mater.* **8**, 635 (2023).
- Braun, D. C. et al. Welcoming deaf students into STEM: recommendations for university science education. *CBE Life Sci. Educ.* **17**, es10 (2018).
- Heblich, S., Lameli, A. & Riener, G. The effect of perceived regional accents on individual economic behavior: A lab experiment on linguistic performance, cognitive ratings and economic decisions. *PLOS ONE*. **10**, e0124732 (2015).
- Woolridge, L. R., Leach, A.-M., Blake, C. & Elliott, E. Do accents speak louder than words? Perceptions of linguistic speech characteristics on deception detection. *J. Lang. Soc. Psychol.* **43**, 195–223 (2023).

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### Competing interests

N.D.C. is the owner of Specialized Interpreting Services and could profit from new business after the dissemination of this article.

### Additional information

**Supplementary information** The online version contains supplementary material available at <https://doi.org/10.1038/s41570-024-00639-6>.